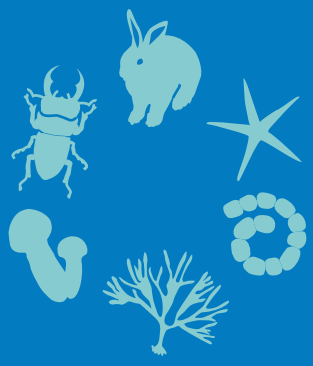
Insect Fauna of Korea

Volume 12, Number 7

Arthropoda: Insecta: Coleoptera: Curculionidae:
Curculioninae, Cossoninae, Mesoptiliinae

Weevils II



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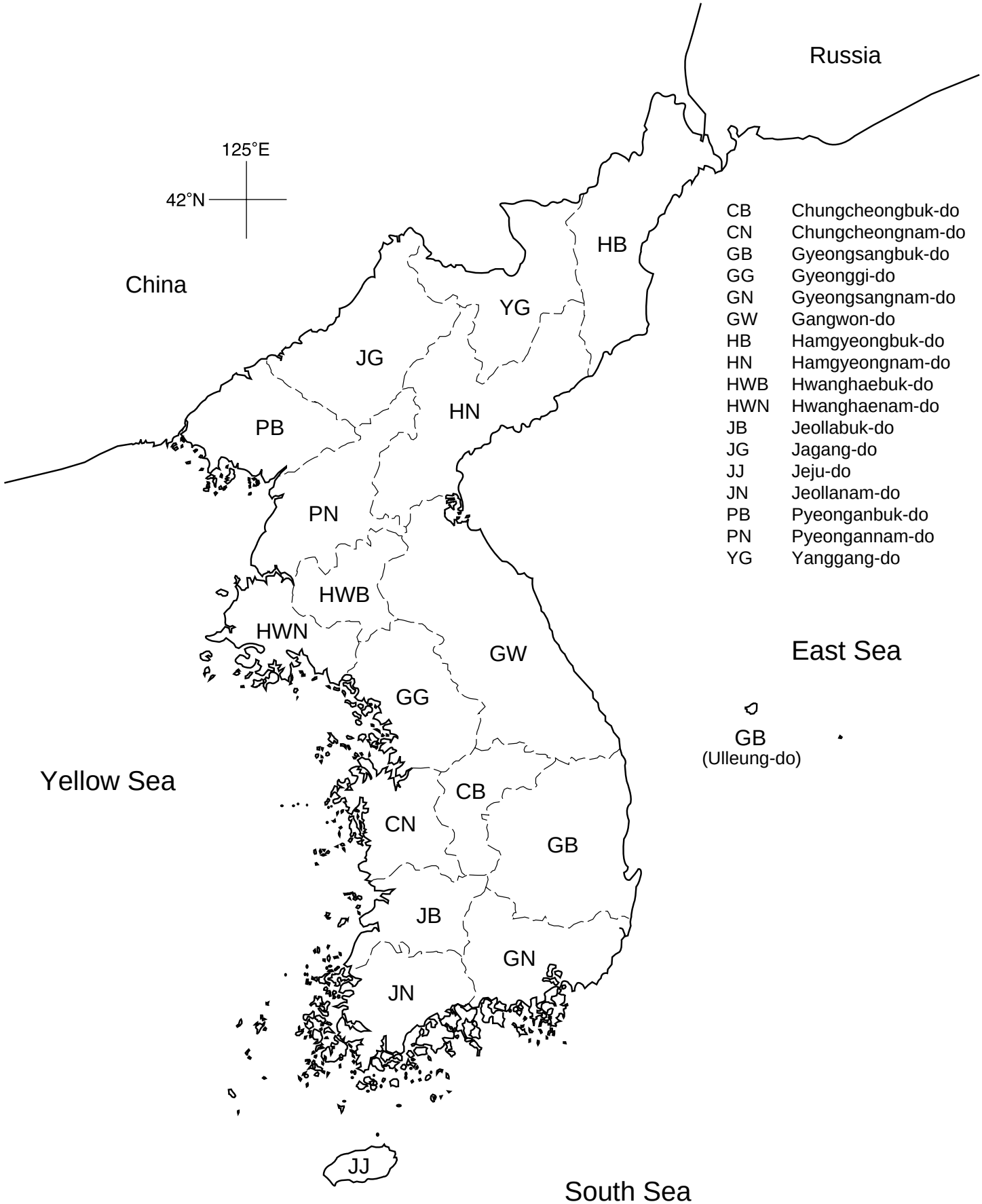
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GN Gyeongsangnam-do
GW Gangwon-do
HB Hamgyeongbuk-do
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HWB Hwanghaebuk-do
HWN Hwanghaenam-do
JB Jeollabuk-do
JG Jagang-do
JJ Jeju-do
JN Jeollanam-do
PB Pyeonganbuk-do
PN Pyeongannam-do
YG Yanggang-do

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Weevils II

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The Flora and Fauna of Korea logo was designed to represent six major target groups of the project including vertebrates, invertebrates, insects, algae, fungi, and bacteria. The book cover and the logo were designed by Jee-Yeon Koo.

Preface

Adoption of the 'Convention on Biological Diversity' in 1992 started to allow to acknowledge sovereign rights of the individual nations over biological and genetic resources, taking biological resources into considerations as one of the common properties of humankind. As such, it is one of the indicators for national competitiveness to create higher added-value of new variety, substance and medicine utilizing biological resources. In addition, adoption of the 'Nagoya protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization' in 2010 led to realization of international standards to fulfill biological sovereignty of the individual nations, which had lacked compulsory legal effect.

As it is expected that international competitions over biological resources will be stronger, national authorities on the globe have already begun to understand and organize the information of species inhabitant in their territories in order to prove their sovereignty over those biological resources; in this respect Korea seems to be outpaced by the advanced countries.

It is estimated that there are 100,000 or so of different species endemic to Korea among which about 38,000 species only are reported. Therefore, it is imperative to identify and organize indigenous biological resources known to date, as well as to strive continuously to discover new or unknown species. Indigenous species living in Korea can have such a significant influence on our lives that we must research them by and for ourselves.

Recognizing that it is the first priority to obtain and manage biological resources so as to secure the initiative of biotechnology industry in the future, National Institute of Biological Resources of the Ministry of Environment has been publishing Flora and Fauna of Korea for systematic and efficient management of biological resources of our own. For the last 4 years, professional research groups consisting of relevant professors and the like conducted systematic surveys and organizations for a variety of and wide range of taxa. As a result, 37 issues of Flora and Fauna of Korea, both in Korean and in English, covering 2,234 species and one issue of world monograph covering 173 species were published for the period of 2009 to 2011, and 28 issues of Flora and Fauna of Korea, both in Korean and in English, covering 1,475 species and one issue of world monograph covering 43 species are published this year.

I think, that these efforts to identify indigenous species living in Korea provide, not only the important evidences to claim sovereign rights over indigenous biological resources in Korea and to receive scientific certifications accordingly, but also provide the opportunity to prepare the framework for biotechnological industrialization of biological resources.

In conclusion, I would like to express sincere appreciation for those who did not spare their efforts to publish Biological Magazine and World Monograph; Professors I.H. Kim and H.S. Kim of Gangneung-Wonju National University, Professor K.T. Park of The Korean Academy of Science and Technology, Professor Y.J. Bae of Korea University, Dr. Y.S. Kwon of Korea National Park Service, Dr. T.H. Kang of National Academy of Agricultural Science, Dr. J.N. Kim of National Fisheries Research

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Yeonsoon Ahn
President
NIBR

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Introduction

An outline of Curculionidae was discussed in Weevils I of this series, so an explanation on this group is not necessary here. After the first volume, which dealt with 173 species belonging to 7 subfamilies (Bagoninae, Baridinae, Ceutorhynchinae, Conoderinae, Cryptorhynchinae, Molytinae and Orobitidinae), we revise 3 subfamilies (Curculioninae, Cossoninae and Mesoptiliinae) of the family Curculionidae in this study.

Important works on these three subfamilies which are included in this volume are as follows: 29 species in the checklist of the 222 species of Korean weevils are from Kwon and Lee (1986), 28 species of the subfamily Curculioninae are from Kwon and Lee (1990), 19 species in the report of the 57 species from Jejudo are from Morimoto and Lee (1992), 109 species are from the catalogue of Curculinonidae by Korea by Hong et al. (2000) and 18 species in the report of 91 species from North Korea by Hong and Korotyaev (2002).

Consequently, a total of 119 species belonging to 3 subfamilies (Curculioninae, Cossoninae and Mesoptiliinae) are enummerated for the fauna of Korea in this work, the "Invertebrate Fauna of Korea: Weevils II(Insecta: Coleoptera)". A subsequent work, the "Invertebrate Fauna of Korea: Curculionidae III (Insecta: Coleoptera)", will treat another 4 subfamilies (Cyclominae, Entiminae, Hyperinae and Lixinae) of the family Curculionidae.

Materials and Methods

This book is written as the second part on weevils in the series of the "Invertebrate Fauna of Korea: Weevils II (Insecta: Coleoptera)", and treats the subfamilies Curculioninae, Cossoninae, and Mesoptiliinae in the family Curculionidae. The third part, treating the rest of Curculionidae in Korea, is in preparation.

In this faunal work on the above 3 subfamilies belong to family Curculionidae, diagnoses are given for each species and keys are provided to both species and genera. Synonymies are listed and geographical records are also presented for species. Domestic collecting localities of all members are arranged to each province. Biological notes, including host plants for species, are also provided based on references or confirmed and investigated through field studies.

Specimens included in this book are based on various collections in Korea, including universities and institutes. For morphological study, weevils were observed directly by ordinary methods under stereoscopic microscopes (X5-320) and partly by scanning electron microscope. For examination of the genitalia and abdomen, dissections were performed mostly on specimens macerated in a hot 10% KOH solution for about 10 minutes or more, according to the condition of the specimen, and mounted on a glass slide with a mounting medium if necessary after dissecting and cleaning in water.

The number of the species corresponds with the numbers in the checklist and in the colored plates. The type locality is indicated as "TL", citing their present localities (modified from the spellings in the original descriptions). All available synonyms of the genera and species are listed by using smaller font type. The valid subspecies names are marked "as a subspecies" after the name and references.

In the descriptions of the species, while there are no full descriptions given, general diagnoses or major charatereristics are provided. The **SPECIMEN EXAMINED** section includes all label data of the available specimens from various collections in Korea and abroad, as well as some personal collections, particularly in the case of N. Korea. The **KOREAN RECORDS** section is not based on collected specimens, but includes specimen information reported in journals, reports, or in books by local workers, indicating author and year. The **BIOLOGICAL NOTES** section cites all host plants related to the larvae from adjacent countries, including the Russian Far East, China, and Japan, but unfortunately we are unable to indicate details on their original sources. The **DISTRIBUTION** section lists the countries and regions where the taxa are distributed. When **KOREA** is mentioned it means a local distribution, indicating North (the northern part: HB, HN, RG, JG, PB, and PN), Central (the central part: HH, GW, GG, CB, and CN), South (the southern part: GB, GN, JB, and JN), and JJ (Jeju Province). The **REMARK** section provides information on the report of a species in Korea and other relevant taxonomic information. Abbreviations of the provinces which served as collecting sites are as follows:

HB: Hamgyeongbuk-do, HN: Hamgyeongnam-do, RG: Ryangang-do; JG: Jagang-do; PB: Pyeonganbuk-do, PN: Pyeongannam-do, HH: Hwanghae-do, GW: Gangwon-do, GG: Gyeonggi-do (including Seoul), CB: Chungcheongbuk-do, CN: Chungcheongnam-do, JB: Jeonlabuk-do, JN: Jeonlanam-do, GB: Gyeongsangbuk-do, GN: Gyeongsangnam-do (including Busan), JJ: Jeju-do.

Specimens examined are mostly preserved in the collection of the National Plant Quatantine Service, National Academy of Agricultural Science, Kyungpook National University, and the Research Institute of Forest Insect Diversity.

Taxonomic Notes

Subfamily Curculioninae Latreille, 1802

Bam-ba-gu-mi-a-gwa (밤바구미아과)

Traditionally, this subfamily has been restricted to members of the genus *Curculio* and some close relatives, but it is now a large conglomerate of taxa of questionable relationships. Members have a small or no tooth on the inner angle at the apex of the hind tibia, eyes are rounded, the rostrum is mostly elongate to very elongate and cylindrical in cross section, and the antenna with the scape is not or just reaching the anterior margin of the eye. This subfamily is small and of medium size, dark or bright, often with pigmented patterns, such as spots or stripes, and sometimes with metallic tints. Their sculpturing is usually minimal or moderately coarse, lacking a wax coating.

They may be confused with Baridinae or Ceutorhynchinae, but members of these latter two subfamilies have the mesepimeron strongly ascended, truncated by elytral humeri and visible in dorsal view between the pronotum and elytra. Sexual dimorphism in rostral form in Curculioninae is extreme in some taxa; generally, the female rostrum is longer and narrower, and the antennae are inserted more basally than in the male. This dimorphism appears to be related to oviposition behavior and may be a key adaptation in explaining weevil diversity.

Curculioninae tend to be associated with many herbaceous as well as some woody plants. Many plant families serve as hosts (mainly dicotyledonous, sparsely coniferous plants). Most larvae are endophytic and develop in reproductive structures such as fruits, seeds, or flower buds; some also mine stems. Larvae of Rhamphini are leaf miners. Anthonomini are the most diverse group, especially the genus *Anthonomus*.

Key to the tribes of the subfamily Curculioninae

1. Antennal funicle with five articles; tarsal socket of protibia only partially visible and covered by extension of ventral face of protibia; tarsal claws (pretarsal ungues) free or fused at base ····· 11
− Antennal funicle with six to seven articles; tarsal socket of protibia often completely visible; tarsal claws usually separated at base ····· 2
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3. Antennal grooves slightly oblique; if dorsal margin of grooves directed towards eyes then not extending to ventral surface of rostrum; sometimes with wide and smooth posterior grooves 4
− Antennal grooves strongly oblique, directed towards ventral base of rostrum, dorsal margin of grooves extending to ventral margin of rostrum and separated from eyes by a distinctly short distance; margins of grooves well-defined, rostrum with rough texture before eyes (not

smooth) ····· 7

4. Precoxal part of prosternum short, not longer than fore coxa. Eyes convex, more or less protruding behind contour of head. Scutellum raised above level of sutural interval of elytra ··· Anthonomini
– Precoxal part of prosternum longer than fore coxa ····· 5
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– Rostrum shorter than elytra; mandibles not protruding anteriorly, with sharp margin along inner surface, and articulating along horizontal plane. Labial palpi 3-segmented. Hind femora not reaching apex of abdomen, often only extending to base of last ventrite. Femora widening toward apices, not clavate. Scutellum flat, lying in same plane as sutural intervals ····· 6
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– Pygidium completely concealed by elytra. Fore coxae contiguous. Apex of tibiae uncinate ····· ····· Ellescini
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– Rostrum not separated from frons by transverse sulcus. Eyes positioned laterally ····· 8
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– Labial palpus present. Intercoxal process of mesosternum narrower than long. Postero-lateral angles of 2nd abdominal ventrite protruding posteriorly, reaching or extending beyond apical margin of 3rd ventrite. Body with dense, contiguous covering of scales. Pygidium partly concealed by elytra ····· 10
10. Postero-lateral angles of 2nd abdominal ventrite extending to the 4th ventrite. Rostrum tapered anteriorly in lateral aspect ····· Tychiini (Tychina)
– Postero-lateral angles of 2nd abdominal ventrite not extending to 4th ventrite. Rostrum robust ····· ····· Tychiini (Demimaeina)
11. Frons between eyes slightly narrower than rostrum at base; inner margin of eye parallel to longitudinal axis of head; antennal scrobes slightly oblique, extending toward ventral part of eye; ventral margin of scrobe convex in dorsal aspect and slightly protruding; 2nd article of antennal funicle approximately shorter than 1st; prothorax slightly to moderately narrower than base of elytra; mucro present at least on protibia and metatibia; pygidium present ····· Mecinini
– Frons between eyes less than half the width of rostrum at base; inner margin of eye divergent from head at base of rostrum; antennal scrobes oblique, extending ventrally toward base of rostrum; ventral margin of scrobe in dorsal aspect parallel to longitudinal axis of rostrum; 2nd article of antennal funicle as long as or slightly longer than 1st; prothorax distinctly narrower than base of elytra; mucro lacking on all tibiae; pygidium absent ····· Cionini

Tribe Curculionini Latreille, 1802

DIAGNOSIS: Small or middle sized (1.2−17.0 mm), short, oblong to oval, rhombic, with triangular to cordiform elytra. Head spherical, drawn into pronotum, with large, flat eyes. Rostrum longer than elytra; mandibles protruding anteriorly, extending to sharp, downcurved margin and articulating along the vertical plane; labial palpi 2-segmented. Distinguished from other weevils by the elongate, narrow, broadly curved rostrum, sometimes exceeding length of body, particularly in females. Scutellum raised above level of sutural intervals. Precoxal part of prosternum longer than fore coxa. Legs long, clavate, thickening toward apical tooth of femora and densely covered in scales, mostly yellowish-brown. Hind femora reaching apex of abdomen or surpassing base of last ventrite.

BIOLOGY: Adult females bore into nuts or acorns using their rostra and deposit 1−3 eggs in the hole using their long ovipositors. Larvae develop inside of the fruits causing premature dropping from trees; they overwinter in the acorn or burrow into the ground and construct an overwintering / pupation chamber. Pupation occurs in the ground before the summer of the following year. Some even develop in galls of Hymenoptera. Due to their massive reproductive numbers, various nut cultivars sustain high levels of damage.

REFERENCES: Morimoto (1960, 1962a, 1981); Kwon and Lee (1992).

Key to the genus of the tribe Curculionini

1. Body often large; mesosternal process between mid coxae more or less convex, apparently narrower than the width of mid coxa; antennal clubs elongate; aedeagus blade-like ····· 2
− Body generally very small, not exceeding 3.5 mm in length; mesosternal process between mid coxae usually flat and broad, about as wide as or slightly narrower than mid coxa; antennal clubs oval; aedeagus more or less cylindrical ····· 3
2. Pronotum with lateral sides rounded, posterior angles obtuse and not laminate; elytra with antero-lateral angles blunt, not protruding anteriorly below hind angles of pronotum; fore femora with stalks generally straight ····· *Curculio*
− Pronotum with lateral sides weakly but distinctly sinuate before posterior angles, which are laminate and produced postero-laterally in dorsal view, rectangular in lateral view; elytra with antero-lateral angles sharply pointed anteriorly below posterior angles of pronotum; fore femora slightly bent along basal 1 / 3 ····· *Labaninus*
3. 1st article of antennal funicle apparently longer than 2nd; male abdomen with basal 2 ventrites fused together, suture discernible only on lateral sides ····· *Archarius*
− 1st article of antennal funicle apparently longer or nearly as long as 2nd; male abdomen with basal 2 ventrites partially fused, but suture complete ····· 4
4. Male hind tibiae armed with a spine-like process on inner distal margins; aedeagus with apical construction complicated, having lateral lobes well-developed ····· *Pagumia*
− Male hind tibiae simple, without any projection on each inner distal margins; aedeagus with apical construction simple, truncate or produced, lacking lateral lobes ····· *Koreoculio*

Genus *Archarius* Gistel, 1856: 261.

Ae-bam-ba-gu-mi-sok (애밤바구미속)

Type species: *Curculio salicivorus* Paykull, 1792.

Body generally very small, not exceeding 3.5 mm in length. Antennae with 1st article of funicle apparently longer than 2nd, club oval. Mesosternal process between middle coxae usually flat and broad, about as wide as or slightly narrower than middle coxa. Abdomen in male with first two ventrites fused together, suture discernible only on lateral sides.

Number of species: (6 species in Korea), (9 species in Japan).
Distribution: Palaearctic.

Key to the subgenera of the genus *Archarius*

1. Hind tibiae in male triangularly projected inward behind the middle, posterior margin of the projection serrate ····· *Toptaria*
– Hind tibiae in male simple, without any projection on inner sides ····· *Archarius*

Subgenus *Archarius* Gistel, 1856: 261.

Synonyms: *Balanobius* Jekel, 1861; *Longifistulia* Hong and Wang, 1987.
Type species: *Curculio crux* Fabricius, 1777.

Key to the species of the subgenus *Archarius*

1. 1st article of antennal funicle apparently longer than 2nd ····· 2
– 1st article of antennal funicle about as long as 2nd ····· 4
2. Rostrum, antennae, legs and elytra, aside from yellow patches of scales, reddish-brown; mid and hind femora weakly dentate ····· *A. exiguous*
– Rostrum, antennae and legs dark reddish-brown; elytra, aside from white patches of scales, black; mid and hind femora minutely but sharply dentate ····· 3
3. Male 1st and 2nd abdominal ventrites depressed in the middle, but without reversed Y-like ridge ····· *A. esakii*
– Male 1st and 2nd abdominal ventrites depressed in the middle with reversed, postero-mesal Y-like ridge ····· *A. pictiformis*
4. Male 2nd abdominal ventrite with reversed Y-like ridge postero-mesally; aedeagus with ventral lobe of apical portion rather truncate ····· *A. pictus*
– Male 2nd abdominal ventrite simple or with Y-like ridge bearing setose pads postero-mesally; aedeagus with ventral lobe of apical portion subtriangular and produced ····· *A. latispiculum*

1. *Archarius* (*Archarius*) *esakii* (Morimoto, 1962) (Pls. 1-1, 19-1)

Huin-sib-ja-ae-bam-ba-gu-mi (흰십자애밤바구미)

Curculio esakii Morimoto, 1962: 37.

TL: Japan - Honshu, Kyushu.

Head shagreened, closely covered with shallow punctures between frons and vertex; frons between eyes as broad as base of rostrum, with a minute median depression; eyes subovate; rostrum arising below middle of eye, having dorsal surface with frons at 165° angle in lateral aspect, as long as head and pronotum combined, gently and uniformly curved, each side behind antennal insertion with two punctured striae; antennae inserted along apical one-third of rostrum, scape slightly shorter than funicular articles; first article 1.3 times as long as 2nd, the latter the narrowest, 3rd article slightly longer than half the length of 2nd, 7th article subconical, distinctly longer than wide, club fusiform, closed, length slightly shorter than twice its width. Pronotum broader than long (6:5), broadest just behind middle, sides gently rounded, apical constriction obsolete, apical margin slightly produced anteriorly, postocular lobes indistinct, disk reticulately sculptured with deep punctures, median keel absent. Scutellum cordiform, as long as wide. Elytra cordiform, slightly longer than wide (13:11), broadest just behind shoulders, then moderately and broadly narrowing posteriorly, each apex rounded separately; striae deep, narrow, with same depth posteriorly; intervals flat, broad, wrinkled, or reticulately punctured. Pygidium inclined ventro-anteriorly, subpentagonal, gradually depressed from side to middle, transverse section of surface broadly V-shaped. Mesosternal process flat, slightly narrower than middle coxa; first and second abdominal ventrites depressed, last ventrite with a transverse, elliptic depression. Femora with a minute, sharp tooth, outer margin of fore tibiae straight, inner margin slightly produced at basal one-third, hind tibiae slightly curved.

Female: Rostrum longer than head and pronotum combined, each side behind antennal groove with a finely punctured stria; antennae inserted just behind middle of rostrum. Pygidium fusiform, transversely depressed. Last abdominal ventrite with a small, round, shallow depression at middle.

MEASUREMENTS: Body length (excluding rostrum). 2.1–2.6 mm.

COLOR: Elongate-oval, convex, black; rostrum, antennae, and legs reddish, covered above with brown and white scales; frons sparsely clothed with white, narrow scales; pronotum on each side with a longitudinal stripe, which is gradually dilated towards the base; elytra with white, broad scales on base, suture, and transverse median band, the latter extending on each side to stria 7, apices of elytra with several white scales; ventral surface densely covered with broad, white scales, which are closer on prosternum, mesopleuron, and metepisternum.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Kyushu).

KOREA: Jeju Is.

KOREAN RECORDS: Morimoto and Lee, 1992: 7 (JJ - Seongpanak); Morimoto, 1994: 302 (JJ); Paik et al., 1995: 430 (JJ); ESK / KSAE, 1994: 208; Hong et al., 2000: 21 (JJ).

SPECIMEN EXAMINED: JJ 2 exs. (Seongpanak: 29.viii.2007).

2. *Archarius* (*Archarius*) *exiguus* (Kwon and Lee, 1990)

Mu-nui-ae-bam-ba-gu-mi (무늬애밤바구미)

Balanobius (*Balanobius*) *exiguus* Kwon and Lee, 1990: 97.
TL: Korea - Seolaksan.

Rostrum shorter than elytra (1:1.27), gently and roundly curved; basal part apparentely wider than frons between eyes. Antennae inserted along basal 2/5 of rostrum. Pygidium with disc very short and widely subtriangular. Legs with mid and hind femora weakly dentate.

MEASUREMENTS: Body length (excluding rostrum). 1.7 mm.
COLOR: Derm lighter than other related groups; antennae, legs, abdomen, and elytra, aside from a yellow patch of scales along basal part, reddish-brown, remaining portion black.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central.
KOREAN RECORDS: Kwon and Lee, 1990: 97 (Mt. Seolaksan); ESK/KSAE, 1994: 208; Hong et al., 2000: 22 (Central).
SPECIMEN EXAMINED: GW 1♀ (Mt. Seolaksan, 9.viii.1976, holotype).
REMARKS: We think that the color of Holotype is not complete and it needs some additional examination with the male specimens.

3. *Archarius* (*Archarius*) *latispiculum* (Kwon and Lee, 1990) (Pls. 1-3, 19-3)

Sib-ja-ae-bam-ba-gu-mi (십자애밤바구미)

Balanobius (*Balanobius*) *latispiculum* Kwon and Lee, 1990: 97.
TL: Korea - Central, South.
Balanobius (*Balanobius*) *parvus* Kwon and Lee, 1990: 99. **[syn. nov.]**
TL: Korea - Geumjeongsan.

Rostrum apparently shorter than elytra (1:1.4), roundly angled at middle; basal part 1.25 times as wide as frons between eyes. Antennae inserted at middle of rostrum, with scape slightly shorter than length of distal portion from antennal insertion of rostrum (1:1.18). Second abdominal ventrite with semicircular ridge bearing setose pads postero-mesally. Aedeagus with ventral lobe of apical portion subtriangularly produced. Spiculum thick, nearly twice as wide as median struts of aedeagus in lateral view.
Female: Rostrum apparently shorter than elytra (1:1.37−1.4), with antennal insertion before middle to along basal 2/5.

MEASUREMENTS: Body length (excluding rostrum). 1.7−2.4 mm.
COLOR: General coloration and scale pattern as in *A. pictus* (Roelofs).
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central and South.

SPECIMEN EXAMINED: GG 1♂ (Mt. Soyosan, 15.v.1982, paratype); 1 ex. (Mt. Gwanggyosan, 1.v.1987); 1 ex. (Mt. Daemosan, Seoul, 12.vi.1988). GW 4 exs. (Hoengseong, 24.v.1993); 2 exs. (Mt. Obongsan, Chuncheon, 25.v.1993); 1 ex. (Hwacheon, 25.v.1993). GB 2 exs. (Bonghwa, 28.v.1993); 3 exs. (Andong, 29.v.1993). GN 1♂ (Mt. Geumjeongsan, 16.x.1983, holotype of *A. parvus* (Kwon and Lee)).

KOREAN RECORDS: Kwon and Lee, 1990: 97, 99 (Central, South); ESK/KSAE, 1994: 208, 209; Hong et al., 2000: 22 (Central, South).

REMARKS: Kwon and Lee (1990) distinguished *A. latispiculum* from *A. parvus* by the shape of the ventral lobe and spiculum of the aedeagus in lateral view; however, from our examinations of these 2 species, we conclude that they have no differences in appearance and regard differences in the aedeagus as individual variation.

4. *Archarius* (*Archarius*) *pictiformis* (Kwon and Lee, 1990)

Dalm-eun-yet-ae-bam-ba-gu-mi (닮은옛애밤바구미)

Balanobius (*Balanobius*) *pictiformis* Kwon and Lee, 1990: 97.

TL: Korea - South.

Rostrum apparently shorter than elytra (1:1.38), with distal part dark reddish-brown; the basal part slightly wider than frons between eyes. Antennae inserted along apical 2/5 of rostrum, scape 1.4 times as long as length of distal portion from antennal insertion of rostrum. Aedeagus with dorsal lobe of apical portion slightly produced, subangularly emarginate mesally. Spiculum strikingly thick, nearly three times as wide as median struts of aedeagus in lateral view.

Female: Rostrum rather roundly curved, shorter than elytra (1:1.25), with antennal insertion before middle.

MEASUREMENTS: Body length (excluding rostrum). 2.0–3.0 mm.

COLOR: General coloration and scale pattern as in *A. pictus* (Roelofs).

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea.

KOREA: South.

KOREAN RECORDS: Kwon and Lee, 1990: 97 (South); ESK/KSAE, 1994: 200; Hong et al., 2000: 23 (South).

SPECIMEN EXAMINED: GN 1♂ (Mt. Gajisan: 10.v.1981, paratype).

REMARKS: This species needs some additional examination.

5. *Archarius* (*Archarius*) *pictus* (Roelofs, 1874) (Pl. 1-5, 19-5)

Yet-ae-bam-ba-gu-mi (옛애밤바구미)

Balaninus pictus Roelofs, 1874: 161.

TL: Japan.

Pronotum broadly convex along middle of lateral sides; each side of base with a triangular patch

extending from 3rd stria to epipleuron, patch produced anteriorly and forming a vague longitudinal stripe. Elytra along basal half almost parallel-sided, length greater than 1.5 times width of combined elytra at shoulders; suture white, lateral intervals 2–4 sparsely clothed with white scales, two white, transverse bands on elytra, the anterior one lying along base and the posterior one just behind middle. Pygidium inclined antero-ventrally, with a deep median pit. Abdomen with 1st and 2nd ventrites depressed, posterior margin of depression with a reversed Y-shaped ridge, last ventrite with emarginate apical margin.

Female: Pygidium slightly inclined posteriorly, uniformly and shallowly depressed. Abdomen with 1st ventrite slightly depressed behind middle.

MEASUREMENTS: Body length (excluding rostrum). 2.0–2.8 mm.

COLOR: Black; antennae and apex of rostrum dark red, derm covered with blackish-brown, filiform scales and markings formed of white, broad scales.

BIOLOGICAL NOTES: Adults were captured from *Quercus serrata* (Kwon and Lee, 1990; Morimoto, 1984) and larvae developed in acorns of *Quercus mongolica* and nuts of *Castanea sativa* (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), China (Heilongjiang, Beijing), Russia (Khabarovsk and Primorskii Terr., Sakhalin, Kuriles).

KOREA: Central and South.

KOREAN RECORDS: Kôno, 1930b: 17 (Seoul); Dalla Torre and Schenkling, 1932: 18; Kôno and Kim, 1937: 24; Cho, 1957: 279; Morimoto, 1962a: 30; ZSK, 1968: 130; Egorov, 1976: 833; Chao and Chen, 1980, 20: 164; Morimoto, 1994: 301; Kim and Chang, 1987: 108 (Taebaeksan); Kwon and Lee, 1990: 97 (Central, South); ESK / KSAE, 1994: 209; Egorov et al., 1996: 493 (North); Hong et al., 2000: 23 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Yeongwol: 24.v.1993); 1 ex. (Hoengseong: 24.v.1993). CN 1 ex. (Mt. Deokseungsan: 27.v.1982). GB 1 ex. (Bonghwa: 28.v.1993); 1 ex. (Andong: 29.v.1993). GN 2 exs. (Mt. Jebisan, Haman: 15.ix.1991); 1 ex. (Jinju: 8.vi.1993).

Subgenus *Toptaria* Kwon and lee, 1990: 95.

Type species: *Balanobius roelofsi* Heller, 1927.

Rostrum shorter than elytra in both sexes; base as wide as or slightly wider than frons between eyes. Antennae with 1st article of funicle longer than 2nd. In male, fore tibiae with a long and well-developed uncus; hind tibiae broadly extended distally, with inner sides serrate. Aedeagus with ventral lobe of apical portion extending laterally, produced conically at tip.

6. *Archarius* (*Toptaria*) *roelofsi* (Heller, 1927) (Pls. 1-6, 19-6)

Tob-da-ri-ae-bam-ba-gu-mi (톱다리애밤바구미)

Balaninus roelofsi Heller, 1927: 283 (new name for *B. crucifer* Roelofs).

Balaninus crucifer Roelofs, 1874: 162.
TL: Japan - Yokohama.

Rostrum shorter than elytra in both sexes. First article of antennal funicle longer than 2nd. Pronotum with a white patch on each side of base extending from interval 4 to mesepimeron; inner anterior angle of patch produced into a longitudinal stripe and extending to anterior margin; outer anterior angle of patch produced into an oblique stripe extending towards postocular lobe, and a triangular patch before scutellum. Elytra with basal two-thirds of suture with two white, transverse bands; anterior band situated on base of elytra, posterior band at middle, the latter band variable in shape, in some individuals band obsolete on interval 3, or in some band extending to interval 8; band typically covering intervals 1−3 and 5−8; apical margin and subapical swellings sparsely clothed with white scales. Pygidium slightly inclined antero-ventrally, subpentagonal, with a deep median pit. Abdomen with 1st and 2nd ventrites depressed, posterior margin of depression with a reversed Y-shaped ridge, last ventrite with apical margin emarginate. Fore tibiae with uncus, long and well-developed. Hind tibiae broadly extended distally, with inner sides serrate.
Female: Pygidium subrhombic and with a medial, shallow, longitudinal pit.

MEASUREMENTS: Body length (excluding rostrum). 1.8−2.7 mm.
COLOR: Black; antennae and apical part of rostrum and tarsi reddish-brown.
BIOLOGICAL NOTES: Adults were captured from *Quercus acutissima* and *Quercus aliena* (Kwon and Lee, 1990; Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).
KOREA: Central and South.
KOREAN RECORDS: Morimoto, 1994: 301; Kim, 1995: 174 (Mt. Sobaeksan); Kwon and Lee, 1990: 96 (Central, South); ESK / KSAE, 1994: 209; Hong et al., 2000: 24 (Central, South).
SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 24.v.1993); 2 exs. (Mt. Obongsan, Chuncheon: 25.v. 1993); 1 ex. (Hwacheon: 25.v.1993). CB 1 ex. (Okcheon: 22.v.1993); 1 ex. (Boeun: 23.v.1993). CN 3 exs. (Mt. Gaedeoksa, Geumsan: 22.v.1993). GB 1 ex. (Andong: 29.v.1993).

Genus *Curculio* Linnaeus, 1758: 377.

Bam-ba-gu-mi-sok (밤바구미속)

Type species: *Curculio nucum* Linnaeus, 1758.

NUMBER OF SPECIES: (25 species in Korea), (40 species in Japan).
DISTRIBUTION: Holarctic, Oriental, Afrotropical Regions, Panama, Mexico, Honduras, Guatemala, Australia, Moluccas, New Guinea.

Key to the species of the genus *Curculio*

1. Fore femora denticulate; mesosternal process as broad as base of middle femur ····· 2
− Fore femora not denticulate; mesosternal process almost flat and slightly broader than base of middle femur; dorsum flat ····· 22
2. Rostrum apparaently shorter than elytra ····· *C. taebaeksanensis*

– Rostrum often longer than elytra, especially in female, or sometimes very slender ····· 3
3. Dorsum convex; first interval of elytra flat or slightly convex, more or less rugosely punctured as in other intervals ····· 4
– Dorsum flat; first interval of elytra slightly concave, shagreened or punctured, but not rugose as in other intervals; apical one-third of suture fringed with a row of erect bristles or long scales ····· 10
4. Seventh article of antennal funicle slender, much longer than first article of club; pygidium exposed in both sexes; apical half of suture finely fringed with more or less erect scales. Body longer than 5 mm ····· 5
– Seventh article of antennal funicle shorter than first article of club; suture of elytra not fringed with long or erect scales; postscutellar depression absent; body convex; femoral tooth small, knob-like; rostrum shorter than elytra; female pygidium entirely concealed ····· 9
5. Male antennae inserted just behind apical one-third of rostrum, which is much shorter than elytra ····· *C. hilgendorfi*
– Antennae inserted near or behind middle of rostrum ····· 6
6. Second article of antennal funicle longer than first one. Elytra with a transverse band behind middle, which is formed of more or less closely situated, yellowish scales; each elytral stria with a row of broad scales ····· *C. robustus*
– Second article of antennal funicle as long as or shorter than first one in general. Each elytral stria with a row of short setae ····· 7
7. Rostrum equal in length in both sexes ····· *C. conjugalis*
– Female rostrum much longer than that of male ····· 8
8. Elongate. Antennal scape in female shorter than 3 basal articles of funicle combined. Scutellum slightly longer than wide. Aedeagus with penis rather robust, abruptly narrowing near apex in lateral aspect, apical projection parallel-sided, short, penis 1.3 times as long as median strut ···· ····· *C. sikkimensis*
– Oval to elongate-oval. Antennal scape in female as long as 4 basal articles of funicle combined. Scutellum about 1.5 times as long as wide. Penis with three apical projections, as long as median strut ····· *C. dentipes*
9. Derm reddish, sparsely and uniformly clothed above with narrow, yellowish scales, elytral intervals sparsely clothed with 2–4 irregular rows of scales; rostrum entirely cylindrical, not dilated towards base ····· *C. hime*
– Elytra mottled with small, vague, brown spots within general yellowish-grey scaling, sometimes with a transverse band behind middle; rostrum cylindrical before antennal insertion, slightly dilated towards base ····· *C. convexus*
10. Fore tibiae strongly dilated distally at apex and with a large, dorsal depression. Rostrum straight or feebly curved, base of rostrum higher than level of frons in lateral aspect ····· *C. funebris*
– Outer margin of fore tibiae straight. Rostrum cylindrical, more or less curved ····· 11
11. Scutellum 1.5 times as long as wide ····· *C. styracis*
– Scutellum as long as or slightly longer than wide ····· 12
12. Femora minutely but sharply denticulate ····· 13
– Femora strongly denticulate ····· 14
13. Derm black. First article of antennal funicle nearly as long as second one. Pronotum with a triangular white or yellow patch of scales before scutellum. Elytra with a white or yellow transverse, short band of scales behind middle ····· *C. koreanus*
– Derm reddish-brown. First article of antennal funicle apparently shorter than second one. Pronotum rather uniformly covered by yellowish scales. Elytra mottled with white, yellow,

and yellowish-brown patches of scales ····· *C. flavidorsum*

14. Seventh article of antennal funicle longer than first article of club, large species: 6–9 mm in length ····· 15
– Seventh article of antennal funicle shorter than first article of club, small species: 2.3–6 mm in length ····· 17
15. Dorsum uniformly covered by uniform brown or greyish-brown scales, scutellum yellow, suture fringed with a row of reddish-brown, erect bristles ····· *C. camelliae*
– Elytra mottled with spots ····· 16
16. Pronotum without distinct scaly marking before greyish-yellow scutellum. Elytra mottled with small, white spots, suture fringed with short, dark brown, erect bristles ····· *C. distinguendus*
– Pronotum with a triangular yellow patch before scutellum. Elytra mottled with yellow, with more or less transversely confluent spots, suture fringed with yellow, erect scales ····· *C. dieckmanni*
17. First article of antennal funicle as long as second one. Body longer than 5.5 mm in length ····· ····· *C. ussuriensis*
– First article of antennal funicle longer than second one. Body smaller than 5.5 mm in length ····· 18
18. Frons between eyes half as broad as base of rostrum, base of dorsal surface of rostrum lying on same level with frons in lateral aspect. Derm closely covered with yellowish scales, elytra variegated with yellow and black scales, with a broad, transverse, yellow band behind middle ····· ····· *C. ochrofasciatus*
– Frons between eyes slightly narrower than base of rostrum, base of dorsal surface of rostrum arched in connection to frons in lateral aspect ····· 19
19. Elytra with a yellowish-brown, transverse band of scales behind middle; suture fringed with a row of dark brown, erect bristles, aside from yellowish-brown ones apically ····· *C. vivariae*
– Elytra without a distinct band behind middle ····· 20
20. Basal sutural impression of elytra weak, extending as far as to middle. Rostrum uniformly curved. Suture fringed with a row of long, black setae on apical one-third, each interval of elytra clothed with two rows of scales ····· *C. yanoi*
– Basal sutural impression of elytra indistinct. Rostrum curved before antennal insertion. Suture fringed with a row of yellowish bristles, each interval of elytra clothed with 3–4 irregular rows of scales ····· 21
21. Male fore tibia with inner margin scarcely dilated along basal one-third. Antennal scape as long as basal 4 articles of funicle combined. Derm, legs, and elytra black in general ····· ····· *C. flavoscutellatus*
– Male fore tibia with inner margin dilated along basal one-third. Antennal scape in male longer than basal 5 articles of funicle combined. Derm rusty-brown to brown, legs and elytra reddish-brown to brown ····· *C. kurosawai*
22. Antennae inserted at middle of rostrum in male; aedeagus with end piece moderately produced, about as long as or slightly exceeding ostium; female pygidium lacking median longitudinal carina ····· 23
– Antennae inserted before middle of rostrum in male; aedeagus with end piece elongated and produced, nearly twice as long as ostium; female pygidium with a median longitudinal carina sharply defined and elevated ····· *C. inornatus*
23. Body elongate-oval; male antennal scape comparatively slender, about as long as distal portion of rostrum from antennal insertion; aedeagus arcuate, broad distally on each side, abruptly narrowed and produced apically ····· *C. velox*
– Body oval; male antennal scape shorter than distal portion of rostrum from antennal insertion; aedeagus with sides subparallel, apex subtriangularly produced ····· 24

24. Derm dark reddish-brown, scales very dense; frons between eyes weakly depressed and rugulose; aedeagus rather narrow ····· *C. hallasanensis*
– Derm yellowish-brown, scales moderately dense; frons between eyes with a deep, median, longitudinal depression; aedeagus relatively broad ····· *C. quelparticola*

7. *Curculio camelliae* (Roelofs, 1874)

Dong-baek-bam-ba-gu-mi (동백밤바구미)

Balaninus camelliae Roelofs, 1874: 157.
TL: Japan.

Antennae with seventh funicular article longer than first article of club. Scutellum yellow. Elytra uniformly covered with brown or greyish-brown scales, without a distinct short band behind middle. Suture fringed with a row of reddish-brown, erect bristles.
Female: Rostrum very slender, longer than entire length of body.

MEASUREMENTS: Body length (excluding rostrum). 7.0–7.5 mm.
COLOR: Derm rusty-brown.
BIOLOGICAL NOTES: Adults deposit eggs in the fruit of *Camellia japonica* (Kwon and Lee, 1990; Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).
KOREA: Central and South.
KOREAN RECORDS: Ko, 1969: 265; KSPP, 1972: 198; Kim, 1980: 347 (Namyangju); KSPP, 1986: 194; Kwon and Lee, 1990: 90 (South); Morimoto, 1994: 307; ESK/KSAE, 1994: 209; Hong et al., 2000: 24 (Central, South).
REMARKS: The record in Suwon (Hong et al., 2000) was a mis-identification of *C. sikkimensis.*

8. *Curculio conjugalis* (Faust, 1882) (Pls. 1-8, 19-8)

Dalm-eun-bam-ba-gu-mi (닮은밤바구미)

Balaninus conjugalis Faust, 1882: 278.
TL: Russia - Amur.

Rostrum equal in length in both sexes, almost straight from base to antennal insertion, then abruptly arched to apex; distance from base of eye to antennal insertion 1.8 mm in male, 1.5 mm in female. Pronotal disc with feeble indication of median lighter-colored vitta, and with two lateral vittae. Elytra motted with brown, with more or less transversely confluent spots, creating strong contrast from general yellowish-grey scaling; each stria with a row of short setae. Femora with ventral tufts of elongate, setiform scales, which are as long as inner tooth; uncus on hind tibia medium-sized with acute apex. Aedeagus with penis subparallel along basal two-thirds in lateral aspect, apical projection short, median struts much longer than penis.

MEASUREMENTS: Body length (excluding rostrum). 7.0−8.0 mm.
COLOR: Elongate, oval; derm fuscous.
BIOLOGICAL NOTES: Adults were collected on Fagaceae plants (Morimoto, 1960).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), NE China, Russia (Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin).
KOREA: Central, South and Jeju Is.
KOREAN RECORDS: Egorov, 1976: 832; Park, 1981: 264 (Geumsan); Kwon and Lee, 1990: 90 (Central, South, Jejudo); Morimoto, 1994: 307; ESK / KSAE, 1994: 209; Egorov et al., 1996: 492; Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 25 (Central, South, Jeju Is.).
SPECIMEN EXAMINED: GB 1 ex. (Sobaeksan: 9.v.1997).

9. *Curculio convexus* (Roelofs, 1874) (Pls. 1-9, 19-9)

Baek-dang-na-mu-bam-ba-gu-mi (백당나무밤바구미) (신칭)

Balaninus convexus Roelofs, 1874: 161.
TL: Japan.

Rostrum shorter than elytra. Forehead between eyes half as broad as base of rostrum. Antennal scape as long as 5 basal articles of funicle combined, 1st article of funicle 1.5 times as long as 2nd. Pronotum slightly convex. Scutellum slightly longer than broad, somewhat triangular. Elytra convex in lateral view. Postscutellar depression absent. Scaling along suture similar as in other intervals. Abdomen with 1st ventrite as long as 2nd behind hind coxal cavity. Pygidium in female entirely concealed. Femora with small, knob-like tooth. Median lobe of aedeagus thin at base, gradually thicker toward rounded apex in dorsal view; laterally thin at base, gradually thicker towards deflected apex; apex triangular with acute point. Spermatheca with ramus obliquely erect; collum small, rounded, almost undifferentiated from ramus; cornu thickened at base, tapering to rounded apex.

MEASUREMENTS: Body length (excluding rostrum). 3.5−5.0 mm.
COLOR: Elogate-oval. Derm black; rostrum piceous to antennal insertions, then fuscorufus to apex. Antennae fuscorufus. Pronotum covered with mixture of narrow, elongate, testaceous and fuscous scales. Scutellum clothed with testaceous scales. Elytra clothed with testaceous and fuscous scales, some specimens with fuscous macula. Derm of femora black, tibiae with derm fuscous.
BIOLOGICAL NOTES: Adults were collected on *Viburnum opulus*. This species commonly oviposits on fruits of *Viburnum erosum* and *V. japonicum* in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), China (Fujian).
KOREA: Cental (GW).
SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 12.vi.2006); 6 exs. (Bukdaesa Odaesan Jinbu-myeon Pyeongchang: 4.vi.2009); 4 exs. (Bukdaesa Odaesan Jinbu-myeon Pyeongchang: 17.vi.2010).
REMARKS: This species is first recorded from Korea in this study.

10. *Curculio dentipes* (Roelofs, 1874) (Pls. 2-10, 20-10)

Do-to-ri-bam-ba-gu-mi (도토리밤바구미)

Balaninus dentipes Roelofs, 1874: 156.
TL: Japan.
Balaninus arakawai Matsumura and Kôno, 1928, in Kôno, 1928: 171.
TL: Japan - Iyo.
Balaninus shigizo Kôno, 1928: 171.
TL: Japan - Iyo, Tosa.
Balaninus quercivorus Kôno, 1928: 172.
TL: Japan - Sapporo.

Disc of pronotum with median and lateral vittae of white scales, remainder of scales clavate, testaceous. Scutellum moderate-sized, about 1.5 times as long as wide, with testaceous scales. Elytra mottled with pale yellow, more or less confluent spots, sometimes forming bands, creating strong contrast from general brownish scaling; in pale specimens, elytra covered with greyish scales and sparsely mottled with faint, brown spots; in brownish specimens, elytra almost covered with uniform brownish scales, or sometimes brown scales forming several large spots. Metepisternum broad anteriorly and narrowing along posterior angles. Legs slightly more robust than *C. skkimensis* but apparently more slender than *C. conjugalis* and *C. hilgendorfi*. Penis with three apical projections, as long as median struts.

Female: Antennal scape about as long as basal 4 articles of funicle combined. Spermatheca with ramus elongate, suberect, truncate apically; collum broad at base, tapering to rounded apex with a blunt bump; cornus rather thick at arc to subacute apex that extends beyond apex of collum.

MEASUREMENTS: Body length (excluding rostrum). 5.5−15.0 mm.

COLOR: Oval to elongate-oval; derm fuscous.

BIOLOGICAL NOTES: Adults emerge from the middle of April, feed on the sprouts, galls, and young leaves of *Quercus* spp., and oviposit in the acorns of *Quercus acutissima, Q. dentata* and *Q. variabilis* until September (Kwon and Lee, 1990; Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (Hebei, Manchuria, Shandong, Heilongjiang, Jilin, Liaoning, Beijing, Henan, Shansi, Jiangsu, Zhejiang), Russia (Amur Prov., Khabarovsk and Primorskii Terr.).

KOREA: North, Central and South.

KOREAN RECORDS: Ter-Minassian, 1956: 426; Egorov, 1976: 833; Kim, 1978: 305 (Wangbangsan); KSPP, 1986: 195; Kwon and Lee, 1990: 90 (North, Central, South); FRI, 1991: 180 (biology); Morimoto, 1994: 307; ESK / KSAE, 1994: 209; Egorov et al., 1996: 492; Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 25 (North, Central, South).

SPECIMEN EXAMINED: GG 1 ex. (Seoul Uidong: 13.viii.1982). GB 1 ex. (Sobaeksan Huibangsa: 9.v.1997).

REMARKS: This species has been misidentified or confused with *C. sikkimensis* Heller in Korea and Japan, as rectified by Morimoto (1981).

11. *Curculio dieckmanni* (Faust, 1887) (Pls. 2-11, 20-11)

Gae-am-bam-ba-gu-mi (개암밤바구미)

Balaninus dieckmanni Faust, 1887: 178.
TL: Russia - Khabarovsk Terr.

Antennae with seventh article of funicle longer than first article of club.

MEASUREMENTS: Body length (excluding rostrum). 6.5−7.0 mm.
COLOR: Pronotum with a triangular, yellow, setose patch before scutellum. Elytra mottled with large greyish-white or yellowish scale-like setae, forming more or less transversely confluent spots; suture fringed with yellow, erect scales. Underside of body covered with white and yellow scales, yellow scales more dense on ventral side of prothorax, mesosternum, mesepisterna, postero-lateral angles of metasternum, and on each side of basal 4 abdominal ventrites
BIOLOGICAL NOTES: Adults were collected on *Corylus heterophylla* and *C. mandshurica* (Kwon and Lee, 1990) and larvae developed in acorns of *Quercus mongolica*, in nuts of *Corylus heterophylla*, and interestingly, in kidney beans of *Maackia amurensis* (Egorov et al., 1996).
DISTRIBUTION: Korea, Japan (?), NE China (Manchuria, Heilongjiang, Jilin, Liaoning), Russia (Amur Prov., Khabarovsk and Primorskii Terr.).
KOREA: Central.
KOREAN RECORDS: Kwon and Lee, 1990: 91 (Central); ESK/KSAE, 1994: 209; Hong et al., 2000: 26 (Central).
SPECIMEN EXAMINED: GG 1 ex. (Gwangju: 23.v.1982); 1 ex. (Anyang: 6.vi.1987).

12. *Curculio distinguendus* (Roelofs, 1874) (Pls. 2-12, 20-12)

Geom-jeong-bam-ba-gu-mi (검정밤바구미)

Balaninus distinguendus Roelofs, 1874: 156.
TL: Japan.
Balaninus takabayashii Kôno, 1928: 172.
TL: Japan - Honshu.

Antennae with seventh article of funicle longer than first article of club. Pronotum without a distinct scaly marking before scutellum; scutellum greyish-yellow. Elytra mottled with small, white spots; suture fringed with dark brown, erect bristles. Venter of body sparsely covered with white scales; mesepimera, postero-lateral angles of metasternum and each side of abdominal ventrites 2 and 3 yellow.

MEASUREMENTS: Body length (excluding rostrum). 5.5−8.0 mm.
COLOR: Wide, oval, black; with sparse, yellowish-white setae, without spots.
BIOLOGICAL NOTES: Adults were captured from *Quercus acutissima* (Kwon and Lee, 1990; Morimoto, 1994), and larvae developed in nuts of *Corylus heterophylla* and in kidney beans of *Maackia amurensis* (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Honshu, Kyushu), China (Heilongjiang, Beijing, Jiangsu), Russia (Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles).

KOREA: North, Central, South and Jejudo.

KOREAN RECORDS: Haku, 1936: 122 (Palgongsan); Kôno and Kim, 1937: 23; Cho, 1957: 279; ZSK, 1968: 130; Kim et al., 1974: 228 (Inje); Yoon et al., 1990: 114 (Gayasan); Kwon and Lee, 1990: 91 (North, Central, South); Morimoto and Lee, 1992: 7 (JJ - Yeongsil); ESK / KSAE, 1994: 209; Paik et al., 1995: 430 (JJ); Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 27 (North, Central, South, Jeju Is.).

SPECIMEN EXAMINED: GG 4 exs. (Suwon: 17.viii.1980); 1 ex. (Seoul Uidong: 13.viii.1982); 1 ex. (Gwangreung: 12.ix.1991). GW 1 ex. (Unduryeong: 27.v.1993). CB 1 ex. (Goesan: 23.v.1993). CN 1 ex. (Gyeryongsan Donghaksa: 27.ix.1991).

13. *Curculio flavidorsum* Kwon and Lee, 1990 (Pls. 2-13, 20-13)

Al-rak-bam-ba-gu-mi (알락밤바구미)

Curculio flavidorsum Kwon and Lee, 1990: 92.

TL: Korea - Central, South.

Rostrum slightly longer than elytra (1.2:1), broadly curved distally; basal part slightly wider than frons between eyes. Antennae inserted behind middle of rostrum; 1st article of antennal funicle apparently shorter than 2nd one. Pronotum rather uniformly clothed with yellow to yellowish-grey scales. Elytra mottled with white, yellow, and yellowish-brown patches of scales; suture fringed with a row of golden to yellowish-brown, erect bristles apically. Aedeagus strongly curved apically, with apex simple, triangular, and produced.

Female: Rostrum nearly as long as or slightly shorter than elytra, antennal insertion along basal 1 / 3; basal part of rostrum as wide as frons between eyes.

MEASUREMENTS: Body length (excluding rostrum). 3.0−3.5 mm.

COLOR: General color dark reddish-brown to dark brown.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea.

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1990: 92 (Central, South); ESK / KSAE, 1994: 209; Hong et al., 2000: 28 (Central, South).

SPECIMEN EXAMINED: GG 1♀ (Seoul Bukhansan, 11.vii.1981, Paratype).

14. *Curculio flavoscutellatus* (Roelofs, 1874) (Pls. 2-14, 20-14)

Bo-ri-su-bam-ba-gu-mi (보리수밤바구미)

Curculio flavoscutellatus Roelofs, 1874: 160.

TL: Japan - Nagasaki.

Curculio modestus Voss, 1941: 897.

TL: Japan - Beppu.

Rostrum longer than half the body length, curved before antennal insertion; antennal club as long as or longer than funicular articles 4−7 combined; scape longer than funicular articles 1−5 combined. Pronotal disc with diffuse triangular macula of narrow, elongate, white scales, with few testaceous scales intermixed. Pronotum with large ventromedial macula of elongate, clavate, cretaceous scales. Scutellum large, longer than broad, clothed with cretaceous scales. Elytra with faint basal sutural impression. Interval 1 distad of scutellum with short, piceous vittae. Suture fringed with a row of yellowish bristles. Each interval of elytra clothed with 3−4 irregular rows of scales. Mesepimera and basal two ventrites of abdomen densely covered with yellowish scales. Abdominal ventrite 1 shorter than 2 behind coxal cavity; ventrites 1 and 2 densely clothed with elongate, clavate, cretaceous scales, remaining ventrites with fuscopiceous scales. Hind femoral tooth medium-sized. Genitalia with short median lobe, thicker basally then narrowing towards apex in lateral view.

MEASUREMENTS: Body length (excluding rostrum). 3.0−4.0 mm.

COLOR: Oval; derm black.

BIOLOGICAL NOTES: Adults were captured on the flowers of *Elaeagnus umbellata* (Morimoto and Lee, 1992).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), China (Yunnan).

KOREA: Central and Jeju Is.

KOREAN RECORDS: Morimoto and Lee, 1992: 7 (JJ - Eorimok, Yeongsil); ESK / KSAE, 1994: 209; Morimoto, 1994: 306; Paik et al., 1995: 430; Hong et al., 2000: 28 (Central, Jeju Is.).

SPECIMEN EXAMINED: CN 1 ex. (Gyeryongsan Donghaksa: 27.ix.1991). JJ 1 ex. (Seogwang: 10.ix.1989); 5 exs. (Eorimok: 20.v.1990); 1 ex. (Yeongsil: 27.vii.1990).

15. *Curculio funebris* (Roelofs, 1874) (Pls. 2-15, 20-15)

Cheon-seon-gwa-bam-ba-gu-mi (천선과밤바구미)

Balaninus funebris Roelofs, 1874: 159.
TL: Japan.
Balaninus (*Balanobius*) *clavatus* Faust, 1882: 278.
TL: Japan.
Curculio shaowuensis Voss, 1958: 96.
TL: China - Shaowu.

Rostrum as long as or longer than half the body length, straight or feebly curved, base of rostrum higher than level of frons in lateral aspect; antennal club long with articles 1 and 2 subequal in length, articles 3 and 4 combined as long as article 2, total length of club longer than funicular articles 2−7 combined. Pronotum slightly convex in lateral view, disc with narrow, elongate, testaceous scales, pleuron with elongate, narrow, white scales; scutellum longer than broad, large, clothed with narrow, elongate, cretaceous scales. Elytral disc slightly convex in lateral view, clothed with basal fascia of narrow, elongate, white scales, with submedian macular fascia of white scales and scattered patches of white scales; suture fringed with suberect, moderately long, white setae. Fore tibiae strongly dilated at apex and with a large depression dorsally. Aedaegus with margins narrow at base, widening towards apex in dorsal view; apex broader than base, margins arched; becoming wider

from base to apex in lateral aspect, slightly deflected at apex with broadly rounded projection directed ventrally.

MEASUREMENTS: Body length (excluding rostrum). 3.4–4.5 mm.
COLOR: Oval; derm piceous; elytra variegated with irregular, indistinct spots composed of white and dark brown scales.
BIOLOGICAL NOTES: Adults oviposit in the fruit of *Ficus erecta* (Kwon and Lee, 1990; Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), China (Jiangxi, Guangxi, Zhuangzu and Fujian), Russia (Khabarovsk and Primorskii Terr., Sakhalin, Kuriles).
KOREA: Jeju Is.
KOREAN RECORDS: Kwon and Lee, 1990: 90 (JJ - Jungmun); ESK / KSAE, 1994: 209; Morimoto, 1994: 306; Hong et al., 2000: 28 (Jeju Is.).
SPECIMEN EXAMINED: JJ 1 ex. (Jungmun: 8.v.1989).

16. *Curculio hallasanensis* Kwon and Lee, 1990 (Pl. 3-16)

Hal-ra-san-bam-ba-gu-mi (한라산밤바구미)

Curculio hallasanensis Kwon and Lee, 1990: 94.
TL: Korea - Halrasan.

Rostrum apparently shorter than elytra (1:1.45), shallow, broadly curved distally; basal part wider than frons between eyes (1.33:1). Frons between eyes weakly depressed and rugulose. Antennae inserted at middle of rostrum, scape shorter than length of distal portion from antennal insertion of rostrum (1:1.18). Pronotum covered with yellowish-brown scales; basal margin with scales apparently lighter in hue than remainder. Elytra mottled with yellowish-grey, yellowish-brown, and brown scales, with an obscure, transverse patch of light scales behind middle; suture fringed with an apical row of yellowish-brown, erect bristles. Aedeagus somewhat narrow; end piece about as long as ostium.
Female: Rostrum weakly curved distally, shorter than elytra (1:1.3), antennal insertion at basal 2 / 5 to 1 / 3.

MEASUREMENTS: Body length (excluding rostrum). 3.0–3.7 mm.
COLOR: General color dark reddish-brown, scales very dense.
BIOLOGICAL NOTES: Adults were captured from *Abies* sp. (Kwon and Lee, 1990).
DISTRIBUTION: Korea.
KOREA: Jeju Is.
KOREAN RECORDS: Kwon and Lee, 1990: 94 (Halrasan); ESK / KSAE, 1994: 209; Hong et al., 2000: 29 (Jeju Is.).
SPECIMEN EXAMINED: JJ 1 ex. (Halrasan: 23.vii.1981, Holotype).

17. *Curculio hilgendorfi* (Harold, 1878)

Mo-mil-jas-bam-ba-gu-mi (모밀잣밤바구미)

Balaninus Hilgendorfi Harold, 1878: 86.
TL: Japan - Tokyo.
Balaninus iwasakii Matsumura and Kôno, 1928, in Kôno, 1928: 170.
TL: Japan - Is. Ishigaki.

Antennae inserted just behind apical one-third of rostrum, much shorter than elytra. Elytra with a vague yellowish-grey, transverse band behind middle. Aedeagus with penis slender, apical projection long, median struts slightly shorter than penis.

MEASUREMENTS: Body length (excluding rostrum). 6.0–9.0 mm.
COLOR: Body elongate, rusty-red, uniformly clothed above with yellowish-grey, setiform scales, sparsely mixed with brown scales.
BIOLOGICAL NOTES: This species appears from the middle of August to September and oviposits into the acorn of *Castanopsis cuspidata*, *C. lutschuensis* and *C. sieboldii* in Japan (Morimoto, 1981).
DISTRIBUTION: Korea, Japan (Honshu, Kyushu, Ryukyu).
KOREA: Central and South.
KOREAN RECORDS: Hong et al., 2000: 29 (Central, South).
REMARKS: The records in Korea (Hong et al., 2000) was a mis-identification of *C. sikkimensis*, and it needs some additional survey for the distribution.

18. *Curculio hime* Kôno, 1930 (Pls. 3-18, 21-18)

Neu-ti-na-mu-bam-ba-gu-mi (느티나무밤바구미)

Curculio hime Kôno, 1930: 10.
TL: Japan.

Rostrum entirely cylindrical, not dilated towards base, shorter than elytra. Elytra sparsely clothed with 2–4 irregular rows of scales on each interval; scaling along suture similar as on other intervals; postscutellar depression and basal sutural spot absent. Femoral tooth small, knob-like.
Female: Pygidium completely concealed by elytra.

MEASUREMENTS: Body length (excluding rostrum). 3.2 mm.
COLOR: Derm reddish, sparsely and uniformly clothed above with yellowish, narrow scales. Body convex.
BIOLOGICAL NOTES: Adults were collected on *Zelkova serrata* in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 30 (Central).
SPECIMEN EXAMINED: GG 1♂ (Suwon: 29.v.1993).

19. *Curculio inornatus* Kwon and Lee, 1990 (Pls. 3-19, 21-19)

Meot-jaeng-i-bam-ba-gu-mi (멋쟁이밤바구미)

Curculio inornatus Kwon and Lee, 1990: 93.

TL: Korea - South.

Rostrum slightly shorter than elytra (1:1.1), broadly curved distally; basal part wider than frons between eyes (1.25:1). Antennae inserted before middle of rostrum. Pronotum covered with yellowish-brown scales peripherally and brown ones centrally. Elytra mottled with yellowish-grey and brown scales, a yellowish-grey to yellowish-brown band of scales behind middle; suture fringed with an apical row of yellowish-brown, erect bristles. Aedeagus with end piece elongate and produced, nearly twice as long as ostium.

Female: Rostrum weakly curved distally, about as long as elytra, antennal insertion along basal 2/5. Pygidium with a median, longitudinal carina sharply defined and elevated.

MEASUREMENTS: Body length (excluding rostrum). 3.5–4.4 mm.

COLOR: General coloration dark reddish-brown.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea.

KOREA: South.

KOREAN RECORDS: Kwon and Lee, 1990: 93 (South); ESK/KSAE, 1994: 209; Hong et al., 2000: 30 (South).

SPECIMEN EXAMINED: GB 1♀ (Palgongsan, 23.ix.1984, Paratype).

20. *Curculio koreanus* (Heller, 1927) (Pls. 3-20, 21-20)

Han-guk-bam-ba-gu-mi (한국밤바구미)

Balaninus koreanus Heller, 1927: 181.

TL: Russia - Vladivostock.

Basal half of hind femur as broad as or slightly narrower than tibia. Fore femur with a small tooth.

MEASUREMENTS: Body length (excluding rostrum). 4.0 mm.

COLOR: Elytra with a pair of transverse, submedian whitish patch.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Honshu, Shikoku), Russia (Amur Prov.).

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1990: 92 (Central, South); ESK/KSAE, 1994: 209; Morimoto, 1994: 306; Hong et al., 2000: 30 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 24.v.1993).

21. *Curculio kurosawai* Morimoto, 1962

Sok-ri-san-bam-ba-gu-mi (속리산밤바구미)

Curculio kurosawai Morimoto, 1962: 27.
TL: Japan - Honshu.

Antennae with scape longer than basal 5 articles of funicle combined. Elytra with a vague dark brown spot on first interval behind scutellum, composed of small, brown spots. Fore tibiae with inner margin dilated along basal one-third in both sexes. Penis with a blunt projection at apex.

Female: Frons as broad as width of rostrum slightly before base and apparently narrower than base; first article of antennal funicle 1.3 times as long as 2nd and smaller in size. Scape of antenna distinctly shorter than basal 4 articles of funicle combined.

MEASUREMENTS: Body length (excluding rostrum). 4 mm (in Japan).
COLOR: Rusty-brown to brownish-black; antennae, elytra, and legs reddish-brown to brown.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Honshu).
KOREA: Central.
KOREAN RECORDS: Kim et al., 1991: 183 (Sokrisan); Hong et al., 2000: 31 (Central).
REMARKS: Korean specimens of this species have not been discovered until now. The description is provided in Morimoto (1962), and a photo of this species is not provided here.

22. *Curculio ochrofasciatus* Morimoto, 1981 (Pl. 3-22)

No-rang-tti-bam-ba-gu-mi (노랑띠밤바구미)

Curculio ochrofasciatus Morimoto, 1981: 119.
TL: Japan - Hokkaido; Korea - Simohakusen, Kan-Nan-Engan (=HN).

Head with dense, fine punctures; frons between eyes half as broad as base of rostrum, with a small median fovea; eyes elliptic. Rostrum slightly longer than head and pronotum combined, with deep striae on basal half and with a median carina, slightly dilated towards base. Antennae inserted just before middle, scape shorter than first six articles of funicle combined, first funicular article slightly longer than second, third article half as long as second and as long as fourth, fifth article 0.7 times as long as fourth and slightly shorter than sixth, seventh article subspherical, as long as sixth; club 2.5 times as long as wide, first article as long as wide and 1.3 times as long as second. Pronotum transverse (5:4), widest at base, sides nearly straight and scarcely narrowed from base to middle, then strongly narrowing anteriorly; apical constriction slight, apical margin truncate dorsally and with weak postocular lobes; disk densely and reticulately punctate, median keel indistinct. Scutellum cordiform, slightly longer than wide. Elytra slightly longer than wide, oblong-cordiform, sides gently curved along apical one-fouth; subapical swellings indistinct, confluent apices shallowly sinuate; striae deep and with same depth behind; intervals broad and flat, with dense and slightly rugose punctures; basal sutural impression distinct, extending as far as middle. Pygidium with apical portion exposed, closely covered with long, ochreous setae on both sexes. Basal ventrites

slightly depressed in middle, apical margin of last ventrite truncate. Fore tibiae nearly straight, slightly dilated inwards at apex, apical margin weakly depressed. Femora, especially fore femora, each with a sharp tooth. Tarsi with first article shorter than subsequent two articles combined. Aedeagus with penis slender, apical projection moderate and blunt.

Female: Rostrum 1.3 times as long as head and pronotum combined. Antenna inserted along basal third of rostrum, scape shorter than five basal articles of funicle combined, first funicular article slightly longer than second, third article 0.6 times as long as second and 1.5 times as long as fourth; fourth, fifth, and seventh articles equal in length, club as in male. Apex of fifth ventrite obtusely angulate.

MEASUREMENTS: Body length (excluding rostrum). 4.5–5.5 mm (in Japan).

COLOR: Oval, black; rostrum and legs brownish-red to dark brown, antennae reddish-brown. Derm densely covered with ochreous, setiform scales; pronotum with black, narrow scales on median area; elytra variegated with ochreous and blackish scales, ochreous scales forming basal and postmedial, transverse bands; suture fringed with suberect, yellowish-brown setae behind band; venter covered with slightly paler and broader scales; scales denser on scutellum and on mesepimera; legs clothed with ochreous, grey, hairy scales; apical part of hind femora and hind tibiae often fringed with brownish-black setae.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Kyushu).

KOREA: North and Central.

KOREAN RECORDS: Kôno, 1930b: 14 (Seoul); Dalla Torre and Schenkling, 1932: 13; Kôno and Kim, 1937: 23; Cho, 1957: 279; Morimoto, 1962a: 23; ZSK, 1968: 130; Morimoto, 1981: 119 (HN - Simohaku-sen, Kan-Nan-Engan); Kwon and Lee, 1990: 91 (North); ESK/KSAE, 1994: 209; Morimoto, 1994: 305; Hong et al., 2000: 31 (North, Central).

SPECIMEN EXAMINED: GW 1♀ (Daegwanryeong: 13.vi.1973).

REMARKS: This species has been erroneously known as *Curculio flavescens* (Roelofs) in Korea (Kwon and Lee, 1990).

23. *Curculio quelparticola* Kwon and Lee, 1990 (Pl. 3-23)

Je-Ju-bam-ba-gu-mi (제주밤바구미)

Curculio quelparticola Kwon and Lee, 1990: 95.

TL: Korea - Halrasan.

Rostrum slightly shorter than elytra (1:1.13), broadly curved; basal part 1.5 times as wide as frons between eyes. Frons between eyes with a median longitudinal, deep depression. Antennae inserted at middle of rostrum, scape shorter than length of distal portion from antennal insertion of rostrum (1:1.17). Pronotum clothed with yellow scales laterally and medio-longitudinally. Elytra mottled with yellowish-brown scales, with an obscure patch of yellow scales behind middle. Aedeagus comparatively broad, with apex somewhat sinuate, narrowed on each lateral side.

Female: Rostrum broadly curved distally, about 1.2 times as long as elytra, antennal insertion along basal 2/5.

MEASUREMENTS: Body length (excluding rostrum). 3.0−3.7 mm.
COLOR: General coloration yellowish-brown to reddish-brown.
BIOLOGICAL NOTES: Adults were collected from *Abies* sp. (Kwon and Lee, 1990).
DISTRIBUTION: Korea.
KOREA: Jeju Is.
KOREAN RECORDS: Kwon and Lee, 1990: 95 (JJ - Halrasan); ESK / KSAE, 1994: 209; Hong et al., 2000: 32 (Jeju Is.).
SPECIMEN EXAMINED: JJ 2 exs. (Halrasan: 23.vii.1981, Holotype).

24. *Curculio robustus* (Roelofs, 1874) (Pls. 4-24, 21-24)

Sang-su-ri-bam-ba-gu-mi (상수리밤바구미)

Balaninus robustus Roelofs, 1874: 155.
TL: Japan - Nagasaki.
Balaninus transversalis Faust, 1890: 261.
TL: China - Pekin (=Beijing).

Head with broadly rounded, small punctures, clothed with short, narrow, decumbent, ocherous scales; eyes large, round; frons 0.23 times as broad as head across eyes, slightly narrower than base of rostrum, interocular fovea absent. Rostrum half as long as body, cylindrical, broad at base, gradually tapering to apex, slightly curved; area between frons and rostrum slightly impressed, with two dorsolateral sulci from frons to antennal insertion extending behind middle of rostrum. Antennal scape 0.96 times as long as funicle; club oval, compact, as long as funicular articles five through seven combined. Pronotum 0.88 times as long as broad, disc convex in lateral view, punctures small, uniformly clothed with elongate, decumbent, ocherous scales; base arched but not sinuous, sides broadly rounded to constriction. Scutellum small, ocherous, longer than broad. Elytra convex on disc in lateral view; striae broad and deep with punctures having broad, clavate, decumbent, ocherous scales; humeri prominently rounded; intervals broad and flat with narrow, elongate, decumbent, ocherous scales; weak fascia of narrow, elongate, clavate, decumbent, ochroleucus scales behind middle; suture fringed with short and ocherous setae. Pro-, meso-, metasterna uniformly clothed with narrow, elongate, decumbent, ocherous scales; mesosternal intercoxal process prominent. 2nd abdominal ventrite longer than 1st behind coxal cavities, 3rd ventrite as long as 2nd, 5th ventrite emarginate at apex. Pygidium moderate in size; clothed with elongate, ocherous setae. Hind femur not exceeding apex of abdomen, tooth medium, wedge-shaped; fore femur with medium-sized tooth and ventral covering of fine, long setae; middle femur with small tooth and ventral covering of short setae; all femora clothed with narrow, elongate, decumbent, ocherous scales; hind tibia sinuous; fore-, middle- and hind uncinate, uncus as long as or longer than tarsal claw. Aedeagus with penis rather robust, apical projection short, median struts slightly longer than penis.

MEASUREMENTS: Body length (excluding rostrum). 6.5−11.0 mm.
COLOR: Robust, elongate-oval; derm fuscorufous.
BIOLOGICAL NOTES: Adults oviposit in the fruit of *Quercus acutissima* Carruth (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Kyushu), NE China (Beijing, Shandong, Zhejiang).

KOREA: Central and South.

KOREAN RECORDS: Egorov et al., 1996: 492; Hong et al., 2000: 32 (Central, South).

SPECIMEN EXAMINED: GG 1 ex. (Suwon: 25.viii.1990). GW 1 ex. (Daegwanryeong: 13.vi.1973). JN 1 ex. (Gwangyang: 20.viii.1992); 1 ex. (Suncheon Univ. Campus: 11.ix.1996). GN 1 ex. (Daigenji (=Jirisan Daewonsa): 1.viii.1924); 14 exs. (Jinju: ?.ix.1995); 10 exs. (Jinju: 15.x.1996).

25. *Curculio sikkimensis* (Heller, 1927) (Pls. 4-25, 21-25)

Bam-ba-gu-mi (밤바구미)

Balaninus sikkimensis Heller, 1927.

TL: India - Sikkim.

Body slightly elongate. Rostrum longer than half the length of body. Antennae inserted at middle of rostrum; scape shorter than basal 4 funicular articles combined; distance from antennal insertion to anterior margin of eye 1.6 mm; club small, as long as funicular articles 5−7 combined. Scutellum longer than broad, moderate-sized, clothed with white scales. Elytra mottled with brown, with more or less confluent spots, a weak, transverse band behind middle, formed of yellowish-grey scales; striae narrow. Mesosternal intercoxal process prominent. Abdominal ventrite 2 longer than 1 behind coxal cavity; ventrite 5 with broad median concavity, apical margins of concavity elevated in both males and females. Legs slender; tooth on hind femur medium-sized. Aedeagus with penis rather robust, abruptly narrowing near apex in lateral aspect, apical projection parallel-sided, short, penis 1.3 times as long as median struts.

Female: Rostrum almost as long as body. Antennal scape shorter than 3 basal articles of funicle combined.

MEASUREMENTS: Body length (excluding rostrum). 6−10 mm.

COLOR: derm fuscous, densely covered with yellowish-grey scales.

BIOLOGICAL NOTES: Adults oviposit in the fruits of *Castanea crenata* and *Quercus* spp. (Kim, 1961; Kwon and Lee, 1990; Morimoto, 1994), and larvae develop in the fruits of chestnut (Nagayama and Okamoto, 1940). Adults emerge from mid July to October and are attracted to light traps (Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), China (Mainland, Manchuria), India (Punjap, Sikkim).

KOREA: North, Central, South and Jeju Is.

KOREAN RECORDS: Machida and Aoyama, 1930: 2 (Milyang, Pyeongyang); Kôno, 1930b: 12 (Korio (=Gwangreung); Saito, 1931: 22; Anonymous, 1932: 120 (Gwangreung); Kusanagi, 1934: 26; Haku, 1936: 122 (Daegu); Kôno and Kim, 1937: 23; Mochizuki and Tsunekawa, 1937: 88 (Geumgangsan); Nagaoka, 1938 (Myohyangsan); Nagayama and Okamoto, 1940: 201 (Biology and Control); Mori and Cho, 1940 (Geumgangsan); Cho, 1947: 66 (Geumgangsan); Cho, 1955: 162; Cho, 1957: 279; Kim, 1961: 24 (Jirisan Jungsanri); ZSK, 1968: 130; Cho, 1969: 568 (Central); Ko, 1969: 265; KSPP, 1972: 198; Kim, 1978: 305 (PB, GG, GW, GB, GN); Chang and Choe, 1982: 528 (Gyeryongsan); KSPP, 1986: 195; Park et al., 1988: 119 (biology); Kwon and Lee, 1990: 87 (North, Central, South); FRI, 1991: 179 (biology); Morimoto and Lee, 1992: 7 (JJ Gaewol Bridge); ESK/KSAE, 1994: 209; Morimoto, 1994: 307; Paik et

al., 1995: 430; Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 33 (North, Central, South, Jeju Is.).

SPECIMEN EXAMINED: GG 1 ex. (Suwon: 20.ix.1972); 4 exs. (Yeogisan: 9.ix.1991); 1 ex. (Surisan: 3.iv. 1992); 1 ex. (Suwon: 30.viii.1992); 1 ex. (Gwanggyosan: 20.vii.1994). CN 11 exs. (Gyeryongsan Donghaksa: 27.ix.1991); 1 ex. (Gyeryongsan Donghaksa: 29.ix.1991). JN 3 exs. (Suncheon: 11.ix.1996). GB 1 ex. (Bonghwa: ?.iv.1992); 1 ex. (Yeongju Buseoksa: 30.viii.1992); 1 ex. (Bonghwa: 16−22.ix.1993). JJ 1 ex. (Eorimok: 3.vi.1984).

REMARKS: This species was erroneously confused with *Curculio dentipes* (Roelofs) in Korea and Japan, as rectified by Morimoto (1981).

26. *Curculio styracis* (Roelofs, 1874) (Pl. 4-26)

Huin-tti-bam-ba-gu-mi (흰띠밤바구미)

Balaninus styracis Roelofs, 1874: 157.

TL: Japan - Nagasaki.

Rostrum cylindrical, more or less curved. Body rhombic and widest at humeral angle of elytra. Pronotum with a triangular, transverse, basal white patch on each side. Scutellum 1.5 times as long as wide. Elytra with a distinct X-shaped white marking; suture fringed with black, erect bristles. Outer margin of fore tibia straight.

MEASUREMENTS: Body length (excluding rostrum). 6.0 mm.

COLOR: Derm black except reddish brown antennae.

BIOLOGICAL NOTES: Adults oviposit in the fruits of *Styrax japonica* (Kwon and Lee, 1990; Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).

KOREA: Central and South.

KOREAN RECORDS: Ishii, 1937: 16 (Soyosan); Kwon and Lee, 1990: 90 (Central, South); ESK / KSAE, 1994: 209; Morimoto, 1994: 305; Hong et al., 2000: 34 (Central, South).

SPECIMEN EXAMINED: GB 1 ex. (Unmunsan: 19.v.1985).

27. *Curculio taebaeksanensis* Kwon and Lee, 1990 (Pl. 4-27)

Tae-baek-san-bam-ba-gu-mi (태백산밤바구미)

Curculio taebaeksanensis Kwon and Lee, 1990: 87.

TL: Korea - GW Taebacksan.

Rostrum nearly half as long as elytra, broadly bent at middle, darker basally; basal part slightly less than twice as wide as frons between eyes. Antennae reddish-brown, inserted at middle of rostrum. Pronotum clothed with greyish-yellow and milky-white scales. Elytra irregularly mottled with yellowish-grey, yellowish-brown, and milky-white scales; strongly convex mesally, suture not fringed with long or raised scales distally. Postscutellar depression absent. Fore- and mid-femora

minutely dentate. Aedeagus comparatively stout apically in lateral view, with tip truncately produced.

MEASUREMENTS: Body length (excluding rostrum). 3.6 mm.
COLOR: General coloration reddish-brown, with prothorax dark reddish-brown.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central.
KOREAN RECORDS: Kwon and Lee, 1990: 87 (GW - Taebacksan); ESK/KSAE, 1994: 209; Hong et al., 2000: 34 (Central).
SPECIMEN EXAMINED: GW 1 ex. (Taebaeksan: 18.vi.1983, Holotype).

28. *Curculio ussuriensis* (Heller, 1927)

U-su-ri-bam-ba-gu-mi (우수리밤바구미)

Balaninus ussuriensis Heller, 1927: 181.
TL: Ussuri.

Antennae with first article of funicle as long as second, seventh article shorter than first of antennal club. Pronotum sparsely clothed with yellowish-brown scales, without any scaly markings. Elytra elongate, subtrapezoidal, black, covered with brown scales and obscurely mixed with greyish spots, with a vague transverse, pale band behind middle, apical half of suture fringed with yellowish-brown setae. All femora with a tooth, tooth of fore femur triangular, acute.

MEASUREMENTS: Body length (excluding rostrum). 5.0−6.2 mm (in Russia).
BIOLOGICAL NOTES: Larvae develop in kidney beans of *Maackia amurensis* (Egorov et al., 1996).
DISTRIBUTION: Korea, Japan (Kyushu), NE China, Russia (Amur Prov., Khabarovsk and Primorskii Terr.).
KOREA: North.
KOREAN RECORDS: Egorov, 1976: 832; Egorov et al., 1996: 493; Hong et al., 2000: 35.
REMARKS: Specimens of this species were unable to be examined for this work. The description is provided in Heller (1927), thus a photo of this species is not provided here.

29. *Curculio velox* Kwon and Lee, 1990 (Pl. 4-29)

Gak-si-bam-ba-gu-mi (각시밤바구미)

Curculio velox Kwon and Lee, 1990: 94.
TL: Korea - Seolaksan, Odaesan.

Body elongate-oval. Rostrum slightly shorter than elytra (1:1.3), broadly curved distally; basal part 1.5 times as wide as frons between eyes. Antennae inserted at middle of rostrum; antennal scape comparatively slender, about as long as distal portion of rostrum from antennal insertion.

Pronotum covered with yellowish-brown scales, with a row of milky-white scales along basal margin near scutellum. Scutellum slightly wider than long (1.14:1). Elytra mottled with yellowish-grey, brown, and milky-white scales, with a milky-white to grey transverse band of scales behind middle; suture fringed with a row of yellowish-brown, erect bristles apically. Aedeagus arcuately broader distally on each side, roundly but abruptly narrowed, and produced apically; end piece 1.4 times as long as ostium.

MEASUREMENTS: Body length (excluding rostrum). 3.5−4.0 mm.
COLOR: General coloration reddish-brown to dark reddish-brown.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central.
KOREAN RECORDS: Kwon and Lee, 1990: 94 (Seolaksan, Odaesan); ESK / KSAE, 1994: 209; Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 35 (Central).
SPECIMEN EXAMINED: GW 1♂ (Odaesan: 17.ix.1982, Paratype).

30. *Curculio vibariae* Kwon and Lee, 1990 (Pls. 4-30, 21-30)

Bi-ba-ri-bam-ba-gu-mi (비바리밤바구미)

Curculio vibariae Kwon and Lee, 1990: 91.
TL: Korea - Halrasan.

Rostrum polished black, shorter than elytra (1:1.3), broadly curved distally; basal part apparently wider than frons between eyes (1.4:1). Antenna excluding club dark brown, inserted along basal 2 / 5 of rostrum. Pronotum clothed with yellowish-brown scales peripherally, and dark brown scales centrally. Scutellum about as long as wide, densely clothed with yellowish-brown scales. Elytra with a yellowish-brown, transverse band of scales behind middle; base and suture forming a yellowish-brown band of scales, remainder mostly with dark brown scales; suture fringed with a row of dark brown, erect bristles besides yellowish-brown ones apically.

MEASUREMENTS: Body length (excluding rostrum). 5.0−5.3 mm.
COLOR: General coloration black to dark brown, clothed with yellowish-brown and dark brown scales.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Jeju Is.
KOREAN RECORDS: Kwon and Lee, 1990: 91 (Halrasan); ESK / KSAE, 1994: 209; Hong et al., 2000: 35 (Jeju Is.).
SPECIMEN EXAMINED: JJ 1♀ (Halrasan: 27.vi.1981, Holotype); 1 ex. (Seongpanak: 25.v.2000).

31. *Curculio yanoi* Morimoto, 1962 (Pls. 5-31, 22-31)

Paeng-na-mu-bam-ba-gu-mi (팽나무밤바구미)

Curculio yanoi Morimoto, 1962: 26.

TL: Japan - Shikoku, Kyushu.

Head densely punctured; frons between eyes slightly narrower than base of rostrum, eyes elliptic, flat; rostrum arising below middle of eye in lateral aspect, scarcely shorter than elytra, strongly curved, with fine punctured striae and a median keel behind antennal insertions; antennae inserted at middle of rostrum, scape longer than basal 5 articles of funicle combined; first article of funicle 1.6 times as long as 2nd, 3rd article 0.6 times as long as 2nd and 1.6 times as long as 4th; articles 4, 6, and 7 subequal in length, slightly shorter than 5th, 7th article spherical; first article of club scarcely longer than 3rd funicular article, 2/3 times as long as 2nd, each article transverse. Pronotum broader than long (30:23), sides gently rounded, apical constriction indistinct, apical margin truncate dorsally, postocular lobes obsolete, disk fairly strong and reticulately punctured, median keel absent. Scutellum as long as wide, apical margin rounded. Elytra slightly longer than wide, elongate, cordiform, shoulders not very prominent, sides slightly curved to apical one-fouth; subapical swellings obsolete, confluent apices shallowly sinuate; basal sutural impression weak, striae deep and with same depth posteriorly; intervals broad and flat, with dense, slightly rugose punctures, each interval clothed with two rows of scales. Apical portion of pygidium exposed, with long, white setae in both sexes. First and second ventrites of abdomen flattened along middle and apical margins, last ventrite truncate. Fore tibiae slightly curved inward at apex, moderately dilated inward and flattened at apex; femora, especially hind pair, with acute teeth.

Female: Rostrum longer than elytra; antennae inserted behind middle of rostrum. Apical margin of last abdominal ventrite rounded.

MEASUREMENTS: Body length (excluding rostrum). 3.5 mm (in Japan).

COLOR: Oval, black, with faint brownish tinge; antenna, excluding the club, apical half of rostrum, and claws reddish-brown; pronotum sparsely clothed with narrow, white scales, which are slightly closer to base, uniformly intermixed with dark brown scales; scutellum closely covered with milky-white scales; elytra mottled with rather small, indistinct spots composed of white scales among general dark brown scaling; apical one-third of suture fringed with a row of long, blackish-brown setae; ventral side covered with white, short, broad scales, which are densest along anterior portion of prosternum, mesepimera, and lateral margins of basal two abdominal ventrites.

BIOLOGICAL NOTES: Adults were captured on the flowers of *Elaeagnus umbellata* (Morimoto and Lee, 1992).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).

KOREA: Jeju Is.

KOREAN RECORDS: Morimoto and Lee, 1992: 7 (JJ - Oradong); Paik et al., 1995: 430 (JJ); ESK/KSAE, 1994: 209; Hong et al., 2000: 36 (Jeju Is.).

REMARKS: Specimens of this species were unable to be examined in this work. The description is provided in Morimoto (1962), thus a photo is not provided here.

Genus *Labaninus* Morimoto, 1981: 110.

Eo-ri-bam-ba-gu-mi-sok (어리밤바구미속)

Type species: *Carponinus plicatulus* Heller, 1925.

Body subrhombiform. Pronotum broadest at base, hind angle laminate forming a triangular process and pointed postero-laterally in dorsal aspect, rectangular in lateral aspect. Elytra cordiform, suture depressed on basal half, fringed with suberect setae along apical half, antero-lateral angle sharply pointed below laminate hind angle of pronotum, lateral margin weakly sinuate above hind coxa. Prosternum deeply emarginated, shorter than diameter of front coxa, flat or weakly depressed. Metepisternum broad, almost parallel-sided, weakly dilated dorsally and ventrally at apex and broadly rounded posteriorly. Fore femora distinctly curved along basal third. Femora dentate, clavate. Hind tibiae with dorso-terminal angle of tarsal groove produced into a large hook in male, other tibiae in male and all tibiae in female simply mucronate. Claws toothed. Abdomen with first ventrite behind coxa longer than second, third ventrite a little shorter than second and as long as fourth.

NUMBER OF SPECIES: (1 species in Korea), (2 species in Japan).
DISTRIBUTION: Korea, Japan, China, Taiwan.

32. *Labaninus confluens* Kwon and Lee, 1990 (Pls. 5-32, 22-32)

Eo-ri-bam-ba-gu-mi (어리밤바구미)

Labaninus confluens Kwon and Lee, 1990: 84.
TL: Korea - JJ Halrasan, Jocheon, Sangeumburi; CN Deokseungsan.

Rostrum shorter than elytra (1: 1.2), broadly curved before middle, ventral side above level of lower margin of eye in lateral view. Antenna excluding club sometimes dark reddish-brown, inserted approximately behind middle of rostrum. Pronotum with lateral sides weakly but distinctly sinuate before hind angles, which are laminate and produced postero-laterally in dorsal view, rectangular in lateral view; transverse yellowish-white band of scales along basal margin. Elytra with antero-lateral angles sharply pointed anteriorly below hind angles of pronotum; a weak white patch basally around scutellum, behind middle a transverse white band; apical declivitous portion of 1st interval bearing whitish, long setae. Fore femora slightly bent along basal 1/3. Aedeagus abruptly curved apically, with tip directed cephalad.
Female: Rostrum about as long as elytra, with antennal insertion along basal 1/3.

MEASUREMENTS: Body length (excluding rostrum). 3.1–3.7 mm.
COLOR: General coloration black.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central, South and Jeju Is.

KOREAN RECORDS: Kwon and Lee, 1990: 84 (JJ - Halrasan, Jocheon, Sangeumburi; CN - Deokseungsan); ESK / KSAE, 1994: 209; Hong et al., 2000: 36 (Central, South, Jeju Is.).

SPECIMEN EXAMINED: GN 1 ex. (Geoje: 4.vi.1997). JJ 1 ex. (Seonheul: 18.vi.1993).

Genus *Koreoculio* Kwon and Lee, 1990: 100.

U-ri-bam-ba-gu-mi-sok (우리밤바구미속)

Type species: *Balaninus antennatus* Kôno, 1930.

Rostrum shorter than elytra in both sexes; base wider than frons between eyes. Antennae with 1st funicular article longer than 2nd one. In male, hind tibiae simple, without spine-like projection on inner side; abdomen with basal 2 ventrites fused with each other. Aedeagus rather cylindrical, with apical construction simple, truncate or produced, but not bifurcate.

NUMBER OF SPECIES: (3 species in Korea and Japan).

DISTRIBUTION: Korea, Japan.

Key to the species of the genus *Koreoculio*

[Male]

1. Rostrum as long as head and pronotum combined ····· 2
− Rostrum longer than head and pronotum combined ····· *K. antennatus*
2. Antennae inserted before middle of rostrum ····· *K. kunugi*
− Antennae inserted beyond middle of rostrum ····· *K. minutissimus*

[Female]

1. Pygidium with a deep, longitudinal median pit ····· *K. minutissimus*
− Pygidium with a round or transverse depression ····· 2
2. Pygidium fusiform, transversely depressed ····· *K. kunugi*
− Pygidium sectoral, with a round median depression ····· *K. antennatus*

33. *Koreoculio antennatus* (Kôno, 1930) (Pls. 5-33, 22-33)

U-ri-bam-ba-gu-mi (우리밤바구미)

Balaninus antennatus Kôno, 1930: 18.

TL: Japan - Hokkaido.

Rostrum longer than head and pronotum combined. Pronotum sparsely covered with narrow, white scales on each side and on basal margin, each side before 5th stria with a distinct white patch formed of several broad scales. Elytra with suture and bases covered with white scales, each interval clothed with two rows of greyish-brown, hairy scales, transverse median band always indistinct or completely absent. Abdomen with first and second ventrites depressed at middle. Pygidium large, sectoral, with a round, median depression.

Female: Pygidium small, sectoral, with a round, median depression. First and second ventrites of abdomen not depressed.

MEASUREMENTS: Body length (excluding rostrum). 1.7−2.5 mm.
COLOR: Derm black, rostrum and tarsi reddish-brown.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).
KOREA: Central and South.
KOREAN RECORDS: Kwon and Lee, 1990: 102 (Maisan); Morimoto, 1994: 302; ESK / KSAE, 1994: 209; Hong et al., 2000: 37 (Central, South).
SPECIMEN EXAMINED: GG 1 ex. (Suwon Gwanggyosan: 25.iv.1997). GW 1 ex. (Chuncheon Soyangdaem: 24.v.1993); 1 ex. (Seolaksan Baekdamsa: 26.v.1993).CB 1 ex. (Goesan: 23.v.1993). JB 1 ex. (Maisan: 11.v.1980).

34. *Koreoculio kunugi* (Morimoto, 1962) (Pls. 5-34, 22-34)

Gal-cham-u-ri-bam-ba-gu-mi (갈참우리밤바구미)

Curculio kunugi Morimoto, 1962: 34.
TL: Japan - Honshu, Shikoku, Kyushu.

Head shagreened, with large shallow punctures between frons and vertex; frons between eyes slightly narrower than base of rostrum, with a small median impression; eyes subelliptic; rostrum arising from below middle of eye, upper surface with frons nearly on same level in lateral aspect, as long as head and prothorax combined, rather strongly curved around antennal insertion, each side of basal half with two setigerous striae; antennae inserted before middle of rostrum, scape as long as funicle, 1st article of funicle 1.3 times as long as 2nd; article 2 narrowest and slightly shorter than 2 times length of 3rd; 7th article subconical, slightly longer than wide, club fusiform, closed, twice as long as wide. Pronotum broader than long (4:3), broadest slightly behind middle, sides moderately rounded, apical constriction absent; postocular lobes well marked; disk reticulately sculptured with large punctures, median keel absent. Scutellum cordiform, nearly as long as wide. Elytra longer than wide (6:5), sides subparallel from shoulders to middle, broadly narrowing posteriorly, apices rounded; stria deep, slightly narrowing posteriorly, intervals flat, strongly rugosely punctured. Pygidium inclined antero-ventrally, subpentagonal, with a deep median, longitudinal pit. Mesosternal process flat, slightly narrower than middle coxa. Venter with first ventrite depressed, last ventrite with semicircular depression, apical margin trapezoidally notched. Femora with very minute, sharp teeth, sides of tibiae subparallel, nearly straight. Penis short, robust, with a round, large, apical projection.

Female: Rostrum arising below middle of eye, having upper surface with frons at a 165° angle in lateral aspect, longer than head and prothorax combined, each side of basal half sparsely punctured; antennae inserted behind middle of rostrum, scape slightly shorter than basal 5 articles of funicle combined. Pygidium fusiform, inner side along anterior margin slightly depressed. Last abdominal ventrite simple, not depressed.

MEASUREMENTS: Body length (excluding rostrum). 1.7 mm.

COLOR: Elongate-oval, convex, antennae orange, rostrum, tarsi, and sometimes tibiae reddish-brown, covered with dark brown and white scales, scaling variable; frons and basal part of rostrum covered with white, narrow scales; pronotum on each side of median white stripe clothed with dark brown scales, remaining portion clothed with white scales in general, sometimes uniformly covered with white scales; scutellum white; elytra with intervals 2–4 before and behind middle with dark brown scales, remaining portion with white scales in general, sometimes apical half of elytra mixed with white and brown scales, median one-third of suture brown, median transverse band irregular, or sometimes entire elytron uniform white; underside closely clothed with broad, white scales.

BIOLOGICAL NOTES: Adults were collected from *Quercus acutissima* (Kwon and Lee, 1990; Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1990: 102 (Central, South); Morimoto, 1994: 302; ESK/KSAE, 1994: 209; Hong et al., 2000: 37 (Central, South).

SPECIMEN EXAMINED: GB 1 ex. (Palgongsan: 21.iv.1982).

35. *Koreoculio minutissimus* (Dalla Torre and Schenkling, 1932) (Pls. 5-35, 22-35)

Cham-u-ri-bam-ba-gu-mi (참우리밤바구미)

Curculio minutissimus Dalla Torre and Schenkling, 1932: 15 (new name for *B. minimus* Kôno).

TL: Japan - Mt. Fuji.

Pronotum with lateral and basal margins covered with yellow scales; before interval 5 a short patch formed of broad, yellow scales. Elytra with intervals 2–4 before and behind median band covered with brown scales, remaining portion clothed with yellowish-brown or yellowish-grey scales. Pygidium large, with a deep longitudinal, median ditch. First and second ventrite of abdomen depressed along middle.

Female: Pygidium small, with a deep longitudinal, median ditch. First and second ventrites of abdomen not depressed.

MEASUREMENTS: Body length (excluding rostrum). 1.7–2.5 mm.

COLOR: Rostrum, antennae, legs, lateral margins of elytra, and apical margin of pronotum reddish-brown, entire derm rarely reddish-brown.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1990: 102 (Central, South); Morimoto, 1994: 301; ESK/KSAE, 1994: 209; Kim, 1995: 174 (Sobaeksan); Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 38 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Chuncheon Obongsan: 25.v.1993); 2 exs. (Hoengseong: 24.v.1993). CB 2 exs. (Goesan: 23.v.1993). GB 1 ex. (Sobaeksan: 10.v.1985); 1 ex. (Bonghwa: 28.v.1993).

Genus *Pagumia* Kwon and Lee, 1990: 100.

Chang-eon-bam-ba-gu-mi-sok (창언밤바구미속)

Type species: *Pagumia changeoni* Kwon and Lee, 1990.

Rostrum shorter than elytra in both sexes; base wider than frons between eyes. Antennae with 1st funicular article longer than 2nd one. In male, fore tibiae with inner side broadly sinuate distally; hind tibiae armed with a spine-like process on each inner side distally. Aedeagus with apical construction complicated, having lateral lobes conspicuously developed.

NUMBER OF SPECIES: (1 species in Korea).
DISTRIBUTION: Korea.

36. *Pagumia changeoni* Kwon and Lee, 1990 (Pls. 5-36, 22-36)

Chang-eon-bam-ba-gu-mi (창언밤바구미)

Pagumia changeoni Kwon and Lee, 1990: 100.
TL: Korea - Central, South.

Rostrum about as long as head and pronotum combined, slightly exceeding half the length of elytra, broadly curved mesally; basal part wider than frons between eyes (1.3:1). Antenna excluding club brown, inserted before middle of rostrum; 1st funicular article longer than 2nd one. Pronotum covered with silver, hairy scales laterally, yellowish-grey ones medially. Elytra with silver patches of hairy scales on base, suture, and behind middle, remainder covered with yellowish-grey, hairy scales. Fore tibiae with inner side broadly sinuate distally. Hind tibiae armed with a spine-like process on inner sides along apical 1/3. Aedeagus with lateral lobes well-developed.
Female: Rostrum slightly longer than head and pronotum combined, antennal insertion behind middle to basal 2/5.

MEASUREMENTS: Body length (excluding rostrum). 1.7−2.5 mm.
COLOR: General coloration black, covered with hairy scales.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea.
KOREA: Central and South.
KOREAN RECORDS: Kwon and Lee, 1990: 100 (Central, South); ESK/KSAE, 1994: 209; Hong et al., 2000: 39 (Central, South).
SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 24.v.1993). GB 1 ex. (Palgongsan: 29.iv.1982); 1 ex. (Bonghwa: 28.v.1993).

Tribe Acalyptini C. G. Thomson, 1859

DIAGNOSIS: Relatively soft-bodied weevils, often with sexual dimorphisms in length and shape of rostrum, shape of prothorax, and body size, in which body is sometimes larger in males. Labial palpi often 2-segmented. Prothorax not sharply carinate laterally. Elytra truncate to subtructate at apex. Tibiae unarmed at apex. Prosternum with coxae located near base, distant from anterior margin and more or less separated. Metasternum with median longitudinal sulcus well-developed along nearly entire length of metasternum. Posterior margins of abdominal ventrites 2–4 straight. Tergite 7 exposed beyond apices of elytra. Aedeagus with tegmen ringed, without parameroid lobes. Spiculum gastrale almost straight, symmetrical, with median sclerite. Spermatheca with ramus indefinite.

BIOLOGY: Acalyptini feed on a wide range of inflorescences of Salicaceae, Meliaceae, Malvaceae, and Arecaceae. The adults are found on flowers of their hosts, and the eggs are laid in tissue of the blooming flowers, into the sheath of the ovary or the staminal column. The larvae feed while tunneling into the ovary; mature larvae leave their host and pupate in the soil.

REFERENCES: Kojima and Morimoto (2005).

Key to the genus of the tribe Acalyptini

1. Tarsal claws weakly toothed at base. Integument pubescent. Rostrum with dorsal carinae of antennal scrobe extending to median part of eye. Prothorax with sides subparallel along basal half or often widening from base to middle ····· *Acalyptus*
− Tarsal claws distinctly toothed at base. Integument with scale-like setae forming maculation on dorsum ····· *Orsophagus*

Genus *Acalyptus* Schoenherr, 1833: 20.

Beo-deul-ggae-al-ba-gu-mi-sok (버들깨알바구미속)

Type species: *Curculio carpini* Fabricius, 1792.

Integument with scale-like setae not maculate. Antennal funicle with 7 articles. Rostrum not carinate dorsally; antennal scrobe with dorsal carina extending to median part of eye. Femora edentate. Tarsal claws widely diverging, not toothed at bases. Procoxae separated by narrow distance. Ventrites weakly convex, 5th ventrite shorter than 3rd and 4th ventrites combined. Tergite 7 obliquely exposed. Aedeagus produced in middle at apex, with short setae along sides, with a transverse, orificial sclerite; inner sac densely and finely asperate around gonopore.

BIOLOGY: *Acalyptus* is associated with *Salix* spp. of Salicaceae, the larvae grow in flower catkins and pupate in the ground.

NUMBER OF SPECIES: (1 species in Korea and Japan).

DISTRIBUTION: Palearctic region.

37. *Acalyptus carpini* (Fabricius, 1792) (Pls. 6-37, 23-37)

Beo-deul-ggae-al-ba-gu-mi (버들깨알바구미)

Curculio carpini Fabricius, 1792: 409.
TL: Europe.

Frons between eyes slightly narrower than base of rostrum. Eyes hardly convex. Rostrum longer than pronotum (6:5), evenly curved; dorsum subconfluently punctate, without carina. Antennae inserted just before middle of rostrum; scape slightly longer than length of funicle; funicle with 1st article 2.5 times as long as broad, 2nd less than half as long as 1st, 3rd to 7th subequal in length, 2/3 times as long as 2nd, weakly widening apically; 7th article slightly broader than long; club as long as basal three funicular articles combined. Pronotum 1.3 times as wide as long, subparallel-sided on basal half or if weakly widening from base to middle, then weakly curved and narrowing to weak subapical constriction. Scutellum subtriangular, sparsely clothed with setae. Elytra 1.3 times as long as wide, very weakly rounded laterally, widest at middle; intervals even with recumbent, scale-like setae except 1st interval, in which setae are often slightly denser than others. Venter with basal two ventrites depressed in middle.

Female: Resembles male except rostrum nearly as long as head and pronotum combined; antennae inserted at or just behind middle of rostrum; venter with basal two ventrites flattened in middle.

MEASUREMENTS: Body length (excluding rostrum). 1.8–2.6 mm (male), 2.3–2.7 mm (female).

COLOR: Integument variable in color. Reddish-brown; head, rostrum, pronotum, scutellum, and often venter (except abdominal ventrites), elytra along suture and basal part dark brown to black, or entirely black; antennae and tarsi reddish-brown; derm clothed with yellowish-grey, silky to silvery recumbent, scale-like setae.

BIOLOGICAL NOTES: Specimens were found on *Salix caprea*, *S. cinerea*, *S. purpurea*, *S. incana*, *S. alba*, *S. viminalis* and *S. fragilis* in Europe (Dieckmann, 1988). Adults were also found on *Salix* spp. in Korea and Japan (Morimoto, 1994), on the narrow leaves of *Salix*, and sometimes in mass on flowers of chamomile in Russia (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), NE. China, Russia (Magadan Prov., Kamchatka, Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Yakutia, Transbaikalia, European part), Kazakhstan, N. Europe, N. America (introduced).

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1986: 85 (Central, South); Lee et al., 1985: 415 (JJ - Sujangwon); Kim, 1993: 392 (JJ); Morimoto, 1994: 298; ESK/KSAE, 1994: 208; Paik et al., 1995: 428; Egorov et al., 1996: 484; Hong et al., 2000: 39 (Central, South).

SPECIMEN EXAMINED: GG 3 exs. (Pyeongtaek: 27.vi.1988); 1 ex. (Yeogisan: 21.v.1997). GW 1 ex. (Inje: 27.v.1993); 1 ex. (Pyeongchang Daegwanryeong: 11.vi.1997); 5 exs. (Chuncheon: 24.vii.1997). CN 1 ex. (Gyeryongsan: 10.viii.1995). JN 1 ex. (Wando: 31.viii.1986). GB 1 ex. (Gimcheon Sudosan: 19.x. 1995). 2 exs. (no data).

Genus *Orsophagus* Roelofs, 1874: 123.

Ggae-al-ba-gu-mi-sok (깨알바구미속)

Type species: *Orsophagus trifasciatus* Roelofs, 1874.

Integument with scale-like setae maculate or fasciate. Antennal funicle with 7 articles. Rostrum not carinate dorsally; antennal scrobe with dorsal carina extending to middle or just below middle of eye. Femora edentate. Tarsal claws widely diverging, toothed at bases. Procoxae separated by narrow distance. Ventrites weakly convex, 5th ventrite shorter than 3rd and 4th ventrites combined. Tergite 7 obliquely exposed. Aedeagus without conspicuous setae at apex, with a pair of orificial sclerites; inner sac simple.

BIOLOGY: *Orsophagus* is known to be associated with *Melia* of Meliaceae.

NUMBER OF SPECIES: (1 species in Korea and Japan).

DISTRIBUTION: Palearctic (Manchurian subregion) and Oriental regions.

38. *Orsophagus trifasciatus* Roelofs, 1874 (Pls. 6-38, 23-38)

Ggae-al-ba-gu-mi (깨알바구미)

Orsophagus trifasciatus Roelofs, 1874: 124.

TL: Japan.

Frons between eyes nearly as wide as base of rostrum, with dense, yellowish-grey, scale-like setae. Eyes weakly convex. Rostrum as long as pronotum, weakly curved, weakly tapered apically in lateral view; dorsum subconfluently punctate, clothed with yellowish-grey setae behind antennae, setae becoming narrower anteriorly. Antennae inserted before middle of rostrum; scape almost as long as length of funicle; funicle with 1st article twice as long as broad, 2nd 3/5 times as long as 1st, 3rd to 7th articles gradually longer apically, 3rd about half as long as 2nd, 7th subequal to 2nd; club almost as long as basal four funicular articles combined. Pronotum 1.4 times as wide as long, subparallel-sided from base to middle, rounded and narrowing to weak subapical constriction, weakly emarginate at apex. Scutellum densely clothed with yellowish-grey setae. Elytra oblong-ovate, 1.4 times as long as wide. *Metasternum* and venter with basal two ventrites weakly depressed in middle. Legs with fore tibiae weakly sinuate along inner surface. Aedeagus with median lobe weakly acuminate at apex.

Female: Resembles male, except rostrum more slender, slightly shorter than head and pronotum combined; antennae inserted at middle of rostrum; legs with fore tibiae not broadly dilated along inner surface at apex; venter with basal two ventrites flattened in middle. Spermatheca J-shaped, gland close to duct.

MEASUREMENTS: Body length (excluding rostrum). 2.1−2.3 mm (male), 2.3−2.5 mm (female).

COLOR: Integument reddish to dark reddish-brown, antennae and legs more pale, venter usually darker; clothed with recumbent, yellowish-grey, scale-like setae with silky shine; pronotum and

elytra mixed with dark brown, scale-like setae forming maculations as follows: pronotum with longitudinal, dark stripe along midline and a dark, faint fleck on each side at middle; elytra with subbasal dark flecks on 3rd, 5th, and 6th intervals, with postmedian and subapical dark, transverse bands, which are continuous on 1st interval; subbasal flecks often indefinite on 3rd interval or continuous from intervals 2 to 6 in old specimens; postmedian band usually interrupted on intervals 5 and 7.

BIOLOGICAL NOTES: Overwintering adults emerge from the end of April to the beginning of May, and they are attracted to the flowers of *Melia azedarach* (Morimoto and Lee, 1992). Eggs are laid in the stamen of flower and the larvae consume the style and ovary inside. Mature larvae exit the host and pupation takes place in the ground. New adults emerge from June, feed on young leaves, and often are found in the leaf-roll gall induced by *Metaphylla uei* Y. Miyatake of Psyllidae (Kojima and Morimoto, 2005).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).

KOREA: Jeju Is.

KOREAN RECORDS: Kwon and Lee, 1986: 85 (Jejudo); Morimoto and Lee, 1992: 7 (JJ - Oradong); Kim, 1993: 392 (JJ); Morimoto, 1994: 298 (JJ); ESK / KSAE, 1994: 208; Paik et al., 1995: 428; Hong et al., 2000: 39 (Jejudo).

SPECIMEN EXAMINED: JJ 4 exs. (Aewol: 26.viii.1997).

Tribe Anoplini Bedel, 1884

DIAGNOSIS: Rostrum rather robust, curved, nearly as long as pronotum. Antennae inserted before middle of rostrum. Eyes distant thorax. Prothorax lacking ocular lobes; prosternum shallowly concave, not canaliculate; fore coxae contiguous. Scutellum distinct. Elytra with humeri and ten striae. Pygidium covered entirely. Femora edentate; tibiae uncinate. Tarsi three-segmented, 5th tarsomere wanting (*Anoplus*) or normal in length (*Sphinxis*). Metepisterna entire, extending posteriorly to first ventrite. First ventrite behind coxa as long as second, the latter as long as third and fourth combined. Male aedeagus with penis rather flat, struts about as long as penis, inner sac asperate, without sclerite; tergmen ringed, strut short and wide, parameroid lobes well-developed.

Key to the genus of the tribe Anoplini

1. Base of pronotum not emarginated, body more or less narrow. Tarsi 3-segmented, 3rd tarsomere strongly widened, not bilobed, widely rounded at apical margin. 1st and 2nd ventrites of abdomen not protruding ····· *Anoplus*
− Base of pronotum emarginated, body wide. Tarsi pseudo 4-segmented, with bilobed 3rd tarsomere. 1st and 2nd ventrites of abdomen strongly protruding ····· *Sphinxis*

Genus *Anoplus* Germar, 1820: 195.

Bal-mok-ba-gu-mi-sok (발목바구미속)

Type species: *Curculio plantaris* Naezen, 1794.

DIAGNOSIS: Tarsi 3-segmented, 5th tarsomere wanting.
BIOLOGY: Larvae feed on tissues of leaves, mining them like species of *Orchestes*.

NUMBER OF SPECIES: (1 species in Korea), (2 species in Japan).
DISTRIBUTION: Korea, Japan, Kuril, Sakhalin, Siberia, Kazakhstan, Caucasus, Europe.

39. *Anoplus plantaris* (Naezen, 1794) (Pls. 6-39, 23-39)

Se-bal-mok-ba-gu-mi (세발목바구미) (신칭)

Curculio plantaris Naezen, 1794: 270.
TL: Deutschland.
Anoplus sugiharai Kôno, 1935: 61.
TL: Japan.

Head with sparse punctures, interstices as wide as its diameter; frons between eyes half as wide as base of rostrum, with a small median fovea; rostrum slightly widening from base to apical third, slightly tapering distally, evenly and weakly curved, with an ill-defined, median impunctate carina on basal half and a short, longitudinal, median depression between antenna1 sockets; antennae with scape clavate, first funicular article large, 1.2 times as long as wide, second 2/3 times as long as first and 1.2 times as long as wide; third article 0.6 times as long as second, articles 3–7 successively broader; club compact, as long as first to fourth funicular articles combined. Pronotum 1.5 times as wide as long, almost parallel-sided along basal half, rather strongly rounded along apical third; disc with punctures slightly larger. Scutellum oval, with whitish, plumose setae. Elytra 1.3 times as long as wide, widest along apical third; striae as wide as intervals basally, becoming slightly narrower distally; intervals with a row of small granules. First and second ventrites punctate, suture between them present on sides; third and fourth ventrites with sparse punctures; first ventrite flat or very slightly depressed at middle. Tarsi 3-segmented, 5th tarsomere wanting.
Female: First ventrite weakly convex.

MEASUREMENTS: Body length (excluding rostrum). 1.8–2.0 mm.
COLOR: Black; antennal scape and first funicular article reddish-brown; derm with sparse, fine setae, which are whitish, plumose setae along lateral margins of prothorax.
BIOLOGICAL NOTES: The adults occur on *Betula ermanii* and *Alnus* in Russia and on *Betula platyphylla* var. *japonica* in Hokkaido (Morimoto, 1983a). The larvae mine in the leaves of *Populus nigra*, *Betula pubescens*, *B. verrucosa*, and *Alnus glutinosa* in Europe (Hoffmann, 1954; Scherf, 1964).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), Russia (Kuril, Sakhalin, Kamchatka, Siberia), Europe.

KOREA: North.
KOREAN RECORDS: Hong and Korotyaev, 2002: 155 (North).
SPECIMEN EXAMINED: RG 1 ex. (Ryanggang Prov. Paekdu-san-milyong, 1500 m: 27.vi.1988, Coll. No. 1353, HMNH).

Genus *Sphinxis* Roelofs, 1875: 190.

Geom-jeong-al-ba-gu-mi-sok (검정알바구미속)

SYNONYM: *Sphinxioides* Voss and Chûjô, 1960: 7; *Epidemimaea* Chûjô and Voss, 1960: 7.
Type species: *Sphinxis pubescens* Roelofs, 1875.

Male: Small (1.8–2.7 mm). Body ovate to broadly ovate; integument with whitish plumose scales on basal margin of pronotum, scutellum, and venter except fifth ventrite, and sometimes on third to fifth ventrites. Head with dense whitish scales or scale-like setae below eyes. Rostrum in living specimen held almost perpendicular to long axis of body; antennal scrobes distinct, extending obliquely beneath base of rostrum. Antennae with 7 funicular articles; club about twice as long as broad, with 3 articles, apical article faintly subdivided in middle. Prothorax transverse, widest at base, with weak subapical constriction at sides. Scutellum small, round. Elytra ovate, usually 1.3 times or less as long as broad. Pygidium always concealed by elytra. Hind wings fully developed. Femora each with a sharp denticle, often indefinite; tibiae uncinate; tarsal claws free, widely divergent, each with broad basal tooth. Prosternum short before coxae, distance between coxae and anterior margin twice as long as that between coxae and posterior margin, with tuft of plumose scales on each side along anterior margin; procoxae usually contiguous. Venter with basal two ventrites flattened, first ventrite behind coxae as long as second, which is nearly as long as third and fourth combined. Tergite 7 with plectral tubercles, arranged in a pair of longitudinal rows. Aedeagus with inner sac asperate; tegmen with pair of parameroid lobes. Sternite 8 with setae along caudal margin. Spiculum gastrale asymmetrical and curved, with median sclerite on expanded part.

Female: Very similar to male externally, except body usually larger (2.1–3.2 mm); rostrum usually longer and more flattened along apical part; antennal insertion usually more distant from apex of rostrum; first and second ventrites weakly inflated.

BIOLOGY: Many adult specimens have been collected from such plant families as Lauraceae, Aceraceae, and Elaecarpaceae (Kojima and Morimoto, 2000).

NUMBER OF SPECIES: (2 species in Korea), (5 species in Japan).
DISTRIBUTION: Korea, Japan, southern Russian Far East, Taiwan, Thailand, Malaysia, Indonesia, Nepal.

Key to the species of the genus *Sphinxis*

1. Integument slightly glossy, sparsely clothed with greyish-white to dark setae or scale-like setae not forming evident maculations ····· *S. crypticus*
– Integument with fuscous setae, scale-like setae or scales forming maculation ····· *S. pubescens*

40. *Sphinxis crypticus* Kojima and Morimoto, 2000

Geom-jeong-al-ba-gu-mi (검정알바구미)

Sphinxis crypticus Kojima and Morimoto, 2000: 538.
TL: Japan, Korea - South.

Head with whitish, scale-like setae more dense below eyes; frons between eyes slightly wider than basal half of rostrum, recumbent to subrecumbent, greyish-white setae along inner margin of eyes. Eyes very weakly convex. Rostrum evenly curved, slightly shorter than pronotum; dorsal outline with distinct curvature at base in lateral view; dorsum more weakly punctate, impunctate along longitudinal area in middle; recumbent, greyish-white setae behind antennal insertion. Antennae inserted along apical 1/3 of rostrum; scape shorter than funicle, nearly as long as basal five funicular articles combined; funicle with first article about twice as long as broad, second 2/3 as long as first, third to seventh subequal in length, 3/5 as long as second, seventh slightly broader than long. Pronotum 1.4 times as wide as long, margins converging weakly towards middle, then weakly convex and tapering apically; dorsum more finely punctate, with recumbent, greyish-white setae. Scutellum sparsely clothed with greyish-white, plumose scales. Elytra with humeral angles much wider than base of prothorax, 1.3 times as long as wide, widest at middle or just behind middle, sparsely clothed with recumbent, fuscous setae except base with greyish-white setae; intervals each with median row of recumbent, recurved, inconspicuous, long setae along sides. Mesosternal process narrower than coxa, sloping gradually toward base. Femora each with obsolete denticles; fore tibiae weakly sinuate along inner margins. Aedeagus with apical part much broader than long before orifice; internal sac devoid of sclerites. Spiculum gastrale with transverse median sclerite.

Female: Resembles male, except rostrum longer than pronotum and antennae inserted just before middle of rostrum. Spermatheca with ramus moderately developed. Spiculum ventrale simple at base.

MEASUREMENTS: Body length (excluding rostrum). 1.9–2.4 mm (male), 2.2–2.8 mm (female) in Japan.

COLOR: Body ovate. Integument black, antennae and tarsi dark brown to blackish; sparsely clothed with greyish-white setae; elytra mostly with fuscous setae.

BIOLOGICAL NOTES: These weevils are commonly captured on leaves of *Acer palmatum*, *A. tenuifolium*, *A. japonicum* and *A. micranthum*, but the larvae and their habitat are unknown (Kojima and Morimoto, 2000).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima).

KOREA: South and Jeju Is.

KOREAN RECORDS: Kim, 1984: 207 (JJ - Baekrokdam); Lee et al., 1985: 416 (JJ); Kim, 1993: 394 (JJ); Paik et al., 1995: 433 (JJ); Hong et al., 2000: 73 (Jejudo); Kojima and Morimoto, 2000: 538 (GN - Jirisan).

REMARKS: We were unable to examine any specimens of this species in this work. The description is provided in Kojima and Morimoto (2000). A photo of this species has not been provided here. Interestingly, it was initially believed that *Sphinxis koikei* (Voss and Chûjô, 1960) had two forms; however, Kojima and Morimoto (2000) divided these forms into two species (*S. crypticus* and *S. koikei*) after examining many Japanese samples, including Korean specimens. The Korean specimens which were examined at that time belong to *S. crypticus*. Therefore, we are tentatively determined to replace the data of *S. koikei* reported in Korea until now with the data of *S. crypticus*.

41. *Sphinxis pubescens* Roelofs, 1875 (Pls. 6-41, 23-41)

Huin-teol-al-ba-gu-mi (흰털알바구미)

Sphinxis pubescens Roelofs, 1875: 190.
TL: Japan

Head with dense whitish, oval scales below eyes; frons between eyes 1/3 as wide as base of rostrum, with subrecumbent to suberect, scale-like setae along inner margin of eyes. Eyes weakly convex, most elevated convexity posteriorly. Rostrum as long as pronotum; dorsal outline curved before middle in lateral view; dorsum with weak median carina, each side subconfluently punctate longitudinally and forming weak sulci behind antennal insertion, with subrecumbent, whitish, scale-like setae, these shorter and more scale-like laterad. Antennae inserted along apical 1/3 of rostrum; scape as long as funicle; funicle with first article 1.5 times as long as broad, second 2/3 as long as first, third to seventh subequal in length, 3/5 as long as second, seventh slightly broader than long. Pronotum 1.5 times as wide as long, sides very weakly curved and narrowing to faint subapical constriction; dorsum densely punctate, covered with recumbent to subrecumbent, whitish setae, these denser and more scale-like towards sides, then becoming setose at sides. Scutellum densely clothed with whitish, plumose scales. Elytra much wider at humeral angles than base of pronotum, 1.2 times as long as wide, subparallel-sided behind shoulders to middle, clothed with whitish and dark setae covering basal and lateral margins, these areas successively becoming longer from second to sixth intervals and entirely covered with whitish setae from seventh to tenth intervals; remaining area covered with fuscous setae, which form large, round, dark macula behind scutellum between sixth interval; intervals each with median row of subrecumbent, recurved, long setae. Mesosternal process nearly as wide as coxa, sloping gradually toward base. Femora armed with very minute denticles; fore tibiae weakly sinuate along inner margins. Aedeagus narrowed apically, with apical part longer than broad before orifice; internal sac with longitudinal, conical sclerites on each side around middle. Spiculum gastrale with median sclerite much longer than broad.

Female: Resembles male, except rostrum a little longer than pronotum, dorsal outline of rostrum evenly curved in lateral view; antennae inserted just behind apical 1/3 of rostrum. Spermatheca C-shaped; ramus weakly-developed, spiculum ventrale simple at base.

MEASUREMENTS: Body length (excluding rostrum). 2.0–2.1 mm (male), 2.1–2.2 mm (female).
COLOR: Body ovate. Integument black, except dark brown to blackish antennae and tarsi; clothed with whitish setae; elytra mostly with fuscous setae.
BIOLOGICAL NOTES: Adults can be collected from leaves of the tall tree *Elaeocarpus sylvestris* by sweeping and using an insect net with a long handle (Kojima and Morimoto, 2000).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).
KOREA: Central and South.
KOREAN RECORDS: Hong et al, 2000: 73 (Cental, South).
SPECIMEN EXAMINED: GW 1 ex. (Odaesan: 27.v.1993). GB 1 ex. (Bonghwa: 28.v.1993).

Tribe Anthonomini C. G. Thomson, 1859

DIAGNOSIS: Body pear-shaped, often elongate. Eyes more or less prominent from head. Rostrum slender, cylindrical, feebly curved. Fore femora as great as or a little greater than posteriors. Claws moderately divergent. Front coxal cavities continuous, even if coxae separated. Posterior margins of ventrites 2−4 straight. Aedeagus with median lobe narrow or emarginated at base in lateral aspect, articulated with median struts at ventral plate. Spermatheca with lateral lobe indefinite.

BIOLOGY: The adults generally lay eggs in the flower buds or fruits, or rarely in leaf buds, leaves, and galls. The larvae feed on the plant tissue internally, completely develop in it, and pupate within the feeding cavity.

Key to the genus of the tribe Anthonomini

l. Body elongate. Antenna1 funicle with 6 articles. Antenna1 scape reaching middle part of eyes. Antennal grooves strongly smoothed posteriorly, indistinct. Rostrum shorter than pronotum. Male aedeagus with tegmen ringed and with a pair of parameroid lobes ····· *Bradybatus*

− Body robust, often pear-shaped. Antenna1 funicle with 7 articles. Antenna1 scape scarcely reaching eyes. Antennal grooves not smooth posteriorly, directed towards anterior margin of eyes. Rostrum not shorter than pronotum. Male aedeagus with tegmen ringed or open dorsally, parameroid lobes absent ····· *Anthonomus*

Genus *Anthonomus* Germar, 1817: 340.

Kkot-ba-gu-mi-sok (꽃바구미속)

Type species: *Curculio avarus* Fabricius, 1798=*Curculio pedicularius* Linnaeus, 1758.

Body pear-shaped in general, rarely elongate. Unci of hind tibiae smaller than those of fore and middle tibiae. Male aedeagus with parameroid lobes absent. Spermatheca comma- or C-shaped.

NUMBER OF SPECIES: (8 species in Korea), (18 species in Japan).

DISTRIBUTION: Holarctic, Neotropical, Guinea, China, Taiwan, Java, Borneo.

Key to the subgenera of the genus *Anthonomus*

1. Fore femora bidentate, inner tooth more than half as long as width of femora ····· 2
− Fore femora unidentate ····· 3
2. Elytra strongly convex, tuberculate on odd-intervals. Fore femora longest and hind femora shortest. Tergum of abdomen swollen dorsally, sclerites of tergites 1−6 paired and widely separated ····· *Tachypterellus*
− Elytra not tuberculate. Fore femora longest, but middle and hind femora subequal in length. Tergum of abdomen evenly or scarcely convex, sclerites not divided at least on tergites 3−6 ····· ····· *Furcipus*
3. Base of pronotum as wide as base of elytra ····· *Anthonomidius*
− Base of pronotum distinctly narrower than base of elytra ····· 4

4. Pygidium with longitudinal groove or deep cavity. Elytra without transverse band or setal patterns ····· *Anthomorphus*
− Pygidium without longitudinal groove and deep cavity ····· *Anthonomus*

Subgenus *Anthonomus* s. str.

Synonym: *Pallene* Dejean, 1821: 87; *Toplithus* Gozis, 1882: 203; *Trichobaropsis* Dietz, 1891: 189; *Listrorrhynchus* Champion, 1903: 193; *Serarthus* Blatchley, 1916: 311; *Exanthonomus* Voss, 1960: 150.

Key to the species of the subgenus *Anthonomus*

1. Fore tibiae weakly or scarcely dilated at inner margins along apical half. Tooth of fore femora small, its height smaller than basal width of fore tibia in general ····· 2
− Fore tibiae dilated anteriorly along inner margins 1/3 from apex. Fore femora with large tooth, its height greater than basal width of fore tibia ····· 5
2. Body nearly uniformly black, except for brownish scape of antennae; elytra evenly and sparsely clothed with whitish, setiform scales, which are slightly closer at base of sixth interval ··· A. rubi
− Elytra and legs entirely or partly reddish-brown to brownish, elytra maculate with setiform scales ··· 3
3. Tarsi robust, first tarsomere slightly longer than broad, second tarsomere transverse; pygidium almost concealed; elytra with black spots on fourth, sixth and eighth intervals, arranged semicircularly, spots often continuous to form complete semicircle ····· *A. yuasai*
− Tarsi slender, first tarsomere about twice as long as broad, second tarsomere about as long as broad; pygidium partly exposed; elytra often with subtriangular or semicircular, bare or slightly scaled area behind middle from second or third intervals to lateral margin; area often marginate with condensed scales or setae ····· 4
4. Elytra with two setose bands interrupted medially by first interval; anterior band oblique, posterior band nearly rectangular with suture ····· *A. terreus*
− Elytra with a semicircular scaly patch open laterally behind middle and surrounding denuded area ····· *A. bisignifer*
5. Elytra with a greyish postmedian band on paler integment, band expanded anteriorly and to sides ····· *A. pomorum*
− Elytra with a whitish postmedian band extending perpendicularly to suture ····· *A. persicae*

42. *Anthonomus* (*Anthonomus*) *bisignifer* Schenkling, 1934 (Pls. 6-42, 23-42)

Ttal-gi-kkot-ba-gu-mi (딸기꽃바구미)

Anthonomus bisignifer Schenkling, 1934: 16.
TL: Japan.
Minyrus albopilosus Matsumura, 1911: 132.
TL: Sakhalin.

Frons between eyes with whitish scales and median fovea. Rostrum almost parallel-sided from

base to antenna1 insertion, with indefinite median carina from base to antennal insertion, slightly longer than head and pronotum combined. Antennae inserted at apical one-third of rostrum. Pronotum 1.2–1.4 times as wide as long, widest at basal one-third, or often before base; subapical constriction weak, clothed with whitish scales and brownish, setiform scales, whitish scales condensed on a median line and along lateral margins. Scutellum oval, densely covered with whitish scales. Elytra 1.35–1.45 times as long as wide, broadest behind middle, scarcely narrowed to base, with whitish semiannular patch surrounding denuded band open laterally behind middle, and basal short patch on sixth interval on each elytron; intervals 6–8 clothed with whitish scales, remaining area clothed with brownish, setiform scales; striae with punctures larger on basal half and much broader than intervals on first to third striae. Pygidium partly exposed. Underside clothed with whitish, setiform scales. Second ventrite shorter than third and fourth ventrites combined. Legs sparsely clothed with whitish, setiform scales; fore femora with a minute, sharp tooth; fore tibiae slightly dilated at basal one-third; tarsi slender, first tarsomere of fore tarsus about twice as long as wide; claws toothed, the tooth about half the length of claws. Aedeagus with dorsal surface broadly emarginated from base to middle, inner sac asperate; tegmen not ringed.

Female: Rostrum slightly widening to apex, longer than head and pronotum combined. Antennae inserted just beyond middle of rostrum.

Measurements: Body length (excluding rostrum). 2.7–3.5 mm.

Color: Coloartion various; head, rostrum, and pronotum usually dark brownish to blackish, elytra dark red with dark, denuded fascia and scutellar area in general; antennae and legs entirely or partly brownish, or swollen part of femora often infuscate, almost completely blackish in some specimens.

Biological notes: This species is well-known as the "strawberry weevil" in Korea and Japan. However, the damage to strawberries is actually negligible in modern horticultural practices. It is common on *Rosa* spp., *Rubus* spp., and some other Rosaceae, and often injurious to garden rose in Japan (Kojima and Morimoto, 1994) and Korea.

Distribution: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Russia (Sakhalin, Kuriles, Primorskii Terr.).

Korea: North, Central and South.

Korean records: Haku, 1936: 122 (Cheonjusa, Palgongsan); Kôno and Kim, 1937: 29; Doi, 1938: 97 (Gaemagowon); Saito, 1941: 53 (biology); Cho, 1955: 167; Ko, 1969: 264; KSPP, 1972: 198; KSPP, 1986: 194; Kwon and Lee, 1986: 84 (North, Central, South); Yoon et al., 1990: 114 (Gayasan); Choi et al., 1990: 114 (biology); Kojima and Morimoto, 1994: 155; ESK / KSAE, 1994: 208; Morimoto, 1994: 301; Kim, 1995: 143 (Byeonsanbando); Hong et al., 2000: 41 (North, Central, South); Hong and Korotyaev, 2002: 155 (North).

Specimen examined: GG 1 ex. (Suwon: 15.v.1976); 1 ex. (Gwangreung: 29.v.1983); 1 ex. (Yeogisan: 16.vi.1985); 1 ex. (Gwanggyosan: 1.v.1987); 1 ex. (Suwon: 17.vi.1988); 2 exs. (Jeongnam: 4.v.1989); 8 exs. (Jeongnam: 3.vi.1990); 1 ex. (Yeogisan: 15.iv.1997); 2 exs. (Anseong: 23.v.1997); 1 ex. (Yongin: 24.v.1997); 1 ex. (Yeogisan: 26.v.1997); 1 ex. (Suwon: 4.vi.1997); 1 ex. (Osan: 6.vi.1997). GW 1 ex. (Goseong Geonbongsa: 26.v.1993); 1 ex. (Myeongju: 27.v.1993); 2 exs. (Inje: 27.v.1993); 2 exs. (Chiaksan: 24.vii.1997). CB 1 ex. (Goesan: 26.vi.1996). CN 1 ex. (Gyeryongsan: 31.v.1975); 2 exs. (Yesan: 19.v.1991). JB 1 ex. (Baekyangsan: 11.vi.1975). JN 1 ex. (Gwangyang: 22.vi.1989); 1 ex. (Jirisan Simwon: 4.viii.1996). GB 3 exs. (Andong: 10.v.1988); 1 ex. (Gimcheon Sudosan: 16.vii.1996); 1 ex. (Andong: 10.v.1997); 1 ex. (Gimcheon Chupungryeong: 2.vi.1997). GN 1 ex. (Geojedo: 18.v.1977); 8 exs. (Hadong: 24.vi.1994); 2 exs. (Geoje: 4.vi.1997). 2 exs. (no data).

43. *Anthonomus* (*Anthonomus*) *persicae* Hong, 2004 (Pls. 6-43, 23-43)

Bok-sung-a-kkot-ba-gu-mi (복숭아꽃바구미)

Anthonomus (*Anthonomus*) *persicae* Hong, 2004: 29.
TL: Korea - South.

Frons between eyes with brownish and whitish, setiform scales branching from both sides, with median fovea. Rostrum almost parallel-sided to antennal insertion and slightly widening to apex, longer than head and pronotum combined; dorsum without median carina. Antennae inserted just before apical two-fifths of rostrum. Pronotum 1.40−1.43 times as wide as long, almost parallel-sided from base to apical third and constricted near apex, clothed with whitish and brownish, setiform scales, whitish scales forming an indefinite, longitudinal median stripe. Scutellum tongue-shaped, densely covered with whitish, setiform scales. Elytra 1.50−1.64 times as long as wide, widest just beyond middle, with broad postmedian band extending perpendicularly to suture by whitish, setiform scales; an indefinite rhombic pattern formed by whitish scales just beyond scutellum to middle and from suture to sixth interval, transversely; remaining area clothed with blackish, setiform scales. Venter clothed with whitish, setiform scales. Mesosternal process tongue-shaped. Legs sparsely clothed with whitish, setiform scales; fore femora thicker than middle and hind femora, with a large, triangular tooth that is longer than half the width of femora at widest point; fore tibiae curved at basal half, carinate along inner surface, with a row of suberect setae, dilated at apical one-third; claws toothed, the tooth about half the length of claws. Aedeagus with median lobe broadly membranous on dorsal and ventral surfaces, inner sac not asperate; tergmen not ringed.

Female: Antennae inserted just beyond apical two-fifths of rostrum.

MEASUREMENTS: Body length (excluding rostrum). 3.0−4.3 mm.
COLOR: Body elongate, derm brown to reddish-brown; head, rostrum, and antennal club darker.
BIOLOGICAL NOTES: Overwintering adults lay eggs into the flower buds of peaches from late March to early April, and the larvae attack the ovaries and stems of the flowers. Damaged buds turn a brown color and drop to the ground. Matured larvae in fallen buds develop into pupae in mid April and adults emerge in late April (Hong, 2004).
DISTRIBUTION: Korea.
KOREA: South.
KOREAN RECORDS: Hong, 2004: 29 (South).
SPECIMEN EXAMINED: GB 20 exs. (Mudeung-ri, Hwayang-myeon, Cheongdo-gun: 25.vi.1998); 1 ex. (Andong: 23.v.1982).

44. *Anthonomus* (*Anthonomus*) *pomorum* (Linnaeus, 1758) (Pls. 7-44, 24-44)

Bae-kkot-ba-gu-mi (배꽃바구미)

Curculio pomorum Linnaeus, 1758: 381.
TL: Europe.

Frons between eyes with setiform scales branching from both sides. Elytra with a greyish post-

median band on paler integment, band expanded anteriorly to sides. Fore femora thicker than middle and hind femora, with a large, triangular tooth, in which the length is greater than half the width of femora at widest point. Fore tibiae curved at basal half, carinate along inner surface, with a row of suberect setae, dilated at apical one-third. Claws with teeth sexually dimorphic; claws of fore legs toothed near apex in males, toothed near base in females. Penis elongate, broadly membranous along ventral surface, emarginate from base to near apex on dorsal surface. Median struts almost half the length of median lobe, stout in lateral view.

MEASUREMENTS: Body length (excluding rostrum). 3.1–3.6 mm.

COLOR: Body elongate, derm brown to reddish-brown, with a greyish postmedian band on elyta.

BIOLOGICAL NOTES: Larva feed on flower buds of pear and apple (Nagayama and Okamoto, 1940). This species was recorded as a pest of apple and pear until the 1940's, and its presence has since diminished by the application of modern insecticides. Adults are often captured on the flowers of *Malus toringo* from June to July in Japan (Kojima and Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), China, Russia (Amur Prov., Khabarovsk and Primorskii Terr., European part), Algeria, Europe, N. America.

KOREA: North, Central, South and Jeju Is.

KOREAN RECORDS: Muramatsu, 1925: 20 (Goyang, biology and control); Kôno and Kim, 1937: 22; Kôno, 1939b: 77 (Suigen (=Suwon)); Nagayama and Okamoto, 1940: 200 (Biology and Control); Saito, 1941: 53 (biology); Cho, 1955: 162, 167; Cho, 1957: 279; ZSK, 1968: 130; Ko, 1969: 264; KSPP, 1972: 198; Egorov, 1976: 832; KSPP, 1986: 194; Kwon and Lee, 1986: 84 (Central); Park et al., 1988: 45 (biology); Morimoto and Lee, 1992: 6 (JJ - Eorimok); Kojima and Morimoto, 1994: 152; ESK / KSAE, 1994: 208; Morimoto, 1994: 300; Paik et al., 1995: 428 (JJ); Hong et al., 2000: 42 (North, Central, South, Jeju Is.).

SPECIMEN EXAMINED: GG 11 exs. (Suwon: 5.vi.1981); 1 ex. (Suwon: 12.v.1983); 2 exs. (Suwon: 21.iv. 1984); 11 exs. (Suwon: 25.iv.1987); 1 ex. (Suwon: 22.ii.1988); 21 exs. (Suwon: 19.v.1988). JN 5 exs. (Mudeungsan: 17.iv.1985).

45. *Anthonomus* (*Anthonomus*) *rubi* (Herbst, 1795) (Pls. 7-45, 24-45)

Geom-jeong-kkot-ba-gu-mi (검정꽃바구미)

Curculio rubi Herbst, 1795: 167.

TL: Europe.

Elytra evenly and sparsely clothed with whitish, setiform scales, positioned slightly closer at base of sixth interval. Mesosternal process narrow, sharply acuminate posteriorly. Fore femora with small tooth, its length shorter than basal width of fore tibia. Fore tibiae broadly dilated along inner surface, tooth of hind femora minute. Apex of penis not rounded.

MEASUREMENTS: Body length (excluding rostrum). 2.0 mm.

COLOR: Entirely and uniformly black, except for brownish scape of antennae.

BIOLOGICAL NOTES: Host plants are *Tragopogon* and *Buphthalmum* in Europe.

DISTRIBUTION: Korea, Russia (Siberia, except for the North; European part), Kazakhstan, Algeria, Europe.

KOREA: Central and South.
KOREAN RECORDS: Hong et al., 2000: 43 (Central, South).
SPECIMEN EXAMINED: GW 1 ex. (Daegwanryeong: 25.vii.1997). GB 1 ex. (Palgongsan: 20.vi.1985).

46. *Anthonomus* (*Anthonomus*) *terreus* Gyllenhal, 1836

Geum-bul-kkot-ba-gu-mi (금불꽃바구미)

Anthonomus terreus Gyllenhal, 1836: 346.
TL: S. Russia.
Anthonomus terreus ab. *Desbrochersi* Faust, 1890: 92.
TL: Russia - Minussinsk.
Anthonomus terreus ab. *uniformis* Faust, 1890: 92.
TL: Russia - Orenburg.

Frons between eyes with whitish or yellowish-brown, setiform scales and a median fovea. Rostrum almost parallel-sided from base to antennal insertion, slightly widening towards apex. Antennae inserted at apical one-third of rostrum. Pronotum 1.2−1.3 times as wide as long, widest just behind middle, subapical constriction weak, clothed with whitish and yellowish-brown, setiform scales, whitish scales forming three stripes along entire length, median stripe often indefinite and obsolete before middle. Scutellum subtriangular, densely covered with whitish, setiform scales. Elytra 1.3.5 −1.45 times as long as wide, widest at apical one-third, each interval clothed with whitish and yellowish-brown, setiform scales, whitish scales forming two bands with interruption on first intervals, anterior band oblique from basal 1/3 of eighth interval to apical 2/5 of second interval, posterior band almost rectangular with suture, sixth to eighth intervals clothed with whitish scales as on bands, and especially dense on base of sixth interval. Legs clothed with whitish, setiform scales; femora and tibiae similar to those of *A. bisignifer*; claws toothed, tooth sligthly more than half the length of claws. Aedeagus truncated at apex; inner sac asperated at apex and with a small, slender sclerite.
Female: Antennae inserted just beyond middle of rostrum. Pygidium exposed, shallowly depressed.

MEASUREMENTS: Body length (excluding rostrum). 2.8−3.1 mm.
COLOR: Coloration variable, derm dark brown to blackish, antenna1 scape and part of legs brownish; head, rostrum, meso- and metathoraces, and first three ventrites usually blackish; pronotum dark brown except brownish anterior margin; elytra chestnut brown with infuscate basal area between fifth stria.
BIOLOGICAL NOTES: Many adults were collected on the flowers of *Inula salicina* var. *asiatica*, but *Rosa rugosa* was confirmed as the true host in Japan (Kojima and Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Hokkaido), N. China, Mongolia, Siberia, Italy.
KOREA: North.
KOREAN RECORDS: Egorov, 1976: 832; Hong et al., 2000: 43; Hong and Korotyaev, 2002: 155 (North).
SPECIMEN EXAMINED: HN 1 ex. (Yangdeuk: 8.viii.1950, ZIN), 1 ex. (Gabsan: 10.viii.1950, ZIN). RG 1 ex. (Samjiyeon 1000 m: 4.vi.1985, Coll. No. 986, HMNH).

47. *Anthonomus* (*Anthonomus*) *yuasai* Kôno, 1939 (Pls. 7-47, 24-47)

Al-rak-kkot-ba-gu-mi (알락꽃바구미)

Anthonomus (*Anthonomus*) *yuasai* Kôno, 1939: 79.

TL: Japan - Tokyo.

Frons between eyes with greyish, hairy scales, and a faint median fovea. Rostrum slightly longer than head and pronotum combined, with indefinite median carina from base to antenna1 insertion. Antennae inserted at apical third of rostrum. Pronotum 1.35−1.50 times as wide as long, widest at base, clothed evenly with greyish, hairy scales, without scaly stripe. Scutellum subtriangular, densely covered with greyish scales. Elytra 1.45−1.55 times as long as wide, widest just behind middle, sparsely clothed with greyish, hairy scales, which are often slightly denser along exterior margin of dark annule, and also often denser along inner margin of annule and apical part of elytra. Pygidium almost concealed. Venter clothed with greyish, hairy scales. Fore coxae narrowly separated. Second ventrite shorter than third and fourth combined. Legs clothed with greyish, hairy scales; fore femora with a small, dull tooth; fore tibiae widest just behind middle, as wide as rostrum at this point; tarsi robust, first tarsomere slightly longer than wide, second as long as wide. Aedeagus with median lobe membranous on dorsal and ventral surfaces, inner sac asperate near apex; tergmen ringed.

Female: Rostrum longer than head and pronotum combined. Antennae inserted just before middle of rostrum.

MEASUREMENTS: Body length (excluding rostrum). 3.0 mm.

COLOR: Dorsum predominantly brown to reddish-brown; head, coxae, meso- and metathorax, and first ventrite black; rostrum blackish ventrally and at apex; pronotum often infuscate medially; elytra with dark spots on intervals 4, 6, and 8, spots often continuous and semiannular.

BIOLOGICAL NOTES: Adults were collected from *Zelkova serrata* (Kojima and Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima).

KOREA: Cental and Jeji Is.

KOREAN RECORDS: Kwon and Lee, 1986: 85 (Central); Kim and Oh, 1991: 157 (JJ); Morimoto and Lee, 1992: 6 (JJ - Eorimok); Kim, 1993: 392 (JJ); Kojima and Morimoto, 1994: 164; ESK / KSAE, 1994: 208; Morimoto, 1994: 301; Paik et al., 1995: 428 (JJ); Hong et al., 2000: 44 (Central, Jeju Is.).

SPECIMEN EXAMINED: CN 1 ex. (Deokseungsan: 27.v.1982).

Subgenus *Anthonomidius* Reitter, 1915: 118.

Type species: *Anthonomus rubripes* Gyllenhal, 1836.

48. *Anthonomus* (*Anthonomidius*) *dilutus* Reitter, 1915 (Pl. 7-48)

Tong-kkot-ba-gu-mi (통꽃바구미)

Anthonomus dilutus Reitter, 1915: 118.

TL: Russia - Transbaikal.

Rostrum longer than pronotum, slightly widened towards apex. Base of pronotum as wide as base of elytra. Elytra almost parallel-sided to behind middle. Tooth of fore femora small. Claws toothed.

MEASUREMENTS: Body length(excluding rostrum). 2.0−2.2 mm.
COLOR: Derm reddish-brown, with sparse, narrow, long, white scales, not forming a stripe. Antennae and legs yellowish-brown, brighter than body.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, China (Mandschuria), Russia (Transbaikal).
KOREA: North and Central.
KOREAN RECORDS: Hong and Korotyaev, 2002: 156 (North, Central).
SPECIMEN EXAMINED: HH 3 exs. (Sariwon: 24.vii.1950, ZIN). PB 1 ex. (Sineuju: 9.vii.1950, ZIN). PN 1♂ (Lake Daeseong: 4.vii.1977, Coll. No. 343, HMNH); 1♀ (Lake Daeseong: 13.ix.1979, Coll. No. 525, HMNH).

Subgenus *Furcipus* Desbrochers, 1868: 414.

Type species: *Curculio rectiostris* Linnaeus, 1758.

49. *Anthonomus* (*Furcipus*) *rectirostris* (Linnaeus, 1758) (Pls. 7-49, 24-49)

Kkot-ba-gu-mi (꽃바구미)

Curculio rectirostris Linnaeus, 1758: 383.
TL: Europe.

Scutellum large, oblong-oval, convex, rugosely punctate, with sparse setae. Elytra not tuberculate. Tergites of abdomen evenly or scarcely convex, sclerites not divided at least on tergites 3−6. Fore femora indentate, inner tooth more than half as long as width of femora, outer tooth fine. Fore femora longest, middle and hind femora subequal in length.

MEASUREMENTS: Body length (excluding rostrum). 4.0−4.7 mm.
COLOR: Reddish-brown, with greyish to yellowish-brown setae condensed to form broad sub-basal and postmedial bands, the former prolonged anteriorly to base on third, fifth, and seventh intervals.
BIOLOGICAL NOTES: Adults appear in late June to July and lay eggs in the sarcocarp of *Prunus avium* in Aomori, Japan. Larvae cause the cherries to rot and fall to the ground by feeding on the sarcocarp and seeds, and later pupate in them (Kojima and Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), China, Russia (Kuriles, Siberia, European part), Europe.
KOREA: Central and Jeju Is.

KOREAN RECORDS: Morimoto, 1962: 343; Kwon and Lee, 1986: 84 (Central); Morimoto and Lee, 1992: 6 (JJ - Eorimok, Yeongsil); ESK / KSAE, 1994: 208; Morimoto, 1994: 301; Kojima and Morimoto, 1994: 168; Paik et al., 1995: 428 (JJ); Hong et al., 2000: 44 (Central, Jeju Is.).
SPECIMEN EXAMINED: GG 1 ex. (Suwon: 10.iv.1984). GW 1 ex. (Odaesan: 4.viii.1983).

Genus *Bradybatus* Germar, 1824: 305.

Gin-kkot-ba-gu-mi-sok (긴꽃바구미속)

Type species: *Bradybatus cruentzeri* Germar, 1824.

Body elongate. Rostrum not longer than head and pronotum combined. Antennal scrobes oblique, extending posteriorly to ventral side of rostrum. Antennal funicle distinctly with 6 articles; 7th article completely annexed to club, discriminated from club by faint constriction and setal arrangement; scape reaching lower part of eye. Elytra more than 1.6 times as long as wide. Pygidium almost concealed. Legs robust, femora often with a minute tooth; tibiae slightly dilated along inner margins at middle, hind tibiae uncinate as fore and middle tibiae; claws toothed. Aedeagus with tergmen ringed and a pair of developed parameroid lobes. Spermatheca J-shaped.

NUMBER OF SPECIES: (2 species in Korea and Japan).
DISTRIBUTION: Palaearctic.

Key to the species of the genus *Bradybatus*

1. Entirely black except for brownish scape of antennae and unci of tibiae; without any scaly pathes except for an indefinite antescutellar spot on pronotum and greyish scutellum; elytra with a row of sparse, fine setae on each interval ····· *B. sharpi*
− Elytra black with broad brownish limbus, often entirely brown; antennae, anterior margin of prothorax, and bases of femora brown; tibiae and tarsi often brownish, pronotum with greyish median stripe; elytra with indefinite postmedian oblique band formed by greyish, hairy scales, same scales denser on declivity ····· *B. limbatus*

50. *Bradybatus limbatus* Roelofs, 1875 (Pl. 7-50)

Gin-kkot-ba-gu-mi (긴꽃바구미)

Bradybatus limbatus Roelofs, 1875: 191.
TL: Japan - Hakodate

Head clothed with yellowish, setiform scales, frons between eyes without median fovea. Rostrum almost parallel-sided, with three rows of yellowish, setiform scales on each side along basal half. Antennae inserted just before middle of rostrum. Pronotum 1.2−1.3 times as wide as long, almost parallel-sided along basal two-thirds, constricted near apex; dorsum densely punctate, each puncture

with a yellowish, hairy scale, condensed on a median line. Scutellum oval, densely clothed with yellowish, grey scales. Elytra 1.70−1.75 times as long as wide, nearly parallel-sided from base to apical one-third, a bare, transverse band just behind middle, clothed with yellowish-grey, hairy scales that are condensed to form an oblique band before middle and on declivity. Legs clothed with yellowish, hairy scales; fore femora with a minute tooth, often indefinite as on middle and hind femora.

Female: Antennae inserted at middle of rostrum.

MEASUREMENTS: Body length (excluding rostrum). 2.6−3.2 mm (in Japan).

COLOR: Derm black; antennal scape, anterior margin of prothorax, and bases of femora brownish, elytra black with brownish lateral and posterior margins in general, often entirely brownish, tibiae and tarsi often brownish.

BIOLOGICAL NOTES: This species was collected from *Acer* spp. from May to July in Japan (Kojima and Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russia (southern Khabarovsk and Primorskii Terr.).

KOREA: Jeju Is.

KOREAN RECORDS: Kim, 1984: 207 (JJ - Sujangwon); Lee et al., 1985: 415 (JJ); Kim, 1993: 392 (JJ); Kojima and Morimoto, 1994: 170; ESK / KSAE, 1994: 208; Morimoto, 1994: 300; Paik et al., 1995: 429; Hong et al., 2000: 45 (Jeju Is.).

REMARKS: Korean specimens of this species were unable to be found until now. The description is provided by Kojima and Morimoto (1994). The photo provided here was taken from Japanese specimens.

51. ***Bradybatus sharpi*** Tournier, 1873 (Pls. 8-51, 24-51)

Geom-jeong-Gin-kkot-ba-gu-mi (검정긴꽃바구미)

Bradybatus sharpi Tournier, 1873: 180.
TL: Russia - E. Siberia.
Magdalis albolineatus Zherikhin, 1972: 150.
TL: Russia - Primorskii Terr.

Frons between eyes rugosely punctate, without median fovea. Rostrum almost parallel-sided from base to antennal insertion, with indefinite median carina on basal half, as long as pronotum. Antennae inserted just beyond middle of rostrum. Pronotum 1.2−1.3 times as wide as long, widest at base, constricted near apex; dorsum densely punctured, each puncture with a greyish seta, condensed in front of scutellum. Scutellum oval, densely covered with greyish setae. Elytra 1.7−1.9 times as long as wide, widest at apical one-third, scarcely narrowed basally, with a weak subapical callus; each interval with a row of greyish, fine setae. Legs clothed with greyish setae; fore and middle femora with a minute tooth; fore tibiae dilated near middle. Aedeagus with median lobe strongly curved at apex.

Female: Antennae inserted at middle of rostrum.

MEASUREMENTS: Body length (excluding rostrum). 3.5−4.5 mm.

COLOR: Entirely black except for brownish scape of antennae and unci of tibiae.

BIOLOGICAL NOTES: This species was collected from *Acer* spp. from May to July, and by sifting litter during the winter. Some specimens emerged from the seeds of *Acer mono* in Japan (Kojima and Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russia (Southern Khabarovsk and Primorskii Terr.).

KOREA: Central, South, Ulreung Is. and Jeju Is.

KOREAN RECORDS: Kwon and Lee, 1986: 84 (Central, South); Bae and Moon, 1993: 148 (GG); Kojima and Morimoto, 1994: 171; ESK/KSAE, 1994: 208; Morimoto, 1994: 300; Hong et al., 2000: 46 (Central, South, Jeju Is.).

SPECIMEN EXAMINED: GG 1 ex. (Surisan: 2.v.1997). GW 1 ex. (Gyebangsan: 16.v.1995). GB 1 ex. (Bonghwa: 28.v.1993); 6 exs. (Ulreungdo: 23.v.1995); 5 exs. (Sobaeksan Huibangsa: 9.v.1997). JJ 1 ex. (Sujangwon: 15.v.1978).

Tribe Cionini Schoenherr, 1825

DIAGNOSIS: Body wide and short. Fore femora not wider than others, with tooth. Claws connate at base, or with single developed claw. Metepisterna wide, metepimera separated.

Key to the genus of the tribe Cionini

1. Tarsi with 2 claws fused at their bases, one shorter than other in male ····· *Cionus*
− Tarsi with 1 claw ····· 2
2. Fore coxae contiguous. Femora not sulcate along inner surface ····· *Stereonychus*
− Fore coxae separated. Femora sulcate along inner surface ····· *Stereonychidus*

Genus *Cionus* Clairville and Schellenberg, 1798: 64.

O-dong-na-mu-ba-gu-mi-sok (오동나무바구미속)

SYNONYM: *Mononyx* Brulle, 1839: 72

Type species: *Curculio blattariae* Fabricius, 1792.

Elytra covered along suture with two condensed black, sometimes diminished, spots, one situated before middle and the other before apex; intervals uneven; first and second intervals from suture with black spots and expanded curve. Prosternum truncate at anterior margin befor head. Tarsal claws unequal in length.

NUMBER OF SPECIES: (2 species in Korea), (3 species in Japan).

DISTRIBUTION: Palaearctic, India, USA (Introduced), Chad, Madagascar, Zaire.

Key to the species of the genus *Cionus*

1. Alternate intervals of elytra rib-shaped, black, and setose, forming small, grey, discontinuous, setose patterns; sutural interval with yellow, setose spots at middle and before apex ····· *C. helleri*
− Alternate intervals of elytra with moderately arched, black and yellowish-grey, latticed setose patterns; sutural interval with 2 black spots ····· *C. tamazo*

52. *Cionus helleri* Reitter, 1904

O-dong-na-mu-ba-gu-mi (오동나무바구미)

Cionus Helleri Reitter, 1904: 56.
TL: Japan.

Rostrum thick, slightly longer than pronotum, curved. Eyes close to dorsal side. Vertex with two small, setose spots at posterior margin. Pronotum transverse, slightly widening posteriorly, narrowed from middle to apex; disc before apex with two transverse impressions which merge posteriorly. Scutellum covered with brown scales. Elytra with 3rd, 5th, and 7th intervals convex, closely situated, black, setose, forming small, grey, discontinuous, setose patterns; sutural interval with yellow, setose spots at middle and before apex. Claws with one shorter than other in male.

MEASUREMENTS: Body length (excluding rostrum). 4.5−5.1 mm (in Japan).
COLOR: Derm black; only antennae brown, remainder of body with fine black setae.
BIOLOGICAL NOTES: The larvae of this species feed on leaves of *Paulownia tomentosa* during May in Japan (Morimoto, 1994).
DISTRIBUTION: Korea (Central), Japan (Honshu, Shikoku, Kyushu), China (Shaowu, Fukien).
KOREA: Central.
KOREAN RECORDS: KSPP, 1986: 194; ESK / KSAE, 1994: 210; Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 46 (Central).
REMARKS: Korean specimens of this species could not be found until now. The description is provided in Reitter (1904) and the photo provided here was taken of Japanese specimens.

53. *Cionus tamazo* Kôno, 1930 (Pls. 8-53, 24-53)

Mu-nui-o-dong-na-mu-ba-gu-mi (무늬오동나무바구미)

Cionus tamazo Kôno, 1930: 149.
TL: Russia - Kuril Is.; Japan - Hokkaido, Honshu.

Frons between eyes almost half as long as base of rostrum. Rostrum almost as long as head and pronotum combined, weakly curved, almost parallel-sided in lateral aspect, tapered to apex, punctate with narrow setae extending to apex in males, flattened along anterior half in females. Antennae inserted before middle of rostrum; basal 2 articles of antennal funicle subequal in length, remaining articles short. Pronotum transverse, arched, strongly constricted near apex, finely punctate, with a

few setae. Scutellum elongate, gradually narrowing to posterior part, with setae. Elytra strongly arched, parallel-sided; intervals finely and rugosely punctate, alternate intervals strongly convex; 4th, 6th, and 8th intervals partially with 1 or 2 rows of coarse punctation; sutural interval with 2 black, setose spots (round behind scutellum and elongate before apex); alternate intervals forming close, black and grey, latticed, setose patterns. Venter sparsely and roughly punctate; lateral parts of metathorax with 2 close, setose spots. Femora moderately thickened and serrate, with 2 transverse, glabrous bands along outer margins. Tibia weakly sinuate at base.

Female: Antennae inserted at middle.

MEASUREMENTS: Body length (excluding rostrum). 4.0–4.2 mm.

COLOR: Derm black; antennae reddish-yellow; body covered with yellowish-grey to yellow setae, elytra with black, setose spots.

BIOLOGICAL NOTES: The larvae of this species feed on leaves of *Scrophularia buergeriana* and adults are collected on *Paulownia tomentosa* and *Scrophularia kakudensis* in Japan (Morimoto, 1994) and Korea (Lee et al, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (Mainland, Shaowu), Russia (Kuriles).

KOREA: North, Central, South and Jeju Is.

KOREAN RECORDS: Kusanagi, 1937: 6 (Baekeomsan, Domun); Kwon and Lee, 1986: 86 (Central, South); Morimoto and Lee, 1992: 6 (JJ - Gaewol Bridge); ESK / KSAE, 1994: 210; Lee et al., 1994: 115 (biology); Paik et al., 1995: 429 (JJ); Hong et al., 2000: 47 (North, Central, South, Jeju Is.).

SPECIMEN EXAMINED: JJ 2 exs. (Gwaneumsa: 28.viii.1997).

Genus *Stereonychidius* Morimoto, 1962: 377.

Oe-bal-tob-ba-gu-mi-sok (외발톱바구미속)

Type species: *Stereonychus galloisi* Hustache, 1920.

Head hemispherical; eyes oblong-oval, convex; frons between eyes slightly narrower than base of rostrum, depressed; rostrum as long as head and pronotum combined, weakly curved; antennal scrobes oblique, closely approximated under base of rostrum; antennae inserted before middle of rostrum, funicle with 5 articles, 2nd article slender, club oval. Pronotum transverse with median and lateral tubercles along a transverse line just before middle; anterior margin truncate, posterior margin weakly arched; prosternum deeply canaliculate before fore coxae, which are separated. Elytra much broader than pronotum, humeri rectangular, 3rd and 5th intervals much broader than others and bearing tubercles, subapical callus distinct, apices of elytra conjointly rounded. 3rd and 4th ventrites of abdomen as broad as 2nd. Femora weakly clavate, denticulate, sulcate beneath. Tibiae straight, fore tibiae unarmed at tip, hind tibiae armed with a small mucro. 3rd tarsal tarsomere broader than preceding, bilobed; claws single.

NUMBER OF SPECIES: (1 species in Korea and Japan).

DISTRIBUTION: Korea, Japan, South of the Russian Far East.

54. *Stereonychidius galloisi* (Hustache, 1920) (Pl. 8-54)

Oe-bal-tob-ba-gu-mi (외발톱바구미)

Stereonychus galloisi Hustache, 1920: 498.
TL: Japan - Mt. Takao, Hachioji.

Rostrum black, cylindrical, curved, and narrowed beyond antennal insertion, slightly longer than pronotum, rugosely punctate to apex, with dense scales (♂) or almost glabrous (♀). Frons closely punctate. Antennae almost glabrous; 2nd funicular article 1.5 time as long as 1st, 3rd–5th articles broadly and slightly transverse; antennal club oblong, subcylindrical, longer than previous 3 articles combined. Pronotum trapezoidal, shorter than base, slightly sinuate along lateral sides, slightly bisinuate at base, 1/3 broader than anterior margin, broadly and transversely impressed forward, with strong conical tubercles at middle of lateral sides; transverse elevation extended forward in middle between tubercles. Scutellum semicircular, with dense brown scales. Elytra much broader than pronotum, slightly longer than broad, shoulders protruding and rounded, slightly sinuate behind shoulders, subapical calli tuberculate; odd intervals strongly raised at base, near middle, and on interval 3 along its entire length; a strong, transverse impression crossing disc along its width, located just behind shoulders, clear, separated both dark bands formed by disc of odd intervals; interval 3 with dark and alternatively clear spots almost up to apex. Venter with dense scales; prosternum deeply canaliculate before fore coxae, which are separated. Legs with dense scales; femora armed with a strong triangular tooth; tibiae bent at base; tarsi short, 3rd tarsomere transverse, broader than preceding, bilobed; 5th tarsomere with a single robust and curved claw.

Measurements: Body length (excluding rostrum). 4.8–5.0 mm.
Color: Derm black; legs and antennae reddish-yellow, densely covered with oblong, various ash and tinted scales; a large, dark blackish-brown spot at base of pronotum and disc of elytra; elytra with a clear stripe behind middle.
Biological notes: Unknown.
Distribution: Korea, Japan (Honshu, Kyushu).
Korea: Central.
Korean records: Hong et al., 2000: 47 (Central).
Specimen examined: GW 1 ex. (Chuncheon Hyeonri: 15.v.1996); 1 ex. (Seolaksan: 29.vii.1982).

Genus *Stereorynchus* Suffrian, 1854: 95.

Deul-me-oe-bal-tob-ba-gu-mi-sok (들메외발톱바구미속)

Type species: *Curculio fraxini* DeGeer, 1775.

Fore coxae contiguous. Femora not sulcate along inner margins. Tarsi with a single claw.

Number of species: (2 species in Korea and Japan).
Distribution: Palaearctic, Korea, Japan to Philippines, Chad.

55. *Stereorynchus japonicus* Hustache, 1920 (Pls. 8-55, 25-55)

Il-bon-oe-bal-tob-ba-gu-mi (일본외발톱바구미)

Stereorynchus japonicus Hustache, 1920: 631.
TL: Japan - Honshu.
Cionus (*Stereonychus*) *ogasawarai* Kôno, 1930: 150.
TL: Japan.

Rostrum cylindrical, barely enlarged at apex, slightly curved; 1.5 times as long as head and pronotum combined in female, bright, smooth, fine, and scattered punctation at apex, slightly stronger and closer towards base, particularly near edges; sligthly shorter, thicker, and more arched in male, very densely punctate and striolate, finely carinate on median line, pubescent. Head convex, densely and rather strongly punctate, with slight scaling; eyes large, flat, nearly confluent ventrally. Antennae inserted towards third of rostrum (males), or just behind middle (females); scape slightly thickened at apex; 2nd funicular article narrower and longer than articles 1 and 3−5, progressively thickened but not very robust, almost as long as broad; club oblong, pubescent, longer than previous 3 articles combined. Pronotum transverse, slightly rounded at sides, broadly and not deeply impressed behind anterior margin, bisinuate, closed, and rather finely punctate. Scutellum semicircular, convex, with dense scaling. Elytra subrectangular, barely enlarged posteriorly, rounded at apex, 1/4 times longer than broad; humeral calli protruding, sinuate along lateral margins behind shoulders; subapical calli with markings; striae strong, deep, closer at apex, separated by narrow partition; intervals convex, odd intervals irregular, slightly convex, enlarged, sinuate, more convex towards base. Venter closely punctate, finely but not densely pubescent. Legs robust and with scales; fore coxae contiguous; femora armed with a small, sharp tooth in male, without tooth in female; 2nd tarsomere transverse; 5th tarsomere with single robust claw.

MEASUREMENTS: Body length (excluding rostrum). 3.7 mm.
COLOR: Derm dark brown; antennae and legs brighter; ventral side, head, and rostrum black; covered with setiform scales, intervals between them metallic and shining; elytra with 3rd intervals adorned with black spots alternating with clear spots.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Honshu, Kyushu).
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 48 (Central).
SPECIMEN EXAMINED: GW 1 ex. (Seolaksan: 30.vii.1982).

56. *Stereorynchus thoracicus* Faust, 1887 (Pls. 8-56, 25-56)

Deul-me-na-mu-oe-bal-tob-ba-gu-mi (들메나무외발톱바구미)

Stereorhynchus thoracicus Faust, 1887: 176.
TL: Russia - Vladivostock.
Steronychus ochraceus Hustache, 1920: 630.
TL: Japan - Honshu.

Rostrum black, as long as head and pronotum combined (males) or slightly longer (females), cylindrical, slightly flattened and enlarged at apex, robust, slightly curved, densely punctate, substriolate along entire length, sparsely covered with setiform scales. Head black, densely and strongly punctate, sparsely scaled; frons marked with a deep fovea, eyes big, flat, separated dorsally by less than half the width of rostrum at base. Antennae inserted just before middle of rostrum; scape thickened at apex; funicle with 5 articles, 1st obconical, 2 times as long as broad, 2nd conical, almost as thick and 1.5 times as long as articles 1; 3–5 progressively thickened, short, transverse, and rounded; club oblong, subcylindrical, longer than previous 3 articles combined. Pronotum slightly broader than long, very slightly curved along sides, slightly narrower anteriorly than at base, broadly but not deeply transverse, impressed behind anterior margin, slightly bisinuate at base, disc almost flat along basal half, densely and strongly punctate, punctations covered with linear, pointed scales. Scutellum semicircular, densely scaled. Elytra at base much broader than pronotum and bisinuate, slightly longer than broad, subrectangular, broadly rounded at apex; lateral margins strongly sinuate behind protruding shoulders; intervals flat, odd intervals strongly raised and sinuate at base; suture intervals adorned with small, dark postscutellar spots; 3rd interval adorned along entire length, with small dark spots alternating with larger spots; similar spots on anterior half of interval 5 and sometimes 7; humeral calli slightly protruding. Venter brighter, sternum with punctation on edges and covered with long, dense scales; abdomen with fine, sparse punctation, covered with sparse, setiform scales. 1st ventrite broadly and shallowly impressed along middle, 5th ventrite with a small, rounded impression laterally in male. Legs robust and with scales; femora strongly clavate, armed with a strong triangular tooth; tarsi robust, short, with scales, 2nd tarsomere transverse, 3rd more than 2 times as broad as 2nd, bilobed; 5th tarsomere with a single robust, curved claw.

MEASUREMENTS: Body length (excluding rostrum). 4.5 mm.

COLOR: Body suboval, short, blackish-brown; legs and antennae russet, covered with linear, dense, yellowish-brown scales; odd intervals of elytra covered with grey pattern and dark brown pattern alternately, intervals 3, 5, and sometimes 7 adorned with small, dark spots.

BIOLOGICAL NOTES: This species is a pest of *Fraxinus mandshurica* in Japan (Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Kyushu), China, Russia (Primorskii Terr., Kuril Is.).

KOREA: Central.

KOREAN RECORDS: Hong et al., 2000: 48 (Central).

SPECIMEN EXAMINED: GW 1 ex. (Odaesan: 12.vi.1997).

Tribe Ellescini C. G. Thomson, 1859

Subtribe Dorytomina Bedel, 1886

Genus *Dorytomus* Germar, 1817: 340.

Beo-deul-byeo-ba-gu-mi-sok (버들벼바구미속)

SYNONYM: *Doratotomus* Gistel, 1856: 371; *Eteophilus* Bedel, 1886: 280; *Alycodes* Dietz, 1891: 183; Praeolamus Zumpt, 1932: 40.

Type species: *Curculio vorax* Fabricius, 1792=*Curculio longimanus* Forster, 1771.

Small to middle-sized (2.6−7.5 mm), elongate beetles with a more or less curved, nearly straight, thin rostrum, usually with a well-developed tooth on femur and simple, widely-separated claws. Body usually various shades of brown, with numerous scattered spots on elytra; sometimes black or reddish-brown. Dorsum of body with scattered, decumbent, setiform or lanceolate scales, sparse, whitish stripes behind middle of elytra. In some species, intervals of elytra with erect, narrow scales. In males, base of abdomen moderately or strongly depressed, in females, more or less convex. *Anthonomus* and *Bradybatus* differ in their fore coxae, closed along hind margins and separate, and slightly more symmetrical, convex eyes; claws simple.

BIOLOGY: Larvae develop in male catkins of willow and poplar; in 2 species from N. America, reared from sawfly galls on *Salix*. In Japan, *D. urakoae* and *D. rectinasus* oviposit on buds of *Populus maximoviczii* and *Salix* from October to the end of April; larvae develop from the end of February or mid March to early June in deciduous catkins and fall to the ground to pupate. Pupae persist from the end of April to early June and emerge as adults throughout the year. *Dorytomus notaroides* in Japan develop in male catkins of *Populus maximoviczii*, larvae persist in indehiscent catkins in April, and in May for the duration of a week, exit them and pupate in the ground; young adults appear in mid May. North of the Far East of Russia, adults meet in the crowns of willows that are just beginning to flower, fall of the leaves during the daytime to hide in the leaf-litter under trees or under roots; at approximately 21:00 hours to 2:00 in the morning they feed during the night in the tree crowns at about temperatures of +3−5°C (Egorov et al., 1996).

NUMBER OF SPECIES: (7 species in Korea), (9 species in Japan).
DISTRIBUTION: Holarctic.

Key to the subgenera of the genus *Dorytomus*

1. Elytra covered with one type of setiform scales ····· *Dorytomus*
− Elytra covered with two types of setiform scales, one appressed and other erect ····· *Euolamus*

Key to the species of the subgenus *Dorytomus*

1. 1st article of antennal funicle not shorter than 4 mm, 2nd article 2.5 times as long as wide. Large (4−7 mm). Rostrum not smaller than 1.5 times as long as pronotum. Fore tibiae with 1 tooth (uncus) at apex ····· 2
− 1st article of antennal funicle not longer than 3.5 mm, 2nd article 2 times as long as wide. Small (< 5.3 mm), mostly to 4.0 mm. Rostrum often smaller than 1.5 times as long as pronotum. Fore tibiae with 1 or 2 teeth at apex (uncus and mucro) ····· 3
2. Rostrum in male 2.26−2.35, in female 2.50−2.62 times as long as pronotum, slightly curved and separated from frons by slight declivity. Yellowish-brown ····· *D. chinensis*
− Rostrum in male 1.6−2.0, in female 1.43−1.58 times as long as pronotum, moderately curved, separated from frons distinctly by declivity. Uniformly brown or reddish-brown to dull-brown with blackish rostrum, disk of pronotum, lateral margins, disk of elytra (excluding bright suture), and sometimes metasternum ····· *D. roelofsi*
3. Elytra with erect, narrow scales, length not less than half the width of elytral intervals. Process of mesosternum between middle coxae not swollen. Rostrum distinctly curved, longer than pronotum in males and females ····· 4

− Elytra without erect scales ····· 5

4. Small, 2.7−3.1 mm. Rostrum narrow and long, with distinct median and lateral keels. Fore tibiae narrow, inner margins at apical half slightly emarginate, tooth at apex of tibiae strongly hooked inwardly. Lateral sides of pronotum slightly rounded. Length of erect scales on elytra distinctly shorter than width of intervals, central disk rarely with erect scales. Decumbent scales at apex mostly blunt, straight, truncate, or slightly truncate. Antennal club darker than funicle, elytra with bright reddish-brown stripes on 6th−8th intervals ····· *D. subcinctus*
− Large, 3.15−4.1 mm. Rostrum narrow and short, often with weak keel. Fore tibiae wide, inner margins at apical half strongly emarginate, tooth at apex of tibiae strongly protruding anteriorly. Lateral sides of pronotum strongly rounded. Length of erect scales on elytra not shorter than width of elytral intervals, central disk with abundant erect scales. Decumbent scales mostly pointed on apex. Antennal club and femora not dark; elytra with distinct, bright, lateral stripes and dark-brown central disk ····· *D. setosus*

5. Fore femora in males with small tooth, middle and hind femora with weak tooth or lacking it; femora often without tooth in females. Rostrum slightly curved; in male 1.2−1.3, in female 1.3−1.4 times as long as pronotum, matted, rugosely punctate, with a thin, irregular keel. Pronotum moderately convex, ratio of length to width not less than 0.80, usually 0.83−0.86; punctures on disk large and deep, interval between them usually lustrous ····· *D. imbecillus*
− Femora in males and females with distinct tooth. Rostrum usually distinctly curved. Ratio of length of pronotum to width not greater than 0.82, usually less than 0.80, punctures on disk small; anterior margin bright ····· *D. maculipennis*

Subgenus *Dorytomus* s. str.

57. *Dorytomus* (*Dorytomus*) *chinensis* (Faust, 1890) (Pls. 8-57, 25-57)

Jung-guk-beo-deul-byeo-ba-gu-mi (중국버들벼바구미)

Praeolamus chinensis Faust, 1890: 385.
TL: China.

Rostrum in male 2.26−2.35, in female 2.50−2.62 times as long as pronotum; in males matted, sulcate, slightly curved and not separated from frons by declivity, antennae inserted at apex of rostrum; in female more or less lustrous, with low shining keel, sometimes indistinct, separated from frons moderately or slightly by declivity, antennae attached along distal 1/3 of rostrum. 1st article of antennal funicle not shorter than 4 mm, 2nd article 2.5 times as long as wide. Elytra almost parallel-sided in male and slightly widened posteriorly in female. Prosternum without keel before fore coxae. Process of mesosternum between mid coxae in female moderately swollen, in male strongly swollen, protruding before coxae and visible from side. Fore coxae in male with angulate projection along inner margin. Fore tibiae with uncus at apex.

MEASUREMENTS: Body length (excluding rostrum). 4.9−5.7 mm.
COLOR: Body slender. Yellowish-brown. Pubescence of dorsum slightly spotted, moderately dense with short, setiform, whitish and yellowish scales. Punctures of pronotum and elytra dense and

large, not deep.

BIOLOGICAL NOTES: Adults were collected from narrow leaves of *Salix*, South of the Russian Far East (Egorov et al., 1996).

DISTRIBUTION: Korea, NE China.

KOREA: Central.

KOREAN RECORDS: Hong et al., 2000: 49 (Central).

SPECIMEN EXAMINED: GG 1 ex. (Suwon Yeogisan: 16.v.1997); 1 ex. (Suwon: 6.ix.1998).

58. *Dorytomus* (*Dorytomus*) *imbecillus* (Faust, 1882) (Pl. 9-58)

Mu-nui-beo-deul-byeo-ba-gu-mi (무늬버들벼바구미)

Praeolamus imbecillus Faust, 1882: 384.
TL: Russia - E. Siberia
Dorytomus alaskanus Casey, 1892: 362.
TL: Alaska.
Dorytomus subsimilis Blatchley and Leng, 1916: 197.
TL: N. America.

Rostrum slightly curved, in male 1.2−1.3 times, in female 1.3−1.4 times as long as pronotum, matted, rugosely punctuate, with thin, irregular keel. Pronotum moderately convex, ratio of length to width not less than 0.80, usually 0.83−0.86; punctures on disk large and deep, interval between them usually lustrous. Elytra dark, more or less convex, covered with brown and white, setiform scales, intervals 6−8 light brown. Mesosternal process between middle coxae not swollen. Base of abdomen in male deeply depressed. Fore femora in male with small tooth, middle and hind femora usually without tooth; female often without femoral tooth. Fore tibiae at apex with 2 teeth. Inner sack of aedeagus with group of large spines.

MEASUREMENTS: Body length (excluding rostrum). 2.6−3.5 mm.

COLOR: Rostrum and pronotum (except base), and body usually black; elytra and often middle of disk reddish-brown with blackish edges; legs often bright; body sparsely black. Pubescence moderately dense, thin, forming loose spots, sometimes condensed on suture of elytra.

BIOLOGICAL NOTES: Adults were collected from *Salix* (Egorov et al., 1996).

DISTRIBUTION: Korea, E. Mongolia, Russia (Chukot, Magadan, Kamchatka, Primorskii, Yakutia, E. Siberia, northeastern European part), Greenland, northern America, Alaska, Canada.

KOREA: North and Central.

KOREAN RECORDS: Egorov et al., 1996: 476 (North); Hong et al., 2000: 50 (North, Central); Hong and Korotyaev, 2002: 156 (Geumgangsan).

SPECIMEN EXAMINED: GG 1 ex. (Gwangreung: 21.iv.1981). GW 1 ex. (Goseong: 25.v.1993); 1 ex. (Hotel Go-song Geumgangsan: 29.v.1970, Coll. No. 52, HMNH).

59. *Dorytomus* (*Dorytomus*) *maculipennis* Roelofs, 1874 (Pls. 9-59, 25-59)

Beo-deul-byeo-ba-gu-mi (버들벼바구미)

Dorytomus maculipennis Roelofs, 1874: 124.
TL: Japan - Nagasaki
Dorytomus budarini Korotyaev, 1976: 55.
TL: Kuril Is.

Rostrum slightly curved, antennal insertion at distal one-third of rostrum in female; in male 1.56−1.60 times, in female 1.9−2 times as long as pronotum. Elytra slightly widened behind middle, in male almost parallel-sided, with flat disk. Mesosternal process not convex in female, perpendicular at anterior margin in male. Fore tibiae in male with small mucro, female lacking mucro. Aedeagus with widely rounded, almost linearly truncate or hardly emarginate middle of apex.

MEASUREMENTS: Body length (excluding rostrum). 3.4−4.8 mm.
COLOR: Body light brown with dark brown to black patches, without reddish shade. Rostrum black, often with brightened middle part; pronotum with wide, blackish, middle stripe or almost blackish disk, bright stripe at base and apex; elytra without dark spotted pattern or dark-brown with bright spots on shoulders. Femora more or less dark, tibiae bright; tarsi dark towards apex. Pubescence of elytra formed of more or less homogeneous, setiform, narrow, lanceolate scales and moderately dense spots.
BIOLOGICAL NOTES: Adults were collected from *Salix* spp. in Japan (Morimoto, 1994).
DISTRIBUTION: Korea (Central, South), Japan (Honshu, Shikoku, Kyushu), Russia (S. Kuril).
KOREA: Central and South.
KOREAN RECORDS: Kwon and Lee, 1986: 74 (South); ESK/KSAE, 1994: 205; Hong et al., 2000: 50 (Central).
SPECIMEN EXAMINED: GG 1 ex. (Namhansanseong Gwangju: 22.xi.2007).

60. *Dorytomus* (*Dorytomus*) *roelofsi* Faust, 1882 (Pls. 9-60, 25-60)

Bul-geun-beo-deul-byeo-ba-gu-mi (붉은버들벼바구미)

Dorytomus Roelofsi Faust, 1882: 380, 402.
TL: Japan.

Head densely punctate and with sparse setae; vertex strongly arched; frons between eyes almost as wide as apex of rostrum. Rostrum much longer than head and pronotum combined, in males 1.6−2.0, in females 1.43−1.58 times as long as pronotum, moderately curved, in males continuous to frons in same plane, in females weakly angulate to frons, with 6 deep, punctured striae, widest part at base, narrowest part as broad as frons, narrowed from base to antennal insertion. Antennae inserted just behind apex by 1x width of rostrum; basal 3 articles of antennal funicle long, 1st article longest, 3rd article almost 2/3 times as long as wide, 6th article almost as long as wide, 7th article transverse. Pronotum transverse, widest part slightly before middle; fairly densely punctate, with uniformly fine and sparse setae. Scutellum small, nearly glabrous. Elytra slightly wider than pronotum,

parallel-sided; intervals uniformly weakly convex, with fine, sparse setae. Venter with sparse setae; anterior margin of prosternum with short cilia. Mesosternal process strongly convex and produced anteriorly. Metepisternum and metepimeron rather coarsely and densely punctate. Abdomen weak and sparsely punctate. Femora clavate, strongly thickening along outer margins, with a small, sharp tooth on inner margins. Fore tibiae almost straight, weakly curved at apex.

Female: Rostrum smooth, both sides at base with short punctured striae. Antennae inserted far before apex of rostrum. Tibiae curved.

MEASUREMENTS: Body length (excluding rostrum). 4.0−5.5 mm.

COLOR: Derm sparsely clothed with setae, immaculate. Yellowish-brown to reddish-brown, with dark antennal club, rostrum, disk of pronotum, lateral margins, disk of elytra (excluding bright suture), and metasternum.

BIOLOGICAL NOTES: Adults were collected from *Salix* spp. and oviposit in the flower buds in Japan (Morimoto and Enda, 1962; Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (Shansi), Russia (Khabarovsk and Primorskii Terr., Sakhalin, Kuriles).

KOREA: Central and South.

KOREAN RECORDS: Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 50 (Central).

SPECIMEN EXAMINED: GG 4 exs. (Yongin: 24.v.1997). GW 1 ex. (Myeongjisan: 23.v.1991); 1 ex. (Chuncheon Gangwon campus: 3.vi.1991); 1 ex. (Goseong: 25.v.1993); 3 exs. (Myeongju: 1.vi.1993). GB 2 exs. (Bonghwa: 28.v.1993); 5 exs. (Seongju: 2.vi.1997). 1 ex. (No data).

61. *Dorytomus* (*Dorytomus*) *setosus* Zumpt, 1933 (Pl. 9-61)

Teol-beo-deul-byeo-ba-gu-mi (털버들벼바구미)

Dorytomus setosus Zumpt, 1933: 36.

TL: NE China.

Rostrum thin, short, often with weak keel. Lateral sides of pronotum strongly rounded. Elytra with erect scales not shorter than width of elytral interval, central disk with abundant erect scales. Decumbent scales mostly pointed on apex. Fore tibiae wide, inner margins along apical half strongly emarginate, tooth on apex of tibiae strongly protruding anteriorly.

MEASUREMENTS: Body length (excluding rostrum). 3.1−4.1 mm.

COLOR: Intervals 3−5 of elytra blackish-brown, remaining part reddish-brown, each interval with a row of long, thin setae. Antennal club and femora not dark.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, NE China (Tientsin, Shansi), E. Mongolia.

KOREA: Central.

KOREAN RECORDS: Hong et al., 2000: 51 (Central).

SPECIMEN EXAMINED: GG 1 ex. (Suwon: 5.iv.1985).

62. *Dorytomus* (*Dorytomus*) *subcinctus* (Faust, 1882) (Pls. 9-62, 25-62)

Jak-eun-beo-deul-byeo-ba-gu-mi (작은버들벼바구미)

Euolamus subcinctus Faust, 1882: 379.
TL: Russia - E. Siberia.

Rostrum thin, long, with distinct median and lateral keels. Lateral sides of pronotum slightly rounded. Elytra with apex of 3rd to 5th intervals strongly convex, tuberculate; erect scales distinctly shorter than width of interval, central disk rarely with erect scales. Decumbent scales at apex mostly blunt, linearly truncate or slightly truncate. Fore tibiae narrow, inner margins along apical half slightly emarginate, tooth at apex of tibiae strongly hooked inwardly.

MEASUREMENTS: Body length (excluding rostrum). 2.7−3.2 mm.
COLOR: Body reddish-brown, densely covered with scales. Antennal club darker than funicle, elytra with bright reddish-brown stripes on 6th−8th intervals.
BIOLOGICAL NOTES: Adults were collected from narrow leaves of *Salix* at Tuva (Egorov et al., 1996).
DISTRIBUTION: Korea, Mongolia, Russia (Amur, Chita, and Irkutsk Prov., Buryatia).
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 51 (Central).
SPECIMEN EXAMINED: GG 1 ex. (Yangpyeong: 2.vi.1991); 1 ex. (Seoul: 9.iii.1992).

Subgenus *Euolamus* Reitter, 1916: 201.

Type species: *Dorytomus hirtipennis* Bedel, 1884.

63. *Dorytomus* (*Euolamus*) *amurensis* Korotyaev, 1979

Geuk-dong-teol-beo-deul-byeo-ba-gu-mi (극동털버들벼바구미)

Dorytomus amurensis Korotyaev, 1979: 176.
TL: Russia - Amur Prov., Primorskii Terr.
Dorytomus hirtipennis: Morimoto and Enda, 1962: 19 (nec Bedel, 1884).

Rostrum in males and females slightly but distinctly curved, dorsum more or less uniformly convex, not flattened, median keel often not reaching base nor extending to lustrous apical part; lateral keels not elevated, pubescent, sometimes indistinct. Pronotum strongly rounded laterally and narrowed towards base. Fore tibiae at apex with 2 teeth, inner tooth (mucro) 0.5 times length of outer tooth (uncus), not concealed and with tufts of setae. Aedeagus without sclerite at apical part.

MEASUREMENTS: Body length (excluding rostrum). 3.2−4.0 mm (in Japan and Russia).
COLOR: Elytra clothed with two kinds of setae, each interval with a row of erect, long setae.
BIOLOGICAL NOTES: Adults were collected from *Salix* spp. in Japan (Morimoto and Enda, 1962).
DISTRIBUTION: Korea (Central), Japan (Honshu), Russia (Amur Prov., Primorskii Terr.).

KOREA: Central.
KOREAN RECORDS: Kim and Kim, 1998: 177 (Odaesan); Hong et al., 2000: 49 (Central).
REMARKS: Korean specimens of this species we unable to be found until now. The description is provided by Korotyaev (1979).

Tribe Mecinini Gistel, 1856

Key to the genera of the tribe Mecinini

1. Prosternum without canal for rostrum; eyes moderately large, less than half the width of head; frons between eyes slightly narrower than width of rostrum at base; 1st and 2nd abdominal ventrites at most 2.3 times as long as 3rd and 4th ventrites combined ····· *Gymnetron*
− Prosternum with median canal for rostrum; eyes large, more than half the width of head; frons between eyes more than width of rostrum at base; 1st and 2nd abdominal ventrites at least 2.6 times as long as 3rd and 4th ventrites combined ····· 2
2. Fifth abdominal ventrite in male usually with median fovea and sublateral tubercles; pygidium with fovea; spermatheca expanded in median portion ····· *Miarus*
− Fifth abdominal ventrite and pygidium in male with median lobe and without peculiar features; spermatheca sinuate and of same width from base to apex ····· *Cleopomiarus*

Genus *Cleopomiarus* Pierce, 1919: 34.

San-kkok-ji-ba-gu-mi-sok (산꼭지바구미속)

SYNONYMS: *Miaromimus* Solari, 1947: 73; *Miarus* subgen. *Hemimiarus* Franz, 1947: 237.
Type species: *Miarus erebus* Casey, 1910.

5th abdominal ventrite and pygidium in male with median lobe and without peculiar features. Internal sac without elongate, thin, dorsal median sclerite, body of spermatheca sinuate and of same width from base to apex.
BIOLOGY: The species of this genus can be found on *Campanula*, *Jasone*, and *Phyteuma* (Campanulaceae), in which the larvae grow in the capsules without producing visible damage (Caldara, 2001).

NUMBER OF SPECIES: (3 species in Korea), (4 species in Japan), (6−7 species in Far eastern Russia).
DISTRIBUTION: Palaearctic, Nearctic, and Afrotropical regions.
REFERENCES: Egorov et al. (1996)

Key to the species of the genus *Cleopomiarus*

1. Elytra wide, strongly rounded on lateral sides, with decumbent, raised, dense pubescence (up to 5 setae on intervals 3−4). Femora without tooth, hind femora with slightly obtuse angle on ventral margin. Apical uncus of hind tibia in males laterally truncate. Median depression on

1st and 2nd abdominal ventrites in males with decumbent pubescence, more sparse than on other parts of abdomen ····· 2

– Elytra more narrow, less rounded on lateral sides, with more or less decumbent pubescence; 1st interval at base with decumbent setae. Even if middle and hind femora with obtuse angle, distinct tooth present. Apical uncus of hind tibia in males more or less pointed. Median depression on 1st and 2nd abdominal ventrites in males glabrous or with sparse, indistinct, decumbent setae ····· 3

2. Rostrum in male thin and long, basal half almost parallel-sided, distal part slightly but distinctly narrowing, approximately reaching hind margin of middle coxae, apical third curved, basal 2/3 almost straight. Antennae of male attached between basal third and middle of rostrum, scape long. Elytra widest at middle or just before. Hind tibiae almost straight, apical uncus in males short and wide, slightly curved, widely truncate at apex. Apical uncus of fore tibiae usual. Pubescence whitish-yellow, sparsely golden, grey ····· *C. kobanzo*

– Rostrum in male thick and short, not surpassing middle of mid coxae, base slightly, almost uniformly, narrowing towards apex; apex coarse, elongate, somewhat rugosely punctate, matted, and uniformly curved. Antennae in male attached at basal third of rostrum, scape short. Elytra widest before middle. Hind tibiae curved, apical uncus in male long, narrow, curved, and narrowly truncate. Apical uncus of fore tibiae narrow and long. Antennae black and tarsi brown, with dense, thick, golden-yellow setae; body yellow; scutellum with dense, whitish setae ····· ····· *C. dictamnophilus*

3. Rostrum in males and females almost equal in length, not longer than pronotum, uniformly curved; rostrum in females almost smooth before antennal insertion. Fore tibiae with inner sides barely or distinctly bisinuate. 2.0–3.0 mm. -On Campanula ····· Group of *C. graminis*

– Rostrum in female much longer than in male, longer than pronotum, with thin punctures before antennal insertion in male, in female less uniformly curved. Antennae in female attached distinctly at middle of rostrum, 1st funicular article strongly widened. Pronotum from base strongly narrowed anteriorly, not or only slightly bisinuate at base. Fore tibiae with inner sides distinctly bisinuate. Not shorter than 2.5 mm ····· 4

4. Rostrum in male slightly curved, long and thin, distinctly surpassing middle coxae, reaching hind margin of hind coxae or surpassing them in females. Pronotum slightly rounded laterally; elytra wide, strongly narrowing towards apex. Fore tibiae narrow. 3.0–3.6 mm. N. China, Primorskii. -On Campanula ····· *C. mandschuricus*

– Rostrum in male strongly curved, short and thick, reaching hind margin of middle coxae or just surpassing them, not reaching hind coxae in females. Pronotum strongly rounded laterally; elytra weakly narrowing towards apex. Fore tibiae wide ····· *C. jakowlewi*

64. *Cleopomiarus dictamnophilus* (Zherikhin, 1996) (Pls. 9-64, 26-64)

San-kkok-ji-ba-gu-mi (산꼭지바구미)

Miaromimus dictamnophilus Zherikhin, 1996: 484.

TL: Russia - Primorskii Terr.

Rostrum in male thick and short, not surpassing middle of mid coxae, from base slightly, almost uniformly, narrowing towards apex; apex coarse, elongate, somewhat rugosely punctate, matted,

uniformly curved. Antennae in male attached at basal third of rostrum, scape short. Elytra wide, strongly rounded on lateral sides, widest before middle; covered with decumbent, raised, dense pubescence (sometimes up to 5 setae on intervals 3–4). Median depression on 1st and 2nd abdominal ventrites in male, with decumbent pubescence, more sparse than on other parts of abdomen. Femora without tooth, hind femora with slightly obtuse angle beneath margin. Hind tibiae curved, apical uncus in male long and narrow, curved, narrowly truncate. Apical uncus of fore tibiae narrow and long.

MEASUREMENTS: Body length (excluding rostrum). 2.8–3.2 mm.
COLOR: Black; antennae and tarsi brown. Derm closely covered with thick, golden-yellow setae, appearing as yellow; setae on pronotum slightly smaller than those on elytra, setae sharply pointed; scutellum with dense whitish setae; setae on elytra thinner than those on *C. kobanzo* (Kôno).
BIOLOGICAL NOTES: Adults were collected from *Dictamnus* sp. in Primorskii Territory, Russia (Egorov et al., 1996).
DISTRIBUTION: Korea, Russia (Primorskii Terr.).
KOREA: Cental (GW).
KOREAN RECORDS: Hong et al., 2000: 52 (Central).
SPECIMEN EXAMINED: GW 6 exs. (Odaesan: 27.v.1993); 1 ex. (Inje: 27.v.1993).

65. *Cleopomiarus jakowlewi* (Faust, 1895) (Pl. 10-65)

Ya-ko-beu-kkok-ji-ba-gu-mi (야코브꼭지바구미)

Miarus jakowlewi Faust, 1895: 104.
TL: Irkutsk.
Miarus dulcinasutus Kangas, 1976.
TL: Finland.

Rostrum in males strongly curved, short, thick, reaching hind margin of middle coxae or only slightly surpassing them; rostrum much longer in females, nearly reaching hind coxae. Antennae in females attached distinctly at middle of rostrum, 1st funicular article strongly widened, shorter than 2nd and 3rd funicular articles combined. Pronotum strongly and roundly narrowing from base to apical constriction on lateral sides, not or slightly bisinuate at base. Elytra weakly narrowing towards apex, intervals covered with 2–3 rows of setae at base and often 1–2 rows of setae at apex. Median depression on 1st and 2nd abdominal ventrites in males with sparse or without decumbent pubescences. Femora with obtuse, angled tooth. Fore tibiae wider, inner sides distinctly bisinuate. Apical uncus of hind tibia weak and pointed. Pennis slender, weakly bent along ventral margin in apical half in lateral view.

MEASUREMENTS: Body length (excluding rostrum). 3.2–3.7 mm.
COLOR: Black.
BIOLOGICAL NOTES: Adults were collected from *Campanula* spp. in Russia (Egorov et al., 1996).
DISTRIBUTION: Korea, Russia (Irkutsk, Chita, Buryatia, Siberia), N. Europe.
KOREA: North (HN).
KOREAN RECORDS: Hong and Korotyaev, 2002: 156 (North).
SPECIMEN EXAMINED: HN 1♂, 3♀♀ (Gabsan: 10.viii.1950, ZIN).

66. *Cleopomiarus kobanzo* (Kôno, 1930) (Pl. 10-66)

No-rang-teol-kkok-ji-ba-gu-mi (노랑털꼭지바구미)

Miarus kobanzo Kôno, 1930: 148.
TL: Japan.

Rostrum in male thin and long, basal half almost parallel-sided, distal part slightly but distinctly narrowing at antennal insertion, more or less reaching hind margin of middle coxae; apical third curved, basal 2/3 almost straight. Antennae of male inserted between basal third and middle of rostrum; scape longer. Scutellum as long as wide. Elytra wide, widest at middle or just before; strongly rounded on lateral sides, covered with decumbent and raised, dense pubescence (sometimes up to 5 setae on intervals 3–4). Median depression on 1st and 2nd abdominal ventrites with decumbent pubescence in males, more sparse than on other parts of abdomen. Femora without tooth, hind femora with slightly obtuse angle on ventral margin. Apical uncus of fore tibiae usual. Hind tibiae almost straight, apical uncus short and wide in males, slightly curved, widely truncate at apex.

Measurements: Body length (excluding rostrum). 4.0–4.3 mm.
Color: Derm densely covered with greenish-yellow setae, appearing grey; setae on pronotum slightly smaller than those on elytra, all setae sharply pointed.
Biological notes: Unknown.
Distribution: Korea, Japan (Honshu), Russia (Primorskii Terr.).
Korea: Central and South.
Korean records: Kim, 1980: 347 (Namyangju); Morimoto, 1994: 291; Kwon and Lee, 1986: 87 (Central, South); ESK/KSAE, 1994: 210; Hong et al., 2000: 53 (Central, South).
Specimen examined: GW 1 ex. (Inje: 27.v.1993). CB 1 ex. (Danyang: 7.vi.1979).

Genus *Gymnetron* Schoenherr, 1825: 587.

Kkok-ji-ba-gu-mi-sok (꼭지바구미속)

Synonym: *Colobus* Schoenherr, 1843: 146.
Type species: *Curculio beccabungae* Linnaeus, 1761.

Elytral stria 3 joined at apex with stria 8, elytral margin at apex moderately directed inwards; tergite VII distinctly uncovered; lateral margin of protibia at apex directed inwards; pygidium distinctly uncovered, elytra usually moderately wider than prothorax; median lobe of aedeagus distinctly elongate and with long, straight flagellum.
Biology: The species of this genus can be found on *Veronica* (Scrophulariaceae); the larvae of many species cause galls in the ovaries of the flowers or in the roots of the host plants (Caldara, 2001).

Number of species: (1 species in Korea), (2 species in Japan).
Distribution: Palaearctic and Afrotropical regions.

67. *Gymnetron miyoshii* Miyoshi, 1922 (Pls. 10-67, 26-67)

Kkok-ji-ba-gu-mi (꼭지바구미)

Gymnetron miyoshii Miyoshi, 1922: 253.
TL: Japan - Honshu.
Gymnetron villosulum var. *orientale* Voss, 1955.

Rostrum moderately long; subcylindrical in lateral view, slightly curved, almost same size from base to apex; subparallel-sided from base to apex in lateral view, with scrobe moderately visible, distinct punctured stripes near apex, basal half with scales moderately dense, greyish, moderately long, nearly horizontal. Frons as wide as rostrum at base, without fovea. Eyes distinctly convex. Antennal scape 5 times longer than wide, funicle with 5 articles, slightly longer than scape; 1st article 1.5 times longer than wide, distinctly more robust and 1.2 times longer than 2nd, which is 1.5 times longer than wide; 3rd to 5th articles gradually more transverse; club moderately long, oval, 1st article less pubescent along basal half. Pronotum with dense, regular punctured intervals; smooth and lustrous between punctures, moderately visible disk between dense scales; with moderately long, setiform scales covering base and sides; transverse, sparse, imbricate, white, short, suboval scales with edges slightly rounded on other areas; weakly pronounced collar, widest between middle third and basal third, weakly convex. Elytra moderately short, suboval, base slightly concave, slightly wider than pronotum, with moderately rounded sides near base, widest point in middle, moderately convex on disc; intervals visible between moderately dense scales that are whitish and light brown, long, 0.50 to 0.75 times the width of interval, setiform, and arranged almost uniformly; striae moderately visible, about half as narrow as interval, with scales slightly more subtle than those of intervals. Metasternum covered with dense scales, greyish-yellow, broad, suboval, fringed, and oriented horizontally. Mesepimera and episternum of mesothorax and metathorax covered with dense, greyish-yellow, broad, and oval fringe of scales. Abdomen with dense, fairly regular punctures, almost completely hidden by thick, long, greyish-yellow, oval, setiform fringe of scales. Legs slender with short, thick scales, distinctly shorter than width of tibia, nearly lying horizontally; femora reddish, subclavate, unarmed; tibiae reddish, slender, apical outer margin of fore tibia directed slightly inwards, posterior of middle tibiae almost with right angles; uncus blackish, stout; uncus of middle tibiae with rounded apex; tarsi reddish-brown with 1st tarsomere 1.3 times longer than wide, 2nd tarsomere about as long as wide, 3rd tarsomere bilobed and distinctly larger than 2nd tarsomere; 5th tarsomere slender, slightly shorter than tarsomeres 1−3 combined; claws brown, connate along basal half.

MEASUREMENTS: Body length (excluding rostrum). 2.2 mm.
COLOR: Rostrum black with apical half reddish. Antennae reddish-brown with dark brown club. Pronotum black. Elytra reddish with first, second, and final intervals blackish-brown. Venter dark. Body moderately short, oval.
BIOLOGICAL NOTES: The larvae of this species make galls in the ovaries of *Veronica peregrina* in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Ryukyu).
KOREA: Central (GG).
KOREAN RECORDS: Hong et al., 2000: 54 (Central).
SPECIMEN EXAMINED: GG 1 ex. (Suwon: 29.viii.1984).

Genus *Miarus* Schoenherr, 1826: 320.

Teol-kkok-ji-ba-gu-mi-sok (털꼭지바구미속)

Type species: *Curculio campanulae* Linnaeus, 1767.

Body short, oval to moderately long and subcylindrical. Integument completely black, covered with short to moderately long, setiform scales, which are arranged in regular or more irregular rows on each elytral interval, with digitate scales on part of ventral side. Rostrum longer in females than in males. Eyes very large, moderately convex. Antennal funicle with five articles. Pronotum more or less curved along sides, usually widest at basal 1/3. Elytra with anterior margin moderately concave, weakly convex to 5th interval then strongly directed forwards. Prosternum deeply sulcate. Fifth abdominal ventrite strongly modified by presence of a fairly deep fovea and two rather robust postero-lateral teeth in males. Pygidium regularly convex to gibbous on dorsal portion, foveate on ventral portion. Femora unarmed. Claws free, of equal length.

Biology: Species within this genus can be found on *Campanula* and *Phyteuma* (Campanulaceae), in which the larvae develop in the capsules, sometimes producing swellings in the ovary (Caldara, 2001).

Number of species: (2 species in Korea), (1 species in Japan).
Distribution: Palaearctic regions.
References: Caldara (2007).

Key to the species of the genus *Miarus*

1. Median lobe of aedeagus with distinctly mitrate, recurved posteriorly ····· *M. atricolor*
− Median lobe of aedeagus small but with distinct mitrate and auriculate processes; anteapical structure very strong, endophallus larger in basal half and clearly visible in dorsal view ····· ····· *M. ajugae*

68. *Miarus ajugae* (Herbst, 1795) (Pls. 10-68, 26-68)

Cho-rong-teol-kkok-ji-ba-gu-mi (초롱털꼭지바구미)

Curculio ajugae Herbst, 1795: 172.
TL: Germany.
Miarus rotundicollis: Solari, 1947: 77 (nec Desbrochers, 1893).
Miarus campanulae: Franz, 1947: 215 (nec Linnaeus, 1758).
Miarus campanulae var. *ursinus*: Franz, 1947: 219 (nec Abeille).
Miarus portae Solari ssp. *confusus* Roudier, 1966: 285.
Miarus perjuratus Roudier, 1966: 284.
Miarus thuleus Kangas, 1980: 113.

Rostrum moderately long, dorsum distinctly with punctured striae along basal 2/3, moderately punctate at apical 1/3, moderately curved in lateral view. Pronotum slightly wider than long, with

moderately rounded sides, widest at basal 1/3, fairly convex. Elytra short, weakly curved at sides, with basal margin weakly convex along mesal half and distinctly directed forwards along lateral half; scales of intervals moderately long and recumbent, arranged in 3–4 irregular rows. Abdominal ventrite 5 with deep median fovea and with two robust teeth postero-laterally to fovea, more lustrous and covered with thinner scales than other ventrites at median part. Pygidium weakly gibbous along upper half and weakly depressed along lower half. Uncus of fore tibia large. Median lobe of aedeagus short, in both dorsal and lateral views, distinctly narrowed along median 1/3, ventral portion distinctly convex at basal and apical 1/3, where it forms a short, posterior protrusion with apex in lateral view, with small mitrate and auriculate processes; endophallus containing two flat, elongate sclerites (one dorsal and one ventral), two pairs of small, suboval sclerites bearing spines and positioned caudally to elongate ventral and dorsal sclerites; two other small median sclerites, one furcate and the other subcylindrical.

Female: Rostrum slightly longer than in male, distinctly curved in lateral view, sparsely punctate in apical half; pygidium with shallow fovea.

MEASUREMENTS: Body length (excluding rostrum). 3.5–3.8 mm.

COLOR: Dorsal vestiture of whitish to brown scales.

BIOLOGICAL NOTES: This species was collected from various species of the genera *Campanula* and *Phyteuma* (Smreczynski, 1976).

DISTRIBUTION: Korea, Mongolia, Russia (from North West to Far East), France, Switzerland, Poland, Germany, Czech Republic, Slovakia, Hungary, Austria, Italy, Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro, Macedonia, Armenia, Denmark, Sweden, Norway, Finland, Syria, Iran, north-western Africa.

KOREA: Central and South.

KOREAN RECORDS: Hong et al., 2000: 53 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Hwacheon: 25.v.1993). GB 1 ex. (Cheongsong: 22.viii.1980); 2 exs. (Bonghwa: 28.v.1993).

69. *Miarus atricolor* Morimoto, 1983 (Pl. 10-69)

Teol-kkok-ji-ba-gu-mi (털꼭지바구미)

Miarus atricolor Morimoto, 1983: 54.

TL: Japan - Shirahone, Nikko.

Miarus vestitus: Kôno, 1930: 148 (nec. Roelofs).

Rostrum with distinct, dorsal punctured striae along basal 2/3, moderately punctate at apical 1/3, moderately curved in lateral view. Pronotum slightly transverse, with moderately rounded sides, widest at basal 1/3, fairly convex. Elytra short, weakly curved at sides, with basal margin weakly convex in mesal half and distinctly directed forwards in lateral half; scales of interstriae moderately long and recumbent, arranged in 3–4 irregular rows. Ventrite 5 with deep median fovea and with two robust teeth postero-laterally to fovea, more lustrous and covered with thinner scales than other ventrites in median part; pygidium weakly gibbous along dorsal half and weakly depressed along ventral half. Uncus of fore tibia large. Median lobe of aedeagus short, in both dorsal and lateral

views distinctly narrowing along median 1/3; ventral portion distinctly convex at basal and apical 1/3, forming a short, posterior projection with apex in lateral view; moderately small mitrate processes, directed posteriorly in lateral view, and small auriculate processes; endophallus containing two flat, elongate sclerites (one dorsal and one ventral), two pairs of small, suboval sclerites bearing spines and positioned caudally from ventral and dorsal elongate sclerites; two other small median sclerites, one furcate and one subcylindrical.

Female: Rostrum slightly longer than in male, distinctly curved in lateral view, sparsely punctate along apical half; pygidium with shallow fovea; bursa copulatrix with two lateral sclerites.

MEASUREMENTS: Body length (excluding rostrum). 3.5 mm.

COLOR: Dorsal vestiture of whitish to brown scales.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Honshu), China, Russia (Far East), Kazakhstan, Kyrgyzstan.

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1986: 87 (Central, South); ESK/KSAE, 1994: 210; Morimoto, 1994: 291; Hong et al., 2000: 53 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Seolaksan: 29.vii.1982).

REMARKS: This species appears very closely related to *M. ajugae*, in which it differs only by the median lobe of the aedeagus with mitrate process more developed and more distinctly folded backwards. *M. atricolor* seems to be sympatric with *M. ajugae* in the eastern Palaearctic Region (Caldara, 2007).

Tribe Rhamphini Rafinesque, 1815

Key to the genera of the tribe Rhamphini

1. Antennal funicle with 7 articles. Pronotum and elytra usually without erect setae at sides. Fore and middle tibiae uncinate at apex ····· 2
− Antennal funicle with 6 articles. Pronotum and elytra often with erect setae at sides ····· 3
2. Antennae inserted before middle of rostrum in male, funicle with 7th article longer than broad. Hind wing functional and normal in size. Spermatheca with gland located near middle of capsule ··· ····· *Tachyerges*
− Antennae inserted in frons, not geniculate, with oval scape as long as 1st funicular article; funicle with 7th article transverse, close to or fused with club. Hind wing reduced in size. Spermatheca with gland located at middle or beyond middle of capsule ····· *Rhamphus*
3. Fore and middle tibiae mimutely uncinate at middle of apical margin, femora without denticle or spine. Derm yellowish to reddish-brown. Rostrum not received on sternum in repose ····· ····· *Rhynchaenus*
− Fore and middle tibiae with a large sickle-shaped uncus near apex of dorsal edge, fore and middle femora often with denticle bearing a spine, hind femora often with denticles bearing long setae or spine. Derm variable in color. Rostrum received on sternum in repose ····· *Orchestes*

Genus *Orchestes* Illiger, 1798: 498.

Byeo-ruk-ba-gu-mi-sok (벼룩바구미속)

Type species: *Orchestes signifer* Creutzer, 1799=*Curculio avellanae* Donovan, 1797.

Fore and middle femora often lacking denticle bearing a spine. Hind femora swollen, with denticles bearing short spines and long setae. Hind tibiae curved, with carinae along both edges of flat surface along inner margin, and with a row of long setae along inner face of flat surface.

Biology: Species of this genus feed on the leaves of broad-leaf trees of various families, but not known from conifers.

Number of species: (About 50 species from East Asia).
Distribution: Holarctic, Madagascar, Congo.
References: Moriomo (1984), Morimoto and Miyakawa (1996), Kojima and Morimoto (1996b).

Subgenus *Orchestes* s. str.

Synonym: *Alyctus* Thomson, 1859: 142.

Key to the species of the subgenus *Orchestes*

1. Hind tibiae simple, without flat surface along inner margin and without erect, long setae along inner margin ····· 2
− Hind tibiae curved, with carinae along both edges of flat surface along inner margin, and with a row of long setae along inner face of flat surface ····· 3
2. Elytra with a distinct postscutellar white patch and 2 bands. Hind femora unarmed, without long setae and spines along ventral margin ····· *O. rusci*
− Elytra mottled with whitish-yellow setae and forming postscutellar indistinct patch with whitish setae. Elytral bands oblique and indistinct, elytral disk with separate white setae. Hind femora with 1 to 2 long setae and 1 short spine along ventral margin ····· *O. subbifasciatus*
3. Elytra clothed with concolorous, uniform, fine setae, without any setose markings ····· 4
− Elytra mottled with two or three kinds of setae ····· 10
4. Derm entirely black, shiny, with sparse brownish-black pubescence on dorsal surface. Frons between eyes very narrow at posterior third, weakly widening anteriorly. Pronotum without erect setae at sides ····· *O. nitens*
− Derm bicolorous, black with reddish antennae and tarsi, or reddish with blackish sternites. Elytra distinctly setose. Frons between eyes more or less wider. Pronotum with erect setae at sides ····· 5
5. Head, pronotum, and elytra concolorous, rusty red to rusty yellowish-red; meso- and metasternum, metepisterna, and basal part of abdominal ventrites black. Body larger, usually 3.5–4.0 mm in length ····· *O. hustachei*
− Head always black. Body smaller than 3.5 mm in length ····· 6
6. Elytra oblong-oval, 1.65–1.70 times as long as wide. Pronotum and elytra less convex, pronotum

with weak median sulcus. Frons between eyes slightly wider than scape. Pronotum, elytra, legs, and apical part of abdominal ventrites reddish; elytra with blackish patches in various shapes; pronotum often with broad black bands. Length: 3.0–3.5 mm ····· *O. mutabilis*

– Elytra oval, 1.4–1.6 times as long as wide, usually immaculate (rarely with asymmetrical, indistinct, black patches in some *O. horii*). Body less than 3.1 mm in length ····· 7

7. Body smaller, 2.2–2.6 mm in length. Elytra 1.42–1.47 times as long as wide, broadly rounded posteriorly, each interval with two rows of setae ····· *O. horii*

– Body 2.6–3.1 mm in length. Elytra 1.5–1.6 times as long as wide ····· 8

8. Elytra with two rows of setae on each interval, lustrous. Black, antennae and tarsi reddish-brown. Length: 3.0–3.1 mm ····· *O. harunire*

– Each interval with three rows of setae; pronotum, elytra, and legs often reddish ····· 9

9. Elytra broadly rounded posteriorly. Pronotum 1.40–1.48 times as wide as long. Black, prothorax and elytra rusty-red; pronotum often with broad blackish bands; elytra often infuscate except basal and apical margins. Length: 2.6–3.1 mm ····· *O. lateritius*

– Elytra narrowly rounded posteriorly. Pronotum 1.3–1.4 times as wide as long. Body color variable; pronotum and elytra immaculate. Length: 2.6–3.1 mm ····· *O. sanguinipes*

10. Body 3.2–4.3 mm in length ····· 11

– Body 2.1–2.9 mm in length ····· 13

11. Broadly oval, elytra less than 2 times as long as elytral width at shoulders; setose, linear comb along pronotal median furrow. Each elytron with large patch on base; common deep depression behind scutellum with white, decumbent setae; apical third of elytra with bunches of yellow setae. Length: 4.0–4.2 mm ····· *O. fasciculatus*

– Elongate, slender; elytra more than 2 times as long as elytral width at shoulders; Setose, tangled comb along pronotal median furrow ····· 12

12. Elytra with white postscutellar patch, 1.4 times as long as wide, alternate intervals with blackish small spots. Black, antennae and claws reddish-brown; apical three abdominal ventrites and legs often dark reddish to blackish-red. Length: 3.5–4.3 mm ····· *O. excellens*

– Elytra without postscutellar patch, densely covered with greyish-brown and greyish stout setae, the latter often forming vague bands at apical third; 1.65–1.70 times as long as wide, alternate intervals often with several bare patches. Legs and antennae rusty-red to brownish-red. Length: 3.8–4.8 mm ····· *O. japonicus*

13. Elytra with two greyish bands, bands often fragmentary. Elytra longer, 1.51–1.53 times as long as wide, each interval with two rows of minute setae. Length: 2.5–2.8 mm ····· *O. nomizo*

– Elytra with greyish bands along basal margin, often with scattered, greyish setae. Pronotum with a pair of greyish stripes, which are often obsolete ····· 14

14. Elytra more convex, with greyish bands along basal margin; postscutellar patch about 3 times as long as wide. Rostrum with median carina or ridges. Length: 2.2–2.7 mm ····· *O. amurensis*

– Elytra less convex, blackish with postscutellar white patch, twice as long as wide. Rostrum not carinate but flat dorsally. Length: 2.2 mm ····· *O. jota*

70. *Orchestes* (*Orchestes*) *amurensis* Faust, 1887 (Pls. 10-70, 26-70)

Bam-na-mu-byeo-ruk-ba-gu-mi (밤나무벼룩바구미)

Orchestes amurensis Faust, 1887: 172.

TL: Russia - Chabarofka (=Khabarovsk).

Orchestes Takabayashii Kôno, 1930: 25.

TL: Japan - Takao.

Frons between eyes linear. Rostrum 4.0 (male) or 4.7 (female) times as long as wide, with median carina. Antennae with scape shorter than first and second funicular articles combined, club almost as long as first funicular article; antennal insertion index 26.7 (male) or 23.5 (female). Pronotum 1.54–1.59 times as wide as long, widest at posterior fourth, disk reticulately punctate and coriaceous, with shallow or indistinct, median sulcus. Elytra 1.42–1.48 times as long as wide, intervals rugose, coriaceous, with three irregular rows of fine setae; striae narrower than intervals, each puncture bearing a fine seta. Fore coxal cavities contiguous, fore coxae narrowly distant. Fore and mid femora armed with a spine. Hind femora 2.24 times as long as wide, with four denticles, three long setae, two long spines, and ten short spines along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 2.3–2.5 mm.

COLOR: Black, antennae and tarsi reddish-brown. Derm covered with brownish-black, fine, whitish setae, the latter forming two longitudinal stripes on pronotum; transverse narrow band at base and postscutellar patch on elytra, stripes on pronotum often absent; usually with whitish setae scattered on elytra. Lateral surface with sparse, white setae, which are fairly denser along sides of head behind eyes and on mesepimera. Metasternum, except sides and venter, with sparse, fine, greyish setae.

BIOLOGICAL NOTES: Adults and larvae attack the leaves of *Quercus*, *Castanea* spp. in Japan (Morimoto, 1984) and *Corylus heterophylla* in the Far East of Russia (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Russia (Amur Prov., Khabarovsk and Primorskii Terr.).

KOREA: South (GB).

KOREAN RECORDS: Morimoto and Miyakawa, 1996: 85; Kojima and Morimoto, 1996b: 115; Hong et al., 2000: 55 (South).

SPECIMEN EXAMINED: GB 1 ex. (Palgongsan: 2.vii.1982); 1 ex. (Palgongsan: 28.v.1985).

71. *Orchestes* (*Orchestes*) *fasciculatus* Faust, 1882

Cham-na-mu-byeo-ruk-ba-gu-mi (참나무벼룩바구미)

Orchestes fasciculatus Faust, 1882: 281.

TL: Russia - Ussuri.

Body broadly oval, elytra less than 2 times as long as its common width at shoulders. Setose, linear comb along pronotal median furrow.

MEASUREMENTS: Body length (excluding rostrum). 2.0–2.5 mm.

COLOR: Each elytron with large patch at base, common, deep depression behind scutellum with white, decumbent setae, apical third of elytra with tufts of yellow setae.

BIOLOGICAL NOTES: This species is commonly found on the young leaves of *Quercus* spp. in mountainous areas of Korea (Morimoto and Lee, 1992).

DISTRIBUTION: Korea, Russia (Khabarovsk Terr., Amur Prov., Primorskii Terr., Sakhalin).
KOREA: Central, South and Jeju Island.
KOREAN RECORDS: Morimoto and Lee, 1992: 9 (JJ - Eorimok); ESK/KSAE, 1994: 210; Paik et al., 1995: 433 (JJ); Hong et al., 2000: 55 (Cental, South, JJ).
REMARKS: Most of the records in Korea are the mis-identification of *O. subbifasciatus*.

72. *Orchestes* (*Orchestes*) *harunire* (Morimoto, 1984) (Pls. 11-72, 26-72)

Ae-neu-reub-na-mu-byeo-ruk-ba-gu-mi (애느릅나무벼룩바구미)

Rhynchaenus harunire Morimoto, 1984: 53.
TL: Japan - Honshu, Kyushu.

Head rugulose, punctate, coriaceous, without median, bare line; frons between eyes as wide as apex of scape, slightly widening anteriorly, with two rows of setae at narrowest portion. Rostrum 2.8 (males) or 3.0 (females) times as long as wide, weakly curved, densely punctate, and coriaceous at base between scrobes; a lustrous, median keel, the latter widening and weakened anteriorly; a row of setose punctures along dorso-lateral margin and several punctures before antennal socket at each side; antennal scrobe and lateral margins at base coriaceous. Antennae with scape as long as first and second funicular articles combined; antennal insertion index 34.5 (male) or 40.0 (female). Pronotum 1.39−1.44 times as wide as long, widest at basal third, then weakly rounded to indistinct, subapical constriction; disk with dense punctures, surface coriaceous, side margins with three to six erect, brown setae. Scutellum oval, punctate, with fine setae. Elytra 1.54 times as long as wide, intervals rugulose at base, each with two rows of fine setae, striae each with a row of similar setae. Fore coxal cavities contiguous, fore coxae slightly separated. Venter punctate, metasternum transversely stridulate; lateral margins of thorax and venter, and posterior margins of third through fifth abdominal ventrites coriaceous. Fore and mid femora armed with a spine. Hind femora 2.1 times as long as wide, with seven denticles, four to five long setae, four to five long spines, and ten to fifteen short spines along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 2.6−3.0 mm.
COLOR: Black, antennae and tarsi reddish-brown, mandibles and bases of tibiae dark reddish-brown to reddish-brown; derm uniformly covered with concolorous, brownish-grey, fine setae.
BIOLOGICAL NOTES: Adults were collected from the leaves of *Ulmus davidiana* in Japan (Morimoto, 1984).
DISTRIBUTION: Korea, Japan (Honshu, Kyushu).
KOREA: Ulreung Is.
KOREAN RECORDS: Hong et al., 2000: 56 (Ulreung Is.).
SPECIMEN EXAMINED: GB 1 ex. (Ulreungdo: 26.v.1981); 1 ex. (Ulreungdo: 28.v.1981).

73. *Orchestes* (*Orchestes*) *horii* (Kôno, 1937) (Pls. 11-73, 26-73)

Paeng-na-mu-byeo-ruk-ba-gu-mi (팽나무벼룩바구미)

Rhynchaenus horii Kôno, 1937: 129.
TL: Japan - Is. Meshima.

Frons between eyes as wide as or slightly narrower than apex of scape. Rostrum 3.2 (male) or 3.7 (female) times as long as wide. Antennae with scape as long as club and slightly shorter than first and second funicular articles combined; antennal insertion index 41 (males) or 40 (females). Pronotum 2/3 times as long as wide, widest behind middle, strongly rounded at sides; subapical constriction very weak, disk densely punctate, coriaceous, side margin with two to five erect, yellowish-brown setae. Scutellum subtriangular, with a few fine setae. Elytra 1.42–1.47 times as long as wide, each interval with two irregular rows of setae; striae with a row of similar setae. Fore coxae contiguous. Fore and mid femora armed with a spine. Hind femora 2.0–2.1 times as long as wide, with six to seven denticles, five to six long setae, two long spines, and eight to nine short spines along ventral margin. Hind tibiae curved.

MEASUREMENTS: Body length (excluding rostrum). 2.3–2.5 mm.
COLOR: Derm uniformly covered with concolorous, brownish-grey, fine setae.
BIOLOGICAL NOTES: Larvae and adults attack *Celtis sinensis* and inflict serious damage to young leaves (Morimoto, 1984).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Tsushima).
KOREA: South, Ulreung Is. and Jeju Is.
KOREAN RECORDS: Hong et al., 2000: 56 (South, Ulreung Is., Jeju Is.).
SPECIMEN EXAMINED: JN 1 ex. (Bogildo: 7.viii.1996). GB 1 ex. (Ulreungdo: 26.v.1981).
REMARKS: Body color variable as Type I (black; apex of rostrum, antennae, and tarsi yellowish-brown), Type II (black; apex of rostrum, antennae, tarsi, and elytra yellowish-brown, elytra often with indistinct fuscous patches), Type III (black; apex of rostrum, antennae, legs, and elytra yellowish-brown, elytra often with indistinct fuscous patches), and Type IV (f. typical: apex of rostrum, antennae, legs, pronotum, elytra, and third to fifth ventrites yellowish-brown; head, rostrum (except apex), scutellum, venter of thorax, and basal ventrites black) (Morimoto, 1984).

74. *Orchestes* (*Orchestes*) *hustachei* (Klima, 1935) (Pls. 11-74, 27-74)

Bul-keun-byeo-ruk-ba-gu-mi (붉은벼룩바구미)

Orchestes puberulus Hustache, 1920, (net Boheman, l859): 633.
TL: Japan - Kioto, Mt. Takao.
Rhynchaenus Hustachei Klima, 1935: 15. (nom. nov. pro *O. puberulus* Hustache).
Rhynchaenus croceus Marshall, 1951: 87.
TL: Japan - Murozumi.

Frons between eyes slightly narrower than apex of scape. Rostrum 3.0 (males) or 3.4 (females) times as long as wide. Antennae with scape slightly longer than first and second funicular articles

combined; antennal insertion index 38.7 (males) or 37.5 (females). Pronotum 1.25−1.27 times as wide as long, rounded at sides, widest behind middle; disk densely punctate and coriaceous, with a flattened area in middle of basal half; four to seven erect, yellowish-brown setae at side. Scutellum subcordiform, punctate, and coriaceous. Elytra 1.47−1.54 times as long as wide, intervals flat, rugulose, each with three irregular rows of fine setae, striae narrow, each with a row of fine setae. Fore coxae contiguous or narrowly distant, fore coxal cavities contiguous. Fore and mid femora armed with a spine; hind femora 2.1 times as long as wide, with six to seven denticles and twelve short setae along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 3.0−3.6 mm.

COLOR: Rusty-red to rusty yellowish-red; meso- and metasternum, metepisterna, and basal two or three abdominal ventrites black; derm uniformly clothed with concolorous, greyish-brown, fine setae.

BIOLOGICAL NOTES: Larvae live in the galls made by aphids, on the leaves of *Alnus japonica*, but are not leaf-miners (Morimoto, 1984).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russia (Primorskii Terr.).

KOREA: Cental (GW).

KOREAN RECORDS: Hong et al., 2000: 56 (Central).

SPECIMEN EXAMINED: GW 1 ex. (Unduryeong: 27.v.1993); 1 ex. (No data).

75. *Orchestes* (*Orchestes*) *japonicus* Hustache, 1920 (Pls. 11-75, 27-75)

Tteok-gal-na-mu-byeo-ruk-ba-gu-mi (떡갈나무벼룩바구미)

Orchestes japonicus Hustache, 1920: 632.

TL: Japan - Nakano near Tokyo.

Frons between eyes slightly narrower than apex of scape. Rostrum 3.2 (males) or 4.2 (females) times as long as wide, punctate, with impunctate, weak, median carina. Antennae with scape longer than first and second funicular articles combined; antennal insertion index 36.7 (males) or 30.2 (females). Pronotum 1.35−1.38 times as long as wide, disk with small, dense punctures, coriaceous, flattened at middle of basal half, each side with five to eight erect, brownish-grey setae. Scutellum oval. Elytra oblong-oval, 1.65−1.7 times as long as wide, subapical calli absent, alternate intervals slightly convex. Fore coxal cavities contiguous, fore coxae narrowly distant. Fore and mid femora armed with a spine. Hind femora 1.86 times as long as wide, with nine to ten denticles, five long setae, two long spines, and about thirty short spines along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 3.7−4.1 mm.

COLOR: Black; apex of rostrum, antennae, and legs rusty-red to brownish-red; derm covered with dense, greyish-brown and greyish, stout setae; elytra often with vague, greyish bands at apical fourth and with several bare, small patches on alternate intervals; lateral surface of thorax as densely setose as elytra; ventral surface with sparse, fine, greyish setae, slightly longer and denser along fifth abdominal ventrite.

BIOLOGICAL NOTES: Adults and larvae attack the young leaves of *Quercus* spp. in Japan (Morimoto, 1984).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Kyushu).
KOREA: Central, South and Jeju Is.
KOREAN RECORDS: Kôno, 1930b: 23 (Keijo (=Seoul)); Klima, 1935: 13; Kôno and Kim, 1937: 25; Saito, 1941: 53 (Biology); Cho, 1955: 167; Cho, 1957: 280; ZSK, 1968: 131; Ko, 1969: 268, 269; KSPP, 1972: 200; Egorov, 1976: 839; Krivolutskaja, et al., 1978: 100; KSPP, 1986: 196; Kwon and Lee, 1986: 86, 87 (Central, South, Jejudo); Kim, 1993: 394 (JJ); Morimoto, 1994: 296; ESK / KSAE, 1994: 210; Paik et al., 1995: 433 (JJ); Kim, 1995: 143 (Byeonsanbando); Hong et al., 2000: 57 (Central, South, Jeju Is.).
SPECIMEN EXAMINED: GG 1 ex. (Suwon: 8.vi.1994); 1 ex. (Ganghwado: 28.v.1997). GW 1 ex. (Seolaksan Baekdamsa: 25.v.1993); 1 ex. (Hwacheon: 25.v.1993). CB 1 ex. (Okcheon: 22.v.1993); 1 ex. (Goesan: 26.vi.1996). CN 1 ex. (Geumsan Boseoksa: 22.v.1993). GB 1 ex. (Andong: 10.v.1997). GN 2 exs. (Geoje: 4.vi.1997). JJ 1 ex. (Mokseokwon: 29.v.1992); 8 exs. (???: 8.vi.1994); 2 exs. (Yeongsil: 30.iv.1994).

76. *Orchestes* (*Orchestes*) *jota* (Fabricius, 1787) (Pls. 11-76, 27-76)

Buk-jjok-byeo-ruk-ba-gu-mi (북쪽벼룩바구미)

Curculio jota Fabricius, 1787: 110.
TL: Europe.

Dorsal contour of rostrum and frons weakly depressed at junction in profile. Rostrum with short, median carina at base, flattened dorsally to apex, lustrous. Elytra less convex than in *O. amurensis* (Faust); blackish with postscutellar white patch, which is twice as long as wide.

MEASUREMENTS: Body length (excluding rostrum). 2.5–2.7 mm.
COLOR: Pronotum without setose stripes, elytra without basal band, vestiture of pronotum and elytra concolorous except for postscutellar spot.
BIOLOGICAL NOTES: Adults were collected from *Betula*, *Alnus*, and *Salix* (Egorov et al., 1996).
DISTRIBUTION: Korea, Japan (Honshu, Kyushu), Russia (Magadan and Amur Prov., Khabarovsk and Primorskii Terr., Transbaikalia, Irkutsk Prov., W. Siberia, European part), Europe.
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 58 (Central).
SPECIMEN EXAMINED: GW 1 ex. (Seolaksan: 9.viii.1976); 1 ex. (Odaesan: 27.v.1993); 1 ex. (Taebaek: 28.v.1993). CB 1 ex. (Okcheon: 22.v.1993).

77. *Orchestes* (*Orchestes*) *lateritius* (Morimoto, 1984) (Pl. 11-77)

Dal-meun-paeng-na-mu-byeo-ruk-ba-gu-mi (닮은팽나무벼룩바구미)

Rhynchaenus lateritius Morimoto, 1984: 50.
TL: Japan - Hokkaido.

Head punctate, coriaceous, without median carina; frons between eyes as wide as apex of scape. Rostrum 3.2 (males) or 3.9 (females) times as long as wide, with lustrous median carina at base,

punctate at sides, coriaceous behind antennal sockets. Antennae with scape as long as first and second funicular articles combined, antennal insertion index 40.7 (males) or 41.4 (females). Pronotum 1.40−1.48 times as wide as long, widest at basal third, disk with dense punctures; coriaceous, median area longitudinally flattened, each side with three to six erect setae. Scutellum oval, punctate, coriaceous, with fine setae. Elytra 1.50−1.53 times as long as wide; intervals flat, lustrous, each with three rows of recumbent setae; striae shallow, each puncture bearing a short, fine seta. Fore coxal cavities and coxae contiguous. Venter punctate, metasternum transversely stridulate, lateral margins of thorax and venter coriaceous. Fore and mid femora armed with a spine. Hind femora twice as long as wide, with six denticles, five long setae, two long spines, and about twelve short setae along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 2.5−3.0 mm.

COLOR: Head, rostrum, coxae, meso- and metathorax, abdomen, and scutellum black; antennae, legs, prothorax, and elytra rusty-red; pronotum often with broad, blackish bands; elytra often infuscate, except basal and apical margins; derm clothed with concolorous, greyish-brown, fine setae.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Hokkaido).

KOREA: Ulreung Is.

KOREAN RECORDS: Hong et al., 2000: 59 (Ulreung Is.).

SPECIMEN EXAMINED: GB 1 ex. (Ulreungdo: 26.v.1981).

78. *Orchestes* (*Orchestes*) *mutabilis* Boheman, 1843 (Pls. 12-78, 27-78)

Neu-reub-na-mu-byeo-ruk-ba-gu-mi (느릅나무벼룩바구미)

Orchestes mutabilis Boheman, 1843: 372.
TL: Dauria and Siberia orientalis.
Orchestes variegatus Roelofs, 1874: 166.
TL: Japan.
Orchestes spinosus Hustache, 1920: 634.
TL: Japan - Mt. Takao.

Frons between eyes slightly wider than apex of scape. Rostrum 3.7 (males) or 3.9 (females) times as long as wide. Antennae with scape as long as first and second funicular articles combined, antennal insertion index 38.5 (males) or 31.4 (females). Pronotum 1.4 times as wide as long, widest just behind middle, rounded at sides, subapical constriction weak at sides and obsolete on disk; disk transversely and weakly depressed at 1/4 from apex, longitudinally depressed in middle, depression weak and often indistinct, with four to seven erect, pale-brown setae at each side. Elytra 1.65−1.70 times as long as wide, weakly flattened behind base, intervals each with two irregular rows of greyish, fine setae. Fore coxal cavities and coxae contiguous. Fore and mid femora armed with a spine. Hind femora 2.1 times as long as wide, with seven denticles, four long setae, two long spines, and nine small setae along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 3.0−3.5 mm.

COLOR: Head, rostrum (except apex), prosternum, meso- and metathorax, first ventrite, second ventrite (except hind margin), and scutellum black, remaining parts reddish; elytra with a black patch behind shoulder in most reddish form, while in most dark form, pronotum with broad, transverse, black band; elytra almost black except first interval, lateral and basal margins, and reddish patch just behind base between first and sixth striae; latter patch continuous with suture and basal reddish area internally; third ventrite (except hind margin), fourth ventrite in middle, and fifth ventrite entirely black; in intermediate form, elytra with two or three pairs of black patches.

BIOLOGICAL NOTES: Adults and larvae attack the leaves of *Ulmus* spp., *Quercus glauca*, and *Castanopsis cuspidata* in Japan (Morimoto, 1984), and *Corylus heterophylla* and *Ulmus japonica* in the Far East of Russia (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), Russia (Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Transbaikalia).

KOREA: Central, South and Ulreung Is.

KOREAN RECORDS: Kwon and Lee, 1986: 87 (Central, South, Ulreungdo); Morimoto, 1994: 296; ESK / KSAE, 1994: 210; Hong et al., 2000: 59 (Central, South, Ulreung Is.).

SPECIMEN EXAMINED: JN 1 ex. (Yeocheon Geumodo: 4.viii.1993); 17 exs. (Yeosu Odongdo: 24.vi.1994). GB 2 exs. (Ulreungdo: 18.vi.1983).

79. *Orchestes* (*Orchestes*) *nitens* (Morimoto, 1984) (Pls. 12-79, 27-79)

Geom-byeo-ruk-ba-gu-mi (검벼룩바구미) (신칭)

Rhynchaenus (*Orchestes*) *nitens* Morimoto, 1984: 54.

TL: Japan.

Rostrum 3.1 (in males) or 5.3 (in females) times as long as wide; dorsal glabrous space lustrous and weakly carinate at base, dilated to antennal insertion, densely punctate and coriaceous between scrobe and carina, densely punctate along sides leaving a narrow, median, glabrous space before antennal sockets. Frons between eyes very narrow at posterior third, weakly widening anteriorly. Antennae with scape as long as club and as long as 1st and 2nd funicular articles combined, antennal insertion index 43.5 in males or 35.0 in females. Pronotum 1.3 times as wide as long, widest behind middle, scarcely narrowing posteriorly and weakly narrowing anteriorly, with moderate curve to obsolete subapical constriction; disk reticulately punctate, often weakly coriaceous, without erect setae along sides. Scutellum oval, coriaceous, with a sparse, black pubescence. Elytra 1.5 times as long as wide, widest at middle; intervals smooth, shiny, with 2 rows of sparse pubescence; striae much narrower than intervals, with distinct, round punctures bearing fine pubescence. Venter punctate, weakly coriaceous along sides and 5th ventrite. Fore coxal cavities and coxae contiguous. Fore and middle femora armed with a spine. Hind femora 2.2 times as long as wide, with 7 denticles, 6 long setae, and 2 long spines along hind margin.

MEASUREMENTS: Body length (excluding rostrum). 2.9−3.3 mm.

COLOR: Derm entirely black, shiny, with sparse, brownish-black pubescence on dorsal surface and sparse, greyish, fine setae on ventral surface.

BIOLOGICAL NOTES: Adults were collected from *Ulmus parvifolia*.

DISTRIBUTION: Korea, Japan (Honshu, Shikoku).

KOREA: Central and South.

SPECIMEN EXAMINED: CN 4 exs. (Yeomi-ri Unsan-myeon Seosan: 26.v.2006). JN 2 exs. (Yeosu: ??.vi. 2008). GN 62 exs. (Upo swamp Yueo-myeon Changryeong: 25.iv.2008); 1 ex. (Yeha-ri Jeom-myeon Jinju: 5.iv.1997).

REMARKS: This species is first recorded from Korea in this study.

80. *Orchestes* (*Orchestes*) *nomizo* Kôno, 1930 (Pls. 12-80, 27-80)

Ae-o-ri-na-mu-byeo-ruk-ba-gu-mi (애오리나무벼룩바구미)

Orchestes nomizo Kôno, 1930: 22, 26.

TL: Sakhalin; Japan - Hokkaido, Honshu.

Frons between eyes linear. Rostrum 3.6 (males) or 4.1 (females) times as long as wide, almost bare. Antennae with scape as long as first funicular article, antennal insertion index 22.2 (males) or 24.1 (females). Pronotum 1.5 times as wide as long, widest at basal third, disk with dense punctures, coriaceous; a shallow, median, longitudinal sulcus, with one or two erect, black spines near hind angle at side. Scutellum oval, punctate, coriaceous. Elytra 1.51−1.53 times as long as wide, lustrous, each interval with two rows of minute, black setae; striae as wide as intervals on basal half. Fore coxal cavities contiguous, fore coxae often narrowly separated. Fore and mid femora covered with setae. Hind femora 2.2 times as long as wide, with ten denticles, three to four long setae, two long spines, and sixteen to twenty short spines along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 2.5−2.8 mm.

COLOR: Black; antennae reddish; tarsi dark reddish-brown; derm mottled with blackish and greyish setae, the latter forming a distinct postscutellar patch and two bands on elytra, bands often indistinct; venter sparsely clothed with fine, dark brown setae, lateral surface of thorax with sparse, greyish setae.

BIOLOGICAL NOTES: Larvae and adults attack the young leaves of *Betula* sp., were reared from miners of *Corylus* sp. (Morimoto, 1984) in Japan, and collected on *Alnus* and *Betula* in the Far East of Russia (Korotyaev, 1991).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), China (Shawou, Kwangtseh), Russia (Sakhalin, Kuriles, Kamchatka).

KOREA: Central and South.

KOREAN RECORDS: Kwon and Lee, 1986: 87 (Central, South); ESK/KSAE, 1994: 210; Morimoto, 1994: 296; Hong et al., 2000: 60 (Central, South).

SPECIMEN EXAMINED: GG 1 ex. (Seoul Bulamdong: 25.v.1969); 1 ex. (Ganghwado: 10.v.1982); 1 ex. (Suwon: 9.v.1990); 1 ex. (Gwanggyosan: 24.vi.1992). GW 3 exs. (Hwacheon: 25.v.1993). JN 1 ex. (Wando: 21.vi.1983); 1 ex. (Baekunsan: 27.vi.1988). GB 1 ex. (Bonghwa: 28.v.1993). GN 1 ex. (Jinju: 19.vi.1993); 1 ex. (Jinju: 14.vii.1993); 1 ex. (Goseong: 27.viii.1993); 1 ex. (Sancheong Wangdeungjae: 17.v.2000).

81. *Orchestes* (*Orchestes*) *rusci* (Herbst, 1795) (Pls. 12-81, 28-81)

Ja-jak-na-mu-byeo-ruk-ba-gu-mi (자작나무벼룩바구미)

Curculio rusci Herbst, 1795: 424.
TL: Europe.

Frons between eyes narrow and dilated anteriorly. Rostrum 3.25 (males) or 3.62 (females) times as long as wide. Antennae with scape shorter than first and second funicular articles combined, club as long as first and second funicular articles combined. Pronotum and elytra without erect setae at sides. Anterior femora unarmed. Hind femora evenly swollen, posterior margin not angulate but evenly curved, 2.44 times as long as wide. Hind tibiae not curved.

MEASUREMENTS: Body length (excluding rostrum). 2.9 mm.
COLOR: Black; antennae and tarsi brownish; pronotum with white patch on each side, elytra with whitish postscutellar patch and two transverse bands; venter with greyish to white setae which are slightly denser on head around eyes, pro- and mesosternum, and lateral areas of meso- and metathorax.
BIOLOGICAL NOTES: Adults were collected from the leaves of *Betula* spp. in Japan and the Far East of Russia (Morimoto, 1984; Egorov et al., 1996).
DISTRIBUTION: Korea, Japan (Hokkaido), China (Kuatun), Russia (Magadan and Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Transbaikalia, Irkutsk Prov., W. Siberia, European part), Europe.
KOREA: South (GN).
KOREAN RECORDS: Hong et al., 2000: 60 (South).
SPECIMEN EXAMINED: GN 1 ex. (Jinju: 14.vii.1993).

82. *Orchestes* (*Orchestes*) *sanguinipes* Roelofs, 1874 (Pls. 12-82, 28-82)

Neu-ti-na-mu-byeo-ruk-ba-gu-mi (느티나무벼룩바구미)

Orchestes sanguinipes Roelofs, 1874: 165.
TL: Japan.
Orchestes sanguinipes var. *nigripes* Hustache, 1920: 635.
Orchestes sanguinipes var. *mixtus* Hustache, 1920: 635.

Frons between eyes slightly narrower than scape and weakly widening anteriorly. Rostrum 3.4 times as long as wide. Antennal insertion index 34.8 (males) or 33.3 (females). Pronotum 1.3–1.4 times as wide as long, with five to eight erect, brown setae at each side and six to eight pairs of suberect setae along anterior margin, densely punctate and coriaceous. Scutellum subtriangular. Elytra 1.5-l-6 times as long as wide, not coriaceous, each interval with three irregular rows of setae; striae with a row of setae. Fore and mid femora armed with a spine. Hind femora 2.0–2.1 times as long as wide, with seven denticles, four long setae, two long spines, and nine short spines along ventral margin.

MEASUREMENTS: Body length (excluding rostrum). 2.8–3.1 mm.
COLOR: Derm uniformly covered with concolorous, brownish-grey, fine setae.

BIOLOGICAL NOTES: This species is a serious pest to *Zelkova serrata*. They emerge in early spring and feed by eating circular holes in opening buds and new leaves. The eggs are laid in small pits on the midrib of the underside of leaves, and the larvae feed within the tissues of the leaves, forming large, blotchy mines in Korea (FRI, 1991) and Japan (Morimoto, 1984).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Tsushima).

KOREA: Central, South, Jeju Is. and Ulreung Is.

KOREAN RECORDS: Morimoto, 1984: 296; Kwon and Lee, 1986: 87 (Central, South, Jejudo, Ulreungdo); Yoon et al., 1990: 114 (Gayasan); FRI, 1991: 17 (biology); Kim, 1993: 394 (JJ); ESK/KSAE, 1994: 210; Paik et al., 1995: 433; Hong et al., 2000: 61 (Central, South, Ulreungdo).

SPECIMEN EXAMINED: GG 1 ex. (Gwangreung: 5.vi.1974); 1 ex. (Suwon: 24.v.1984); 12 exs. (Surisan: 22.iv.1989); 1 ex. (Suwon: 24.iv.1989); 1 ex. (Suwon: 16.iv.1991); 1 ex. (Suwon: 17.vi.1996); 1 ex. (Yeogisan: 2.iv.1997); 36 exs. (Surisan: 2.v.1997); 4 exs. (Yongin Waujeongsa: 24.v.1997). GW 18 exs. (Seolaksan: 17.x.1974); 1 ex. (Yanggu: 26.v.1993); 1 ex. (Goseong Geonbongsa: 26.v.1993); 1 ex. (Seolaksan Hangyeryeong: 27.v.1993); 1 ex. (Taebaek: 28.v.1993). CN 1 ex. (Gyeryongsan: 31.v.1975); 4 exs. (Daedunsan: 5.v.1991); 10 exs. (Geumsan Boseoksa: 22.v.1993); 2 exs. (Cheongyang Chilgabsan: 15.vi.1993). JB 1 ex. (Naejangsan: 10.vi.1975). GB 2 exs. (Yeongju: 20.vi.1997). GN 1 ex. (Haman Yeohangsan: 20.vi.1993); 1 ex. (Geoje: 4.vi.1997).

REMARKS: This species is considerably variable in body color as Type I (f. *nigripes*: body black; antennae and tarsi reddish-brown), Type II (f. typica: body black; antennae and legs reddish-brown), and Type III (f. *mixtus*): body black; antennae, legs, elytra, and apical two to four ventrites reddish-brown) (Morimoto, 1984).

83. *Orchestes* (*Orchestes*) *subbifasciatus* Faust, 1882 (Pls. 12-83, 28-83)

Al-rak-byeo-ruk-ba-gu-mi (알락벼룩바구미)

Orchestes subbifasciatus Faust, 1882: 280.

TL: Russia - Ussuri.

Elytral intervals densely and rugosely punctate. Hind tibiae simple, without flat surface along inner surface, without erect, long setae along inner margin.

MEASUREMENTS: Body length (excluding rostrum). 2.0−2.5 mm.

COLOR: Antennae reddish-brown. Body black, dorsum bare, slightly lustrous. Elytral stripes oblique and indistinct, disk scattered with white setae.

BIOLOGICAL NOTES: Adults were collected from *Salix* spp. in the Far East of Russia (Egorov et al., 1996).

DISTRIBUTION: Korea, China (Kuatun), Russia (Amur Prov., Primorskii Terr.).

KOREA: North, Central and South.

KOREAN RECORDS: Hong et al., 2000: 62 (Central, South); Hong and Korotyaev, 2002: 156 (North).

SPECIMEN EXAMINED: GG 15 exs. (Gwanggyosan: 25.iv.1997); 1 ex. (Chilbosan: 9.v.2000). GW 2 exs. (Hoengseong: 24.v.1993); 1 ex. (Goseong: 26.v.1993); 5 exs. (Yanggu: 26.v.1993); 2 exs. (Seolaksan Hangyeryeong: 27.v.1993); 1 ex. (Hongcheon Unduryeong: 11.vi.1997). CB 2 exs. (Goesan: 23.v.1993). GB 1 ex. (Sobaeksan Huibangsa: 10.v.1997). GN 5 exs. (Goseong Munsuam: 3.vi.1997).

Genus *Rhamphus* Clairville and Schellenberg, 1798: 12.

Ae-byeo-ruk-ba-gu-mi-sok (애벼룩바구미속)

Type species: *Rhamphus flavicornis* Clairville and Schellenberg, 1798=*Curculio pulicarius* Herbst, 1795.

Head strongly bent between eyes, forming flat surface to apex of rostrum. Eyes oblong-oval, approximately situated dorsally. Antennae distinctly inserted on frons, straight; funicle with 7 articles, first article large, first and second articles of club each fringed with a row of setae along anterior margin. Elytra rather flat, widest behind middle. Pygidium invisible. Prosternum between fore coxae flat, as wide as base of fore tibia. Mesosternal process and metasternum flat, the former about as wide as abdominal process between hind coxae. Venter flat, lustrous. Femora unarmed, hind femora swollen, with apodeme. Fore and mid tibiae each armed with a dorsal, hook-shaped uncus just behind apex. Hind tibiae simple, unarmed at apex.

Biology: Adults feed on leaves of a wide range of plant families. Larval hosts are recorded as *Crataegus, Pyrus, Malus, Prunus,* and other genera in Rosaceae, *Betula* (Betulaceae), *Salix* and *Populus* (Salicaceae), and *Acer* (Aceraceae).

Number of species: (17 species in Palearctic), (4 species in East Asia), (2 species in Korea and Japan).
Distribution: Palaearctic, Oriental, Afrotropical, and Australian Regions.
References: Morimoto (1984).

Key to the subgenera of the genus *Rhamphus*

1. Derm sparsely clothed with setae. Claws each with a broad, flat, basal process. Tergum with spiculate patches from 5th to 7th tergites. Spermatheca with gland located beyond middle of capsule ····· *Trichorhamphus*
− Derm bare. Claws each with basal tooth indefinite. Tergum with spiculate patches from 4th to 7th tergites. Spermatheca with gland located in middle of capsule ····· *Rhamphus*

Subgenus *Rhamphus* s. str.

84. *Rhamphus* (*Rhamphus*) *pulicarius* (Herbst, 1795) (Pls. 13-84, 28-84)

Neung-geum-ae-byeo-ruk-ba-gu-mi (능금애벼룩바구미)

Curculio pulicarius Herbst, 1795: 429.
TL: Europe.
Rhamphus flavicornis Clairville and Schellenberg, 1798: 104.
TL: Europe.
Rhamphus pullus Hustache, 1920.
TL: Chuzenji; Tokyo.

Head somewhat elongate, as long as wide, punctate. Rostrum as long as pronotum, slightly curved, punctate along basal margin, smooth, lustrous in middle. Eyes subcontiguous posteriorly, interval

extended anteriorly, punctate, anterior area on same level with base of rostrum. 1st article of antennal funicle oval, larger and longer than scape, club acuminate. Pronotum slightly wider than long, strongly narrowed and slightly constricted just behind apex, punctures round, fairly deep, loose, their intervals same length as width of punctures, with an impunctate, median line. Scutellum very small, punctate. Elytra oval, typically widened from shoulders to posterior third; striae with deep punctures, distinctly separated; intervals slightly wider than striae, slightly convex, nearly imperceptibly rough; suture slightly depressed anteriorly and slightly raised posteriorly. Femora unarmed; claws small, free, with indefinite tooth at base. Venter with scattered punctures in middle slightly denser along margins.

MEASUREMENTS: Body length (excluding rostrum). 1.6–1.8 mm.

COLOR: Derm black, not lustrous, bare, lacking setae; antennae testaceous except blackish club; tibiae and tarsi dark red, glabrous.

BIOLOGICAL NOTES: Adults feed on the leaves of *Malus*, *Prunus*, *Betula*, *Castanea*, and *Quercus* spp. The larvae have been collected from the leaves of *Malus*. Larval hibernation takes place in the leaves; they pupate in May, and new adults appear from May to June. The larvae make round, brown mines from July in Japan (Morimoto, 1984). Larvae mine the leaves of *Populus*, *Corylus*, *Betula*, and *Salix* in the Far East of Russia (Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), China (Shaowu, Kuatum), Taiwan, Russia (Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Yakutia, Transbaikalia, Irkutsk Prov., W. Siberia, European part), N. Kazakhstan, Algeria, Europe, N. Africa.

KOREA: North, Central, South and Jejudo.

KOREAN RECORDS: Morimoto, 1984: 20 (JJ: Halrasan); Morimoto, 1994: 296; Kwon and Lee, 1986: 86 (Central, South); ESK / KSAE, 1994: 210; Hong et al., 2000: 63 (Central, South, Jeju Is.); Hong and Korotyaev, 2002: 157 (North).

SPECIMEN EXAMINED: GW 1 ex. (Seolaksan: 27.vii.1982); 2 exs. (Yanggu: 26.v.1993). GB 1 ex. (Sobaeksan: 10.v.1985); 1 ex. (Bonghwa: 28.v.1993); 5 exs. (Gimcheon Chupungryeong: 2.vi.1997). 10 exs. (No data).

Subgenus *Trichorhamphus* Korotyaev, 1984: 351.

Type species: *Rhamphus hisamatsui* Chûjô and Morimoto, 1960.

85. *Rhamphus* (*Trichorhamphus*) *hisamatsui* Chûjô and Morimoto, 1960 (Pl. 13-85)

Go-chae-mok-ae-byeo-ruk-ba-gu-mi (고채목애벼룩바구미)

Rhamphus hisamatsui Chûjô and Morimoto, 1960: 4.

TL: Japan - Hachijo Is.

Head well-exposed, distinctly narrowed anteriorly, slightly constricted behind eyes, coarsely and

densely punctured. Eyes very large, contiguous for a short distance along postero-ventral ends. Frons triangular, somewhat convex on surface, impunctate and smooth at anterior area, coarsely and sparsely punctured posteriorly, emarginate along apical border. Rostrum oriented ventrally on head when in repose and extending slightly beyond basal border of prosternum in this case, slightly convex transversely, with very shallow, longitudinal sulcus along middle of base, nearly impunctate and smooth with a few obscure punctures at basal area, and a distinct punctured stria on each side. Pronotum more than twice as wide as long, narrower at apical extremity than at basal end, distinctly emarginate along anterior margin; dorsum gently convex transversely, coarsely and rather reticulately punctate, with a small, elongate, irregularly-shaped impunctate area just behind middle. Scutellum distinct, transverse, subquadrate, somewhat convex, and nearly impunctate on surface. Elytra elongate, slightly wider at humeral area than widest part of pronotum, strongly widened posteriorly; dorsum convex, with regularly punctate striae (each puncture bearing a fine pubescence); intervals slightly costate, roughly textured, with fine, pubescent punctures on each interval. Venter of thorax coarsely punctate, pubscent, postero-medial area of metasternum impunctate, finely and sparsely striate; abdomen with lateral and posterior margins of each ventrite coarsely punctate and pubescent, other areas impunctate and finely but not densely striate. Hind femora strongly thickened, with fine, sparse, transverse striae, finely and sparsely pubescent; tibiae slender at base, gradually thickening apically, somewhat emarginate dorsally along apical part, finely pubescent; tarsi robust, fore- and middle tarsi about as long as corresponding tibia, but hind tarsus distinctly shorter than hind tibia, 3rd tarsomere deeply bilobed; claws strongly appendiculate.

MEASUREMENTS: Body length (excluding rostrum). 1.5–1.7 mm (in Japan).

COLOR: Body oval, strongly narrowed anteriorly; rather closely clothed with pale yellowish-grey to greyish pubescence on dorsum, sparsely clothed with grey pubescence ventrally. General color black, somewhat lustrous; antennae yellowish; club piceous or black; hind femora black, fore- and middle femora and hind tibiae dark to rather lightly piceous, fore- and middle tibiae light to rather dark piceous, tarsi yellowish-brown.

BIOLOGICAL NOTES: Adults were collected from the leaves of *Alnus*, *Betula*, and *Acer* in Japan and the Far East of Russia (Morimoto, 1984; Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Taiwan, Russia (Khabarovsk and Primorskii Terr., Sakhalin, Kuriles).

KOREA: Central and South.

KOREAN RECORDS: Kim and Chang, 1987: 108 (Taebaeksan); ESK / KSAE, 1994: 210; Hong et al., 2000: 62 (Central, South).

REMARKS: Korean specimens of this species could not be found until now. The description is cited from Chûjô and Morimoto (1960), and the photo that is provided was taken of Russian specimens.

Genus *Rhynchaenus* Clairville and Schellenberg, 1798: 4.

Tae-pyeong-yang-byeo-ruk-ba-gu-mi-sok (태평양벼룩바구미속)

Type species: *Rhynchaenus xylostei* Clairville and Schellenberg, 1798=*Curculio lonicerae* Herbst, 1795.

Eyes approximate at base, gradually separating anteriorly, outlining triangular frons between them. Rostrum not received in ventral canal in repose. Femora without denticle or spine, and not

sulcate at inner surface for receiving tibiae; hind femora simple, 2.8 times as long as broad. Fore and middle tibiae mimutely uncinate at middle of apical margin. Tergum of abdomen with a pair of spiculate patches on fourth, fifth, and sixth tergites, seventh tergite with a pair of plectral rows, six plectral spines in each row; spermatheca with spermathecal gland distant from insertion of duct as in *Tachyerges*; General color yellowish-brown to reddish-brown, blackish ventral surface, and a dark fascia at middle of elytra.

BIOLOGY: Larva of *R. lonicerae* from Europe feed on the leaves of *Lonicera xylosteum* and of *R. pacificus* from eastern Asia, making galls on the leaves of *Weigela subsessilis* (Caprifoliaceae).

NUMBER OF SPECIES: (2 species are known from Europe and eastern Asia).
DISTRIBUTION: Korea, Japan, Europe, Sudan.
REFERENCES: Morimoto and Miyakawa (1996).

86. *Rhynchaenus pacificus* (Faust, 1887) (Pls. 13-86, 28-86)

Tae-pyeong-yang-byeo-ruk-ba-gu-mi (태평양벼룩바구미)

Orchestes pacificus Faust, 1887: 172.
TL: Vladivostock.
Rhynchaenus terminassianae Egorov, 1978: 606.
TL: Primorskii Terr.

Rostrum 1.17 times as long as pronotum, slightly curved, tapered to base and to apex, separated from frons with weak depression; punctures on rostrum deep at base, smaller along middle, weak at apical third; antennae inserted behind middle of rostrum, small, longitudinal wrinkles over insertion of antennae; scape reaching eye, thickening towards apex, slightly curved; 1st article of antennal funicle large, 2 times as long as wide, equal in length to 2nd and 3rd articles combined; 3rd article slightly shorter than 2nd, 4th−6th articles elongate-oval; club with 4 articles, large, equal in length to first 3 articles of funicle. Eyes large, convex, round, closely approximated dorsally. Vertex entirely covered with large, rough punctures. Pronotum transverse, conical, weakly convex along middle of sides, tapered to apex, covered with coarse, large, punctate sculpturing. Scutellum distinct, triangular, covered with white setae. Elytra 1.5 times as long as wide, expanded to middle then uniformly rounded to apex; 1.17 times as wide as pronotum at base, shoulders well-defined; disk slightly convex; suture and base of 3rd interval convex; apex of 8th interval depressed; striae with large, oblong punctures 2 times as narrow as flat intervals, covered with rough, rugosely punctate sculptures. Fore coxae approximate. Abdominal ventrites with large punctures, 5th ventrite arcuate, protruding from apical margin. Femora without tooth, hind femora moderately thickened; tibiae slightly shorter than femora; tarsi 2/3 times length of tibia, 1st tarsomere 1.5 times as long as 2nd; 3rd tarsomere 1.3 times as wide as 2nd; claws with a broad, flat tooth at base, widely separated. Aedeagus with rounded, broad apex, flattened dorso-ventrally, slightly curved.

Female: Longer than male, rostrum parallel-sided; pronotum with deeper apical constriction, more rounded laterally; apex of 5th ventrite and pygidium light brown.

MEASUREMENTS: Body length (excluding rostrum). 2.2−2.8 mm.

COLOR: Generally yellowish-brown; head, rostrum (except apex), meso- and metasterna, venter (except apical ventrite) black, femora with dark ring behind apex; pronotum (except margins) usually infuscate; elytra usually with a U-shaped, brownish to blackish patch in middle, extending to base along suture and lateral sides; third and fifth intervals infuscate at base, often with an infuscate band on declivity in darker individuals; evenly clothed with greyish, hairy scales except for dark area on elytra with brownish-black scales.

BIOLOGICAL NOTES: Larvae make galls on the leaves of *Weigela subsessilis* (Caprifoliaceae).

DISTRIBUTION: Korea, Japan (Honshu), Russia (Primorskii Terr.).

KOREA: Central and South.

KOREAN RECORDS: Morimoto and Miyakawa, 1996: 84 (JB, GN, GG, GW); Hong et al., 2000: 86 (Central, South).

SPECIMEN EXAMINED: GW 2 exs. (Chiaksan: 23.vi.1977); 1 ex. (Chiaksan: 24.vii.1997). 37 exs. (No data).

Genus *Tachyerges* Schoenherr, 1825: 584.

Beo-deul-byeo-ruk-ba-gu-mi-sok (버들벼룩바구미속)

Type species: *Curculio salicis* Linnaeus, 1758.

Derm black; scutellum white, densely covered with setae; elytra usually maculate. Antennal funicle with 7 articles. Tergum of abdomen with a pair of spiculate patches on fifth, sixth, and seventh tergites, those on seventh tergite smaller and lying on pale areas; tergites 1–5 and sometimes 6 separated medially; spermathecal gland inserted at about middle to basal third of spermatheca and widely distant from insertion of spermathecal duct.

NUMBER OF SPECIES: 9 species in Holarctic; 7 species in East Asia; 2 species in Korea.

DISTRIBUTION: Korea, Japan, China, Kuril Is., Siberia, Europe, Sri Lanka, Madagascar, USA, Canada, Alaska, Mexico (?).

REFERENCES: Morimoto and Miyakawa (1996).

Key to the species of the genus *Tachyerges*

1. Elytra entirely black with blackish pubescence. Scutellum densely covered with white scales. Antennae and legs blackish ····· *T. stigma*
– Elytra with two whitish, scaly bands; first interval between anterior band and scutellum covered with white scales ····· *T. salicis*

87. *Tachyerges salicis* (Linnaeus, 1758) (Pls. 13-87, 28-87)

Beo-deul-byeo-ruk-ba-gu-mi (버들벼룩바구미)

Curculio salicis Linnaeus, 1758: 381.

TL: Europe.

Frons between eyes linear. Rostrum about 2.7 times as long as wide in both sexes. Antennae inserted at (males) or just behind (females) middle of rostrum; scape as long as club and as long as three basal funicular articles combined. Pronotum and elytra without erect setae at sides. Fore coxal cavities contiguous. Femora as in *T. stigma*, hind femora 2.8 times as long as wide.

MEASUREMENTS: Body length (excluding rostrum). 2.5 mm.

COLOR: Body black; antennae (except club) and claws dark brown; anterior band on elytra often yellowish on first and second intervals, more or less produced posteriorly on second interval, posterior band concave; scaling on legs and venter as in *T. stigma*.

BIOLOGICAL NOTES: Adults were captured on *Salix* spp. and *Populus* spp. in Japan and the Far East of Russia (Morimoto, 1984; Egorov et al., 1996).

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), China, Russia (Magadan Prov., Kamchatka, Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Yakutia, Buryatia, Irkutsk Prov., W. Siberia, European part).

KOREA: South.

KOREAN RECORDS: Morimoto, 1984: 296; Kwon and Lee, 1986: 86 (South); ESK / KSAE, 1994: 210; Hong et al., 2000: 64 (South).

SPECIMEN EXAMINED: GB 1 ex. (Palgongsan: 21.iv.1982).

88. *Tachyerges stigma* (Germar, 1821) (Pls. 13-88, 29-88)

Geom-jeong-beo-deul-byeo-ruk-ba-gu-mi (검정버들벼룩바구미)

Salius stigma Germar, 1821: 334.

TL: Europe.

Frons between eyes linear. Rostrum long, 4.25 (males) or 4.50 (females) times as long as wide, slightly curved. Antennae inserted in middle (males) or behind middle (females) of rostrum, scape as long as club and as long as basal four funicular articles combined. Pronotum and elytra without erect setae at sides. Hind femora slightly thicker than fore and mid femora, 2.8 times as long as wide, simple. Fore and mid femora unarmed. Tibiae straight, simple.

MEASUREMENTS: Body length (excluding rostrum). 2.3–3.0 mm.

COLOR: Body black; tarsal claws brown; antennae often brownish-black; dorsum sparsely covered with blackish pubescence; legs and venter with sparse, fine, greyish setae, slightly denser on pro- and mesosterna and lateral parts of meso- and metathoraces; scutellum densely covered with white scales.

BIOLOGICAL NOTES: Adults were collected from *Salix* spp. in Japan and the Far East of Russia (Morimoto, 1984; Egorov et al., 1996) and also in Korea.

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), Russia (Primorskii Terr., Siberia, European part), Europe.

KOREA: North, Central and South.

KOREAN RECORDS: Morimoto, 1984: 296; Kwon and Lee, 1986: 86 (Central, South); ESK / KSAE, 1994: 210; Bae and Moon, 1993: 148 (GG); Hong et al., 2000: 65 (Central, South); Hong and Korotyaev, 2002:

157 (North).

Specimen examined: GG 1 ex. (Gwanggyosan: 10.v.1986); 1 ex. (Gwanggyosan: 26.v.1990); 2 exs. (Yongin: 24.v.1997). GW 1 ex. (Chiaksan: 21.v.1979); 1 ex. (Chuncheon: 25.vi.1983); 1 ex. (Hwacheon: 25.v.1993); 1 ex. (Seolaksan Baekdamsa: 25.v.1993); 1 ex. (Inje: 27.v.1993); 3 exs. (Pyeongchang Jinbu: 27.v.1993); 2 exs. (Gyeongpodae: 27.v.1993); 1 ex. (Myeongju: 1.vi.1993); 2 exs. (Hongcheon Unduryeong: 11.vi.1997); 1 ex. (Daegwanryeong: 11.vi.1997); 2 exs. (Daegwanryeong: 25.vii.1997). CB 1 ex. (Boeun: 23.v.1993). JN 1 ex. (Gurye Jirisan: 21.vii.1981); 1 ex. (Jirisan Simwon: 4.viii.1996). GB 1 ex. (Sobaeksan: 28.vii.1976); 4 exs. (Bonghwa: 28.v.1993); 1 ex. (Gimcheon Sudosan: 19.x.1995); 1 ex. (Gimcheon Chupungryeong: 2.vi.1997). GN 1 ex. (Jinju: 5.vi.1997).

Tribe Smicronychini Seidlitz, 1891

Genus *Smicronyx* Schoenherr, 1843: 313.

Chung-ryeong-ba-gu-mi-sok (충령바구미속)

Synonym: *Micronyx* Schoenherr, 1835: 423.
Type species: *Micronyx reichii* Gyllenhal, 1836.

Rostrum separated from frons by deep, transverse sulcus. Eyes meeting ventrally on head. Prosternum with deeply extending emargination and postocular lobes. Posterior margin of 2nd ventrite of abdomen flat and bisinuate. Tarsal claws connate.

Biology: Gall-makers on the stems and flowers of *Cuscuta* spp. (Morimoto and Kojima, 2009).

Number of species: (3 species in Korea), (5 specis in Japan).

Distribution: Holarctic, Yemen, Cameroon, Chad, Kenya, Mali, Sudan, Tanzania, Zaire, Cuba, Guatemala, Mexico, Nicaragua, Australia.

Key to the species of the genus *Smicronyx*

1. Body and legs entirely black, scaling predominantly whitish, ovate and dense on underside, concealing derm. Pronotum 1.5–1.8 times as wide as long, with a median, whitish, narrow, scaly stripe adjacent to broad, lateral stripes. Rostrum in males with a weak, median carina ····· *S. madaranus*
– Body and/or legs entirely or partly brownish to reddish-brown; scaling on venter more sparse, exposing derm between scales ····· 2
2. Entirely reddish or chestnut-brown. Rostrum with denticle at base of dorsal margin of antennal scrobe on each side. Pronotum 1.1–1.2 times as wide as long, rather stongly arcuate at sides, punctures confluent to form closely arranged and antero-laterally directing, curved rows from mid-line on entire surface ····· *S. dentirostris*
– Body black; reddish-brown to dark brownish legs and lateral parts of elytra. Rostrum not dentate near base. Pronotum 1.15–1.2 times as wid as long, evenly arcuate from hind angle to subapical constriction at sides; punctures simple at least on anterior half. Lateral parts of meso- and metathoraces with dense, whitish scales in fresh adults ····· *S. rubricatus* Kôno

89. *Smicronyx dentirostris* Morimoto and Lee, 1992 (Pl. 13-89)

Je-ju-chung-ryeong-ba-gu-mi (제주충령바구미)

Smicronyx dentirostris Morimoto and Lee, 1992: 8.
TL: Korea - JJ Oradong.

Rostrum smooth, without median carina, weakly curved; punctures dense at base, gradually more sparse towards middle, nearly impunctate at apex; a row of weak punctures along dorsal margin of scrobe, a denticle at base of dorsal margin of antennal scrobe appearing as prominence behind scape of antenna when resting; scales sparsely distributed at punctate base, suberect scales forming a pair of fascicles at base. Antennae inserted just before middle of rostrum, scape slender, almost equal in width to apical 1/3, then clavate; funicle with 7 articles, first article 2.5 times as long as broad and slightly longer than second and third articles combined; club oblong oval, sulci hardly visible. Pronotum 1.1−1.2 times as wide as long, rather strongly arcuate along sides, punctures confluent to form closely-arranged antero-laterally directed, curved rows from mid-line along entire surface. Scutellum small, oval, convex, lustrous. Elytra broadest at middle, almost parallel-sided or very slightly narrowed to shoulders; punctured striae narrow, intervals flat, finely and transversely rugose; scales arranged in poorly-defined, wavy, transverse fasciae, a short stripe at base of third interval. Venter of thorax and abdomen slightly darker; prosternum deeply emarginate; antecoxal depression punctate, scaled and alutaceous, each side obtusely ridged; mesosternal process weakly convex; metasternum equidistantly punctate and scaled; metepisternum with a row of weak punctures. Venter with basal two ventrites depressed at middle, as densely punctate and scaled as on metasternum, third and fourth ventrites each with two rows of scales, one in middle and the other along posterior margin; fifth ventrite truncate apically. Legs with femora clavate and unarmed; tibiae weakly expanded apically along both inner and outer margins; tarsi robust, claws connate until middle, then becoming nearly parallel. Aedeagus twice as long as wide, internal sac asperate, with sclerites at ostium.

Female: Rostrum slender, lustrous, almost smooth (except punctate at base); antennae inserted at middle of rostrum. Venter not depressed, flat in middle, with broadly rounded apex.

MEASUREMENTS: Body length (excluding rostrum). 2.4−2.6 mm.
COLOR: Body and legs entirely reddish or chestnut-brown; scaling brownish-grey, forming five indefinite stripes on pronotum, transverse bands on elytra, and definite basal patch on third interval; venter sparsely clothed with scales.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Kyushu, Tsushima).
KOREA: Jeju Island.
KOREAN RECORDS: Morimoto and Lee, 1992: 8 (JJ); ESK/KSAE, 1994: 210; Paik et al., 1995: 433 (JJ); Hong et al., 2000: 66 (JJ).
SPECIMEN EXAMINED: JJ 1 ex. (Oradong, 28.vii.1990 from Kyushu Univ. in Japan).

90. *Smicronyx madaranus* Kôno, 1930 (Pls. 14-90, 29-90)

Sae-sam-chung-ryeong-ba-gu-mi (새삼충령바구미)

Smicronyx madaranus Kôno, 1930: 161.
TL: Japan - Iwate.

Head almost smooth; frons between eyes with transverse furrow. Rostrum thick at base, gradually and weakly tapering apically in lateral aspect, with a weak, median carina on basal two-thirds in males, slightly longer than head and pronotum combined, parallel-sided, curved, strong, lustrous, finely and densely punctured at base. Antennae inserted at middle of rostrum. First article of antennal funicle almost two times as long as broad, remaining articles short. Pronotum transverse, 1.5−1.8 times as wide as long, more arcuate at sides, with median, whitish, narrow, scaly stripes adjacent to broad, lateral stripes. Elytra rounded, base much wider than pronotum; striae very narrow; intervals wide and flat, with a single row of punctures, clothed in grey, mottled, round scales. Venter densely covered with white scales. All femora strong, femoral teeth absent. Tibiae with inner surface sinuate. Aedeagus slender, 3.4 times as long as wide, weakly concave at apex.

MEASUREMENTS: Body length (excluding rostrum). 2.1−2.4 mm.
COLOR: Derm black, with dense, greyish scales. Sides of middle part of pronotum with irregular mottled pattern on elytra dark brown. Punctures on pronotum dense and shallow, dull, not lustrous.
BIOLOGICAL NOTES: Gall-makers on the stems and flowers of *Cuscuta* spp. (Morimoto and Kojima, 2009).
DISTRIBUTION: Korea, Japan (Honshu), Russia (Amur Prov., Primorskii Terr.).
KOREA: South (GN).
KOREAN RECORDS: Hong et al., 2000: 66 (South).
SPECIMEN EXAMINED: GN 1 ex. (Sancheong: 22.vii.1998); 1 ex. (Jinju: 26.vii.1995).

91. *Smicronyx rubricatus* Kôno, 1930 (Pls. 14-91, 29-91)

Chung-ryeong-ba-gu-mi (충령바구미)

Smicronyx rubricatus Kôno, 1930: 161.
TL: Japan − Kyushu.

Frons between eyes with a deep, transverse furrow. Rostrum carinate at least along basal half, slightly longer than head and pronotum combined, slightly curved, parallel-sided, without denticle at base, more sharply depressed dorsally at base, with two irregular rows of shallow punctures; interstices between them not carinate. Antennae inserted slightly before middle of rostrum. First article of antennal funicle almost 2 times as long as broad, 2nd article much longer than wide, remaining articles short. Pronotum 1.15−1.20 times as wide as long, evenly arcuate from hind angle to subapical constriction at sides; simply punctate at least on anterior half, reticulately punctate; pubescence grey and sparse. Elytra much wider than pronotum, ovate, widest at middle; striae with narrow furrow; intervals wide and flat, with single row of punctures; clothed with grey, sparse scales, dense scales laterally; thick, transverse band along middle and just posterior. Venter with wide scales; sides of meso- and metasterna with thicker scales. Femora strong; tibiae straight.

MEASUREMENTS: Body length (excluding rostrum). 2.0−2.4 mm.

COLOR: Body blackish, at least on metasternum and venter, with reddish-brown to dark brownish legs and lateral parts of elytra; lateral parts of meso- and metathoraces with denser whitish scales in fresh adults. Head scattered with very short scales.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Japan (Kyushu, Tsushima), China (Shaowu, Kwangtseh, Kuatun), Russia (Amur Prov., Primorskii Terr.).

KOREA: Central, South and Jeju Is.

KOREAN RECORDS: Morimoto and Lee, 1992: 8 (JJ); ESK/KSAE, 1994: 210; Hong et al., 2000: 66 (Central, South, Jeju Is.).

SPECIMEN EXAMINED: GG 1 ex. (Anyang: 21.vi.1991). GB 1 ex. (Palgongsan: 19.vi.1985).

Tribe Tychiini C. G. Thomson, 1859

Subtribe Tychiina C. G. Thomson, 1859

Key to the genera of the subtribe Tychiina

1. Apex of elytra commonly rounded. Pygidium in females concealed by elytra. Antennal funicle with 6 or 7 articles. Body ovate, more or less convex ····· *Tychius*
− Apices of elytra rounded. Pygidium in males and females visible laterally. Antennal funicle with 6 articles. Body widely ovate, usually somewhat flat ····· *Sibinia*

Genus *Sibinia* Germar, 1817: 340.

Gin-al-ba-gu-mi-sok (긴알바구미속)

Type species: *Curculio viscariae* Linnaeus, 1761.

Similar to *Tychis*, but distinguished by 6 articles of antennal funicle and widely-separate, rounded apex of elytra, and exposed apex of pygidium. Pubescence on apical part of mesepimera distinct from above between hind angles of pronotum and base of elytra. Rostrum long; antennae in females usually inserted near middle. Pronotum narrowing towards apex, sometimes straight from base, lateral sides at basal half slightly rounded. Femora without tooth; fore tibiae in males without sharp tooth at middle part of inner margin; tarsal claws with tooth or simple. Dorsum olive-green or grey, sometimes with brownish pattern; with same type of elongate scales, without stripes of wide, whitish scales on elytra.

BIOLOGY: Larvae develop within galls or fruits of Caryophyllaceae (subgenus *Sibinia*) or on Limoniaceae (subgenus *Dichotychius*).

NUMBER OF SPECIES: (4 species in Korea), (20 speices in Russia), (More than 50 species in Palaearctic).
DISTRIBUTION: Holarctic, Afrotropical, and Neotropical Regions.

Subgenus *Sibinia* s. str.

Tarsal claws with tooth. Length of body 1.6–3.5 mm. Dorsal pubescence fairly dense, scales not depressed along middle; elytra almost always more than 2 times to several times longer than wide; pygidium concealed entirely by elytra. Dorsum of tarsi with setiform scales and slightly long, erect, wider scales. Tarsi wide, 3rd tarsomere about two times as wide as 2nd. Dorsum usually olive-green or grey (sometimes with brownish pattern), or brown with whitish pattern.
BIOLOGY: Larvae develop within galls or fruits of Caryophyllaceae.

Key to the species of the genus *Sibinia*

1. Body elongate, pronotum 1.15–1.32 times as wide as long, elytra 1.18–1.36 times as long as wide. Rostrum slightly curved. Bristles at apical comb of middle and hind tibiae wide, knife-like, widely separated; apical comb of hind tibiae terminating on apical margin of tibial angle. Legs short, tibiae often blackish-brown or almost dark. Dorsum with unicolorous, greyish or olive-green, narrow scales ····· 2
– Body wide. Rostrum long, strongly curved. Bristles at apical comb of middle and hind tibiae thin and dense, apical comb of hind tibiae not forming angulate prominence on outer margin of tibiae. Tibiae usually bright ····· 3
2. Pronotum 1.10–1.21 times as wide as long; elytra 1.23–1.36 times as long as wide ····· ····· *S.* (*S.*) *subelliptica*
– Pronotum 1.22–1.32 times as wide as long; elytra 1.18–1.29 times as long as wide ···· *S.* (*S.*) *elliptica*
3. Pronotum with 3 whitish stripes on brownish background; elytra with brownish scales with whitish, reclinate spots at center of disk; lateral stripes from shoulders to apex. Rostrum in males and females strong, uniformly curved; rostrum with dense punctures nearly to apex in males; more slender, apical half lustrous in females, almost without punctures. Apex of femora usually reddish-brown ····· *S.* (*S.*) *annulifera*
– Dorsum unicolorous, olive or greyish scales. Rostrum slightly curved, its basal part matted, not sulcate or keeled; wide, lustrous apical part with sparse punctures; femora black ····· *S.* (*S.*) *ussurica*

92. *Sibinia* (*Sibinia*) *annulifera* Pic, 1902 (Pls. 14-92, 29-92)

Du-reub-gin-al-ba-gu-mi (두릅긴알바구미)

Sibinia annulifera Pic, 1902: 39.
TL: Mongolia.

Rostrum robust, long, strongly and uniformly curved; dense punctures almost extending to apex in males, more slender, apical half lustrous, almost impunctate in females. Frons slightly narrower

than base of rostrum. Eyes convex. 1st article of antennal funicle about 1.5 times as long as 2nd. Pronotum short, attenuated anteriorly, adorned with 3 white stripes: a median line and two small patches with lateral, whitish pubescence. Elytra much wider than pronotum, short, subarched laterally, rounded at apex; striae distinct, intervals wide; decorated with large, semicircular, whitish spots, situated at center of disk below scutellum and with distinct, whitish, lateral stripes from shoulders to apex. Venter of body covered with white scales. Legs strong; bristles along apical comb of middle and hind tibiae thin and dense, apical comb of hind tibiae not forming an angulate prominence on outer margin.

Female: Rostrum longer, nearly parallel-sided; smooth, and lustrous near antennal insertion. Femora black.

MEASUREMENTS: Body length (excluding rostrum). 2.7–3.1 mm.

COLOR: Body suboval, rather broad, somewhat depressed, black. Derm black; antennae, apex of rostrum, and tarsi brown. Dorsum densely covered with recumbent, rectangular, subelongate scales (5 to 7 times longer than wide) of three distinct colors (white, brown, and dark brown). Head, basal half of rostrum, femora, longitudinal median line on pronotum, U-band, shoulders, and apex of elytra covered with white scales; remainder of pronotum, around scutellum, posterior third of suture, and along elytral sides covered with dark brown scales; slightly darker on pronotum, remainder of elytra covered with brown scales. Venter densely covered with oval, white scales mixed with some brown scales.

BIOLOGICAL NOTES: Weevils were collected from *Silene repens* and *Lychnis sibirica* in Mongolia and Tuva (Egorov et al., 1996).

DISTRIBUTION: Korea, Mongolia, Russia (Primorskii Terr., Amur, Chita, Tyva).

KOREA: North (HN).

KOREAN RECORDS: Hong and Korotyaev, 2002: 157 (North).

SPECIMEN EXAMINED: HN 2♂♂, 1♀ (Hyeoisanjin: 15.viii.1950, ZIN).

93. *Sibinia* (*Sibinia*) *elliptica* Korotyaev and Egorov, 1996 (Pls. 14-93, 29-93)

Buk-bang-gin-al-ba-gu-mi (북방긴알바구미)

Sibinia (*Sibinia*) *elliptica* Korotyaev and Egorov, 1996, in Egorov et al., 1996: 489.

TL: Primorskii Terr.; N. Korea.

Rostrum slightly curved. Pronotum 1.22–1.32 times as wide as long. Elytra 1.18–1.29 times as long as wide. Legs short, bristles at apical comb of middle and hind tibiae wide, knife-like, widely separated; apical comb of hind tibiae terminating at apical margin of tibial angle.

MEASUREMENTS: Body length (excluding rostrum). 2.8 mm.

COLOR: Body elongate. Derm covered with yellowish scales, apex of scales pointed. Tibiae often blackish-brown or almost dark.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Russia (Primorskii Terr.).

KOREA: North and Central.

KOREAN RECORDS: Egorov et al., 1996: 489 (North); Hong et al., 2000: 67 (North, Central).
SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 24.v.1993).

94. *Sibinia* (*Sibinia*) *subelliptica* (Desbrochers, 1873) (Pls. 14-94, 29-94)

Gin-al-ba-gu-mi (긴알바구미)

Sibynes subelliptica Desbrochers, 1873: 124.
TL: Europe.
Sibinia schaumei Desbrochers, 1895.

Rostrum slightly curved, subparallel-sided to apex in males, slightly narrower from base to apex in females, irregularly sculptured to 2/3 length in males and 1/2 length in females, becoming smoother and more lustrous (especially in female). Eyes large and slightly convex. Antennae short, 1st article of antennal funicle about 2 times as long as 2nd. Pronotum 1.10−1.21 times as wide as long, subconical, slightly rounded laterally, with punctures of greatest width at base, gradually narrowing to near apical constriction, convex medially at apex. Elytra oblong, 1.23−1.36 times as long as wide, slightly convex on disc, distinct shoulders, slightly curved laterally from base. Legs short, bristles at apical comb of middle and hind tibiae wide, knife-like, widely separated; apical comb of hind tibiae terminating at apical margin of tibial angle.

MEASUREMENTS: Body length (excluding rostrum). 2.5−3.2 mm (in Russia).
COLOR: Derm black; antennae, apex of rostrum, and tarsi brown. Rostral apex covered with hazelnut, subpiliform, recumbent or slightly raised scales. Venter densely covered with white, broad, suboval or elliptical scales. Tibiae often blackish-brown or rather dark.
BIOLOGICAL NOTES: Weevils were collected from *Dianthus* in steppe habitat (Egorov et al., 1996).
DISTRIBUTION: Korea, Japan, N. China, Russia (Primorskii Terr., southern E. Siberia (Tuva), European part), Kazakhstan, Caucasus, Ukraine, Moldova, C. and S. Europe, Israel.
KOREA: North.
KOREAN RECORDS: Egorov et al., 1996: 489; Hong et al., 2000: 67.
REMARKS: Korean specimens of this species have not been found until now. The description is cited from (Egorov et al., 1996) and the photo provided here was taken of Russian specimens.

95. *Sibinia* (*Sibinia*) *ussurica* Korotyaev and Egorov, 1996 (Pl. 14-95)

U-su-ri-gin-al-ba-gu-mi (우수리긴알바구미)

Sibinia ussurica Korotyaev and Egorov, 1996, in Egorov et al., 1996: 490.
TL: Primorskii Terr.

Rostrum slightly curved, distinctly narrowing from eye towards part of antennal insertion. Pronotum strongly narrowing towards apex. Third tarsomere two times wider than 2nd. Tooth on tarsal claws large, distinctly reaching behind middle of claw.

MEASUREMENTS: Body length (excluding rostrum). 2.5 mm.

COLOR: Dorsum with unicolorous olive or greyish scales. Rostrum black, its basal part matted, not sulcate or keeled, apical part lustrous in males, with sparse punctures. Antennae (except club) and tibiae bright. Femora black.

BIOLOGICAL NOTES: Unknown.

DISTRIBUTION: Korea, Russia (Primorskii Terr.).

KOREA: North (HN).

KOREAN RECORDS: Hong and Korotyaev, 2002: 157 (North).

SPECIMEN EXAMINED: HN 1♀ (Bukcheong: 2.viii.1950, ZIN).

Genus *Tychius* Germar, 1817: 340.

Al-ba-gu-mi-sok (알바구미속)

SYNONYMS: *Miccotrogus* Schoenherr, 1825: 583; *Hypactus* Marseul, 1888: 433; *Henonia* Pic, 1897: 43; *Aoromius* Desbrochers, 1907: 111; *Paratychius* Casey, 1910: 135; *Lepidotychius* Penecke, 1922: 3; *Elleschidius* Penecke, 1938: 109; *Heliotychius* Franz, 1943: 78; *Neotychius* Hustache, 1945: 68; *Mongolotychius* Korotyaev, 1990: 233.

Type species: *Curculio quinguepunctatus* Linnaeus, 1758.

Body small (1.80–4.1 mm) and ovate. Dorsum convex, covered with narrow or widely-appressed scales, usually with whitish stripe on suture, similar stripes often along lateral sides of elytra. Rostrum strongly curved, often narrowing dorso-ventrally and widening towards apex. Antennal funicle with 6 or 7 articles. Eyes flat or slightly convex. Elytra rounded, tightly closing at apex, striae narrow. Prosternum before fore coxae flat, without depression or longitudinal keel. Pygidium not visible from above and concealed by elytra. Femora with small tooth or without tooth; tarsal claws with tooth.

BIOLOGY: Larvae develop in the fruit of leguminous plants and pupate in the ground. Sometimes serious damage is recorded on leguminous grains and foraging grasses.

NUMBER OF SPECIES: (More than 200 species), (More than 150 species in Palaearctic), (Possibly more than 7 species in the East Asia).

DISTRIBUTION: Holarctic and Afrotropical Regions, Yemen, Congo, New Zealand (introduced).

Key to the species of the genus *Tychius*

1. Hind femora with large, acute tooth, apex somewhat stretched. Elytra with wide, whitish stripe on suture ····· 2
– Hind femora without tooth or with small tooth. Elytra usually without clear longitudinal stripe ··· 3
2. Antennae, rostrum, and legs red. Derm with whitish scales, pronotum with 2 brown stripes, elytra on 2nd, 4th, and 8th intervals with brownish scales ····· *T. albolineatus*
– Apex of rostrum, antennae, tibiae, and tarsi red. Derm with brownish-grey scales, dorsum coppery-brown; median and lateral stripes of pronotum, as well as suture and shoulder stripes on elytra, with brownish-grey scales ····· *T. iwatensis*

3. Eyes flat. Elytra with homogeneous, elongate scales, 1st interval with large, whitish scales. Femora with distinct tooth ····· *T. breviusculus*
− Eyes small, strongly convex. Intervals of elytra with 2−3 rows of large, bright scales, often slightly depressed in middle and broadly rounded at apex, with 1 row of narrow scales. Femora without tooth ····· *T. ovalis*

96. *Tychius albolineatus* Motschulsky, 1859 (Pl. 15-96)

Huin-jul-al-ba-gu-mi (흰줄알바구미)

Tychius albolineatus Motschulsky, 1859: 497.
TL: Amur.
Aoromius irregularis Faust, 1890: 93.
TL: southern Russia.
Aoromius rusticus Faust, 1890: 93.
TL: Siberia.
Aoromius oberti Faust, 1890: 96.
TL: Dauria, Ussuri.
Aoromius ginsuji Kôno, 1930: 145.
TL: Japan; Berg Ibuki.

Frons between eyes as wide as base of rostrum. Eyes round. Rostrum in males almost as long as fore tibia, slightly curved, slightly longer in females, densely covered with setae to antennal insertion in both sexes, bare and smooth anterior to antennal insertion. First article of antennal funicle as long as articles 2−3 combined. Pronotum much wider than long, slightly arched, sides strongly rounded. Elytra ovate, intervals between striae flat; disk along suture strongly convex. Anal ventrite in males with small, elongate tubercles at apical half, sometimes concealed by scales. Femora strongly thickened; fore femora with an acute tooth in males, females lacking tooth; hind femora in both sexes with a sharp tooth; fore tibiae along basal third expanded along inner surface.

Measurements: Body length (excluding rostrum). 3.5 mm.

Color: Body oval. Derm black; rostrum, antennae, and legs red. Dorsum and venter clothed with very dense, white scales; 2 longitudinal stripes of pronotum and 2nd, 4th, and 8th elytral intervals with reddish-brown scales; remaining parts with yellowish-white scales.

Biological notes: Weevils were collected from vetch (*Vicia tenuifolia*) in Magadan Province (Russia) and France, and on *Trifolium lupinaster* in Tuva and Mongolia (Egorov et al., 1996).

Distribution: Korea, Japan, N. China, Mongolia, Russia (Magadan, Amur, Primorsky, S. Kuril, Yakutia, Chita, Buryatia, Irkutsk, Siberia, Altai, European part), Kazakhstan, Italy, France.

Korea: North and Central.

Korean records: Egorov et al., 1996: 486; Hong et al., 2000: 68 (Central); Hong and Korytyaev, 2002: 157 (North).

Specimen examined: GW 1 ex. (Seolaksan Baekdamsa: 26.v.1993).

97. *Tychius breviusculus* Desbrochers, 1873 (Pls. 15-97, 30-97)

Jom-al-ba-gu-mi (좀알바구미)

Tychius breviusculus Desbrochers, 1873: 106.
TL: Algeria.
Tychius humeralis Desbrochers, 1908.

Rostrum along basal half strongly thin and narrow. Eyes flat. Pronotum convex, transverse, with rounded lateral sides, usually slightly narrowing towards base. Femora strongly widened, clavate, with distinct tooth and without erect, whitish scales on venter.

MEASUREMENTS: Body length (excluding rostrum). 1.9–2.6 mm (in Russia).
COLOR: Derm densely and homogeneously covered with yellowish-brown, elongate scales. Rostrum and antennae lustrous. First interval of elytra with large, wide, whitish scales. Femora brown, distinctly darker than tibiae.
BIOLOGICAL NOTES: Weevils of this species have been collected from *Melilotus* (usually on *M. officinalis* and *M. albus*) in Tuva and from *M. dentatus* in Mongolia (Egorov et al., 1996).
DISTRIBUTION: Korea, NW China, Mongolia, Russia (Primorskii Terr., Yakutia, Transbaikalia, Irkutsk Prov., Tuva, Altai, W. Siberia, European part), Kazakhstan, C. Asia, Caucasus, Ukraine, Moldova, Afghanistan, Iran, Turkey, Europe, Morocco.
KOREA: North.
KOREAN RECORDS: Egorov et al., 1996: 487 (Korea); Hong et al., 2000: 69 (North).
REMARKS: Korean specimens of this species have not been collected until now. The description is cited in Egorov et al. (1996) and the photo provided here was taken of Russian specimens.

98. *Tychius iwatensis* (Kôno, 1930) (Pls. 15-98, 30-98)

Keun-al-ba-gu-mi (큰알바구미)

Aoromius iwatensis Kôno, 1930: 146.
TL: Japan - Iwate.

Similar morphological characters to *T. albolineatus* Motschulsky, but differs in the following features: body somewhat larger. Rostrum significantly longer than fore tibia, slightly curved. Fore and middle femora with blunt tooth, but hind femora with pointed one.

MEASUREMENTS: Body length (excluding rostrum). 3.5–4.0 mm.
COLOR: Derm with brownish scales, dorsum coppery-brown; median and lateral stripes of pronotum, as well as sutures and shoulder stripes of elytra, brownish-grey; 2nd to 4th intervals dark. Femora black.
BIOLOGICAL NOTES: Adults were collected from leguminosae pasture.
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu).
KOREA: Central and South.
KOREAN RECORDS: Morimoto, 1994: 299; Kwon and Lee, 1986: 80 (Central, South); ESK/KSAE,

1994: 206; Hong et al., 2000: 69 (Central, South).

SPECIMEN EXAMINED: GW 1 ex. (Seolaksan Baekdamsa: 26.v.1993); 1 ex. (Seolaksan Baekdamsa: 25.v.1993); 1 ex. (Goseong: 26.v.1993); 1 ex. (Inje: 27.v.1993).

99. *Tychius ovalis* Roelofs, 1874 (Pls. 15-99, 30-99)
Al-ba-gu-mi (알바구미)

Tychius ovalis Roelofs, 1874: 171.

TL: Japan.

Rostrum fairly short, moderately curved, strongly narrowing from eyes to antennal insertions, slightly narrowing and strongly thin towards apex. Eyes small, strongly convex. Lateral sides of pronotum with wide, bright stripes. Elytra behind shoulders slightly widening or parallel-sided, strongly narrowing towards apex; intervals of elytra with 2–3 rows of large, bright scales, often slightly depressed in middle and widely rounded at apex, with 1 row of narrow scales. Legs short; femora thick, without tooth, fore femora with fairly distinct granules in place of tooth.

MEASUREMENTS: Body length (excluding rostrum). 1.8–2.8 mm.

COLOR: Body short and wide, strongly convex. 1st interval and lateral margins of elytra white, remaining part dirty-grey.

BIOLOGICAL NOTES: This species has been from collected from *Lespedeza cuneata* (Morimoto and Lee, 1992).

DISTRIBUTION: Korea, Japan (Honshu, Kyushu, Ryukyu), China (Kwangtseh), E. Mongolia, Russia (Amur Prov.).

KOREA: North, Central, South and Jeju Isl.

KOREAN RECORDS: Morimoto, 1984: 299; Kwon and Lee, 1986: 80 (Central, South); Morimoto and Lee, 1992: 8 (JJ - Beobhodong); ESK / KSAE, 1994: 206; Paik et al., 1995: 434 (JJ); Egorov et al., 1996: 487 (North). Hong et al., 2000: 69 (North, Central, South, Jeju Is.); Hong and Korotyaev, 2002: 158 (North).

SPECIMEN EXAMINED: JB 1 ex. (Jeongeub: 9.ix.1999). JN 1 ex. (Wando: 30.viii.1985); 2 exs. (Yeongam: 1.ix.1995). GB 1 ex. (Andong Univ. Campus: 30.viii.1996).

Subtribe Demimaeina Voss, 1937

Genus *Demimaea* Pascoe, 1870: 440.
Mu-nui-al-ba-gu-mi-sok (무늬알바구미속)

Type species: *Demimaea luctuosa* Pascoe, 1870.

Rostrum robust. Eyes not prominent from outline of head. Pronotum strongly covex. Prosternum canaliculated before coxae. Postero-lateral angles of 2nd abdominal ventrite not extending to 4th ventrite.

NUMBER OF SPECIES: (2 species in Korea), (6 species in Japan).
DISTRIBUTION: Korea, Japan, China, Borneo, Burma, Sulawesi, Java, Malacca, Philippines, Sumatra, Moluccas, New Guinea, Zaire.
REFERENCES: Kôno (1939a).

Key to the species of the genus *Demimaea*

1. Elytra along basal third on 3rd and 5th intervals with small, black tufts of setae; middle of elytra along suture, just behind middle with a large, black tuft of setae. Pronotum moderately convex ··· ····· *D. fascicularis*
− Elytra without special black tuft of setae, with a large, black, median mark, surrounded by a narrow, white, scaly ring. Pronotum highly convex ····· *D. circula*

100. *Demimaea circula* (Roelofs, 1874) (Pls. 15-100, 30-100)

Won-hyeong-mu-nui-al-ba-gu-mi (원형무늬알바구미)

Lychnuchus circulus Roelofs, 1874: 170.
TL: Japan.

Rostrum lustrous, adorned with whitish setae similar to head, dense. Vertex with a line between eyes. Eyes large, close together. Prontum transverse, with slightly rounded sides, narrowing to apex; disc highly convex in middle and adorned with tuft of black setae at top of hump, the remainder punctate with recumbent, yellowish-white pubescence. Scutellum densely covered with similar pubescence as pronotum. Elytra much wider than pronotum at base, short, oval, almost straight at sides; shoulders square, rounded at apex; punctures on striae shallower towards apex; intervals wider than striae, apparently rough; disk with a large, almost circular matte, and velvety-black spot in middle of suture, surrounded by circle of white setae near scutellum, with a yellowish-white band extending to sides at basal third, following an elongate, black spot. Venter punctate, setose, setae condensed at sides; mesosternum and metasternum with a conspicuous spot. Legs with same vestiture as venter of body.

MEASUREMENTS: Body length (excluding rostrum). 2.7 mm.
COLOR: Pronotum and venter brownish-black; rostrum and head black, elytra blue-grey; antennae, legs, and tarsi reddish; regular pattern on elytra formed by whitish-yellow setae.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Tsushima, Ryukyu), China (Kuatun).
KOREA: Jeju Is.
KOREAN RECORDS: Hong et al., 2000: 70 (Jeju Is.).
SPECIMEN EXAMINED: JJ 1 ex. (Seogwipo Seopseom: 30.vii.1993).

101. *Demimaea fascicularis* (Roelofs, 1879) (Pls. 15-101, 30-101)

Eo-ri-al-ba-gu-mi (어리알바구미)

Lychnuchus fascicularis Roelofs, 1879: 54.
TL: Japan.

Pronotum moderately convex, humped.

MEASUREMENTS: Body length (excluding rostrum). 4.0 mm.
COLOR: Derm blackish. Elytra at basal third on 3rd and 5th intervals with small, black tuft of setae, middle of elytra along suture, just behind middle with a large, black tuft of setae.
BIOLOGICAL NOTES: Adults were collected from *Ficus erecta* in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Tsushima), China (Mainland, Kuatun), Taiwan.
KOREA: Jeju Is.
KOREAN RECORDS: Morimoto, 1984: 300 (JJ); Kwon and Lee, 1986: 80 (Jejudo); Kim, 1993: 393 (JJ); ESK / KSAE, 1994: 206; Paik et al., 1995: 430 (JJ); Hong et al., 2000: 70 (Jeju Is.).
SPECIMEN EXAMINED: JJ 1 ex. (Seogwipo: 21.vi.1976).

Subtribe Ochyromerina Voss, 1935

Key to the genera of the subribe Ochromerina

1. Antennal funicle with 6 articles. Fore femora not thicker than mid and hind femora, with a minute tooth ····· *Morimotozo*
− Antennal funicle with 7 articles. Fore femora thicker than mid and hind femora, with a large tooth ····· *Ochyromera*

Genus *Morimotozo* Alonso-Zarazaga and Lyal, 1999: 89.

Ga-juk-gin-al-ba-gu-mi-sok (가죽긴알바구미속)

SYNONYM: *Gryporrhynchus* Roelofs, 1875: 189.
Type species: *Gryporrhyhnchus obscurus* Roelofs, 1875.

Antennal funicle with 6 articles, robust, as long as scape; 2nd article less than half as long as 1st, 5th,and 6th, transverse. Fore femora not thicker than mid and hind femora, with a minute tooth. Fore and middle tibiae uncinate along outer angle; hind tibiae with minute uncus arising from inner angle. Pygidium exposed in both sexes.

NUMBER OF SPECIES: (1 sepecies in Korea), (11 species in Asia).
DISTRIBUTION: Korea, Japan, Taiwan, Bangladesh, Malaysia, Nepal, Tailand.

102. *Morimotozo obscurus* (Roelofs, 1875) (Pls. 16-102)

Ga-juk-gin-al-ba-gu-mi (가죽긴알바구미)

Gryporrhynchus obscurus Roelofs, 1875: 189.
TL: Japan.

Frons between eyes slightly narrower than base of rostrum, flat, with subrecumbent setae. Eyes suboval, moderately convex from temples. Rostrum stout, curved, slightly shorter than pronotum, confluently punctured along basal half, with a weak carina on each side behind middle; antennal scrobes extending obliquely towards lower part of eyes. Antennae inserted slightly (males) or just (females) before middle of rostrum; scape reaching but not touching eye; funicle with 1st article more than twice as long as 2nd, 2nd article slightly longer than 3rd; articles 3−6 subequal in length, 6th article about 1.5 times as broad as long; club broadly oval, 1.6−1.7 times as long as broad, as long as 2nd to 6th funicular articles combined. Pronotum 1.2−1.3 times as long as wide, widest at middle, subapical constriction weak, rounded laterally; dorsum coriaceous, clothed, with dark greyish, recumbent setae and sparsely blackish, erect setae. Scutellum tongue-shaped, slightly longer than wide, with whitish setae. Elytra 1.40−1.55 times as long as wide, widest at middle, without calli on declivity; each interval clothed with fine, recumbent setae and a medial row of dark, suberect setae. Prosternum with coxae located behind middle, distance between procoxae and submarginal sulcus slightly longer than distance between sulcus and anterior margin. Mesosternal process slightly less than half as wide as middle coxa. Venter clothed with dark, recumbent setae. Legs clothed with pale, recumbent setae; each femur with a minute tooth; fore tibiae curved near base, slightly widening distally from basal third.

MEASUREMENTS: Body length (excluding rostrum). 1.8−2.5 mm (in Japan).
COLOR: Derm blackish, often dark brown; antennal scapes brown; legs and elytra often dark brown to brown.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Ryukyu).
KOREA: Jeju Is.
KOREAN RECORDS: Morimoto and Lee, 1992: 8 (JJ - Yongsil); ESK/KSAE, 1994: 206; Kojima and Morimoto, 1995a: 120 (Jejudo); Kojima and Morimoto, 1995b: 570 (Jejudo); Paik et al., 1995: 430; Hong et al., 2000: 71 (Jeju Is.).
REMARKS: Korean specimens of this species were unable to be found until now. The description is cited from Kojima and Morimoto (1995b) and the photo provided here was taken of Japanese specimens.

Genus *Ochyromera* Pascoe, 1874: 31.

No-rang-ba-gu-mi-sok (노랑바구미속)

SYNONYM: *Exochyromera* Voss, 1937: 139.
Type species: *Ochyromera rufescens* Pascoe, 1874.

Oblong, yellowish-brown, with large, dark, longitudinal stripes on pronotum and elytral suture composed of dense, decumbent, yellowish setae. Pronotum slightly transverse, convex at middle of lateral sides, narrowing at anterior margin. Elytra wider than pronotum, with prominent shoulders, 2 times longer than width of shoulders, with large, preapical tubercles on merging 3rd–5th intervals. Fore coxae displaced posteriorly, contiguous. Fore femora larger than others, with large, triangular, simple tooth and tuft of setae between tooth and apex of femur; middle and hind femora with small tooth, lacking tuft of setae.

NUMBER OF SPECIES: (2 species in Korea), (11 species in Japan).
DISTRIBUTION: Korea, Japan, southern Russian Far East, Taiwan, Borneo, Malacca, USA (introduced).
REFERENCES: Kojima et al. (1998).

Key to the species of the genus *Ochyromera*

1. Antenna1 scape longer than total length of funicle; first funicular article longer than second. Integument yellowish-brown, with a dark, median stripe on pronotum and along elytral suture; three pairs of scaly patches on elytra; elytra oblong, 1.6–1.7 times as long as wide, subtruncate at apex ····· *O. suturalis*
– Antenna1 scape as long as or slightly shorter than total length of funicle; first funicular article as long as second. Integument yellowish-brown with maculations, elytra with a small, dark, median stripe along suture. Body ovate, elytra usually 1.5 times as long as wide ····· *O. horikawai*

103. *Ochyromera horikawai* Kojima and Morimoto, 1996 (Pls. 16-103, 30-103)

No-rang-ba-gu-mi (노랑바구미)

Ochyromera horikawai Kojima and Morimoto, 1996: 577.
TL: Japan - Honshu, Kyushu.

Frons between eyes almost half as wide as base of rostrum, with a faint, median fovea. Rostrum slightly shorter than pronotum, weakly curved, parallel-sided from base to antennal insertion, slightly widening towards apex. Antennae inserted at apical 1/3 of rostrum; scape reaching eye, as long as funicle; funicle with 1st article as long as 2nd; 3rd to 7th articles subequal in length, half as long as 2nd; 7th article slightly broader than long; club twice as long as broad, as long as basal 2 funicular articles combined. Pronotum 1.1–1.3 times as wide as long, widest at middle, weakly constricted near apex, weakly rounded laterally, clothed with pale, recumbent, fine setae. Scutellum slightly longer than wide, with pale, recumbent setae. Elytra 1.5–1.6 times as long as wide, widest at middle, with weak, subapical calli; each interval clothed with fine, recumbent and a medial

row of slightly longer, subrecumbent, pale setae. Prosternum with procoxae located just behind middle, confluently punctured along submargin before coxae and forming faint sulcus; distance between procoxae and submarginal sulcus approximately equal to distance between sulcus and anterior margin. Legs clothed with pale, recumbent setae; tooth of fore femora about half as wide as widest point of femur; fore tibiae curved, dilated near apex.

MEASUREMENTS: Body length (excluding rostrum). 3.0 mm.
COLOR: Derm yellowish-brown, with longitudinal brown stripe along suture from scutellum.
BIOLOGICAL NOTES: Adults are attracted to light traps.
DISTRIBUTION: Korea, Japan (Honshu, Kyushu).
KOREA: South (GN).
KOREAN RECORDS: Hong et al., 2000: 72 (South).
SPECIMEN EXAMINED: GN 1 ex. (Jirisan: 5.vi.1997).

104. *Ochyromera suturalis* Kojima and Morimoto, 1996 (Pl. 16-104)

Keun-no-rang-ba-gu-mi (큰노랑바구미)

Ochyromera suturalis Kojima and Morimoto, 1996: 578.
TL: Japan - Esashi City.

Frons between eyes slightly more than half the width of base of rostrum, with a weak, median fovea. Rostrum curved, as long as head and pronotum combined (females), with confluent punctures and 2 carinae on each side; antennal scrobe extended to near apex. Antennae inserted just before middle of rostrum; scape longer than funicle, reaching eye; funicle with 1st article longer than 2nd; 3rd to 7th articles subequal in length, slightly shorter than 2nd; 7th article twice as broad as long; club twice as long as broad, almost as long as basal 3 funicular articles combined. Pronotum 1.10−1.25 times as wide as long, widest just before middle, weakly constricted near apex, slightly rounded laterally, clothed with pale, recumbent, thin setae; dense, pale, longer setae along median, bare, striped area, often with black setae. Elytra oblong-ovate, 1.6−1.7 times as long as wide, slightly widest just behind middle, with weak, subapical calli and tubercles at apex of 3rd interval, clothed with dense, pale setae, except along nearly bare markings; striae indistinct; intervals with a row of long, subrecumbent, pale setae, often with sparse, black setae. Legs clothed with pale, recumbent setae; fore femora weakly constricted near base, with triangular tooth 2/3 times as long as width of femur at widest point; fore tibiae curved at basal half, weakly dilated near apex. Prosternum with procoxae located just behind middle, with indistinct, submarginal sulcus before coxae; distance between procoxae and submarginal sulcus approximately subequal to distance between sulcus and anterior margin.

MEASUREMENTS: Body length (excluding rostrum). 5.0 mm.
COLOR: Derm yellowish-brown; brownish patches with the following characteristics: median stripe along entire length and a pair of indefinite patches just behind middle on pronotum and scutellum; elytra with sutural stripe along entire length and 3 pairs of patches, a small patch near base of 5th interval, an oblique band from apical 1/3 of 3rd interval to slightly before middle of 5th

interval, and another oblique band from subapical callus to just behind middle of side margin.

BIOLOGICAL NOTES: Adults are attracted to light traps. This species diapauses as a larva in the seeds of *Fraxinus lanuginosa*. During the summer in Japan (Kojima and Morimoto, 1996) and Primorskii, Russia (Egorov et al., 1996), adults and larvae develop on *Fraxinus mandshurica*.

DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Kyushu, Tsushima), Taiwan, Far East of Russia.

KOREA: South (GB).

KOREAN RECORDS: Hong et al., 2000: 72 (South).

SPECIMEN EXAMINED: GB 1 ex. (Palgongsan: 27.vii.1998).

Subfamily Cossoninae Schoenherr, 1825

Mak-dae-ba-gu-mi-a-gwa (막대바구미아과)

Cossonine weevils are easily recognized by the large, hook-like tooth at the apex of the hind tibiae and the lack of an apical comb of setae. They are usually black or brown, lack scales, but have appressed or erect setae, and are generally long, slender, and dorso-ventrally compressed.

Most species are associated with dead plant material of some sort, usually of woody angiosperms, where they live under bark. A number of taxa are found on sandy beaches in association with driftwood.

Key to the genera of the subfamily Cossoninae

1. Mesosternum depressed and at a lower level than metaternum; mesosternal process slightly inclined; prosternal process narrow. Elytra with 6th stria reaching base. Head without constriction behind eyes. Scutellum at same level as elytra. Rostrum longer than wide. Antennal funicle with 6 articles ····· *Hexarthrum*
− Mesosternum at same level as metaternum; mesosternal process wider than prosternal process and as wide as or wider than tibia. Elytra with 6th stria usually not reaching base. Head sometimes with constriction behind eyes ····· 2
2. Antennal funicle with 6 articles. Scutellum absent. Head with strong constriction behind eyes. Apex of antennal scape exceeding posterior margin of eye ····· *Dryotribus*
− Antennal funicle with 6 or 7 articles ····· 3
3. Fifth tarsomere widest at base, tapering towards apex. Interval beween eyes slightly narrower than width at base of rostrum. Fore tibia slightly bisinuate ····· *Kojimazo* (♂)
− Fifth tarsomere clubbed and widening from base to apex ····· 4
4. Apex of antennal scape not exceeding middle part of eye. Rostrum short and transverse. Apex of elytra with wide, lobed divergence, protruding behind apex of abdomen ····· *Xenomimetes*
− Apex of antennal scape exceeding or reaching posterior margin of eye ····· 5
5. Rostrum slender and elongate, much longer than head. Antennae inserted laterally at middle or slightly ventrally on rostrum; antennal scrobes invisible from above. Interval between eyes slightly narrower than width at base of rostrum. Third tarsomere of hind tarsi wider than 2nd, their apices simple ····· *Phloeophagosoma*
− Antennae attached slightly dorsally on rostrum, antennal scrobes sometimes widening towards apex. Rostum shorter or slightly longer than head ····· 6

6. Interval between eyes slightly narrower than width at base of rostrum. Rostrum as long as or longer than head. Elytra emarginate at base ····· *Kojimazo* (♀)
– Interval between eyes as wide as base of rostrum. 3rd tarsomere slightly truncated. Antennal scape shorter than funicle. Fore coxae slightly separated ····· *Rhyncolus*

Tribe Cossonini Schoenherr, 1825

막대바구미족

Genus *Kojimazo* Alonso-Zarazaga and Lyal, 1999: 86.

Deung-na-mu-mak-dae-ba-gu-mi-sok (등나무막대바구미속)

SYNONYMS: *Heterarthrus Wollaston*, 1873: 29 (non Stephens, 1835)
Type species: *Heterarthrus lewisii* Wollaston, 1873.

Body more or less cylindrical, fusiform, lustrous, and glabrous. Rostrum somewhat short, stout, truncated at apex. Antennae slender, with 7 funicular articles, abruptly clubbed. Legs considerably long, 3rd tarsomere bilobed.

NUMBER OF SPECIES: (1 species in Korea), (2 species in Japan).
DISTRIBUTION: Korea, Japan.

105. *Kojimazo lewisii* (Wollaston, 1873) (Pls. 16-105, 31-105)

Deung-na-mu-mak-dae-ba-gu-mi (등나무막대바구미)

Heterarthrus lewisii Wollaston, 1873: 31.
TL: Japan - Nagasaki.
Heterarthrus pallidipennis Wollaston, 1873.
TL: Japan - Nagasaki.

Rostrum longer than head, interval between eyes slightly shoter than base of rostrum. Pronotum with dense, acute, elongate-oval punctures, scarcely narrower than elytra. Elytra fusiform-cylindrical, emarginated at base; striae deepening towards suture; intervals slightly punctate towards apex. Venter slightly punctate, abdomen nearly lacking punctures. Tarsomere 5 in males narrowing towards apex, in females widening towards apex.

MEASUREMENTS: Body length. 5.0 mm.
COLOR: Body cylindrical, slightly convex. Pronotum black or brownish-black; elytra reddish-ferruginous.
BIOLOGICAL NOTES: This species was collected on dead branches of *Wisteria floribunda* and *Pueraria*

thunbergii in Japan (Morimoto, 1994).

DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu, Tsushima).

KOREA: South and Jeju Is.

KOREAN RECORDS: Kwon and Lee, 1986: 88 (South); Morimoto and Lee, 1992: 16 (JJ - Gujwa, Oradong); ESK / KSAE, 1994: 210; Morimoto, 1994: 342; Paik et al., 1995: 431 (JJ); Hong et al., 2000: 130 (South, Jeju Is.).

SPECIMEN EXAMINED: GN 1 ex. (Jirisan: 25.vi.1982).

Genus *Phloeophagosoma* Wollaston, 1873: 23.

Go-mok-mak-dae-ba-gu-mi-sok (고목막대바구미속)

Type species: *Phloeophagosoma minutum* Wollaston, 1873.

Body more or less cylindrical-fusiform, lustrous, and glabrous. Rostrum long and slender. Antennae more or less slender, with 7 funicular articles, abruptly clubbed. Legs typical, 3rd tarsomere simple.

NUMBER OF SPECIES: (1 species in Korea), (5 species in Japan).

DISTRIBUTION: Korea, Japan, Kuril Is., E. Siberia, Borneo, India, Java, Malacca, Sri Lanka, Sumatra, Madagascar, Seychelles, Australia, Hawaii (introduced), Marianas, Moluccas, New Guinea, New Zealand, Samoa, Tahiti.

Subgenus *Amorphorhynchus* Wollaston, 1873: 464.

Type species: *Phloeophagosoma rotundicolle* Wollaston, 1873.

106. *Phloeophagosoma* (*Amorphorhynchus*) *curvirostre* Wollaston, 1873 (Pls. 16-106, 31-106)

Go-mok-mak-dae-ba-gu-mi (고목막대바구미)

Phloeophagosoma (*Amorphorhynchus*) *curvirostre* Wollaston, 1873: 26.

TL: Japan - Hiogo.

Rostrum slender and elongated, uniformely curved, narrowing towards apex, slightly longer than head. Antennal scrobes invisible in dorsal view. Eyes hardly prominent, interval between eyes just shorter than base of rostrum. Antennae inserted at medio-lateral part of rostrum. Pronotum elongate-oval, truncate at anterior margin, coarsely and deeply punctate. Elytra subparallel, attenuated towards apex; striae deep and coarse, intervals costate. Hind tarsi with 3rd tarsomere wider than

2nd, simple at their apices.

MEASUREMENTS: Body length. 2.8−3.7 mm.
COLOR: Body elongate, parallel to fusiform, lustrous, and black.
BIOLOGICAL NOTES: This species was collected on dead branches of *Alnus* spp. in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu).
KOREA: Central and South.
KOREAN RECORDS: Kwon and Lee, 1986: 87 (South); Morimoto, 1994: 345; ESK / KSAE, 1994: 210; Hong et al., 2000: 131 (Central, South).
SPECIMEN EXAMINED: GG 5 exs. (Gwangreung: 13.ii.1980).

Tribe Dryotribini LeConte, 1876

Genus *Dryotribus* Horn, 1873: 432.

Sol-mak-dae-ba-gu-mi-sok (솔막대바구미속)

SYNONYMS: *Thalattodora Perkins*, 1900: 146; *Pentacotaster* Chûjô and Voss, 1960: 15.
Type species: *Dryotribus mimeticus* Horn, 1873.

Head about as long as broad, with a distinct postocular constriction distant from eyes. Antennal scape exceeding hind margin of eye.

NUMBER OF SPECIES: (1 species in Korea and Japan).
DISTRIBUTION: Korea, Japan, Ryukyu, China, Sunda Is., Wake Is., Hawaii, USA, Mexico, Tortugas, Puerto Rico, Mustique, Grenadines, Dominica R., Galapagos Is., Australia.

107. *Dryotribus mimeticus* Horn, 1873 (Pl. 16-107)

Sol-mak-dae-ba-gu-mi (솔막대바구미)

Dryotribus mimeticus Horn, 1873: 433.
TL: Florida.
Thalattodora insignis Perkins, 1900: 146.
TL: Hawaii.
Pentacotaster nagayamai Chûjô and Voss, 1960: 15.
TL: Japan - Is. Ishigaki, Is. N. Borodino.

Head about as long as broad, with distinct postocular constriction distant from eyes. Antennal scape exceeding hind margin of eye, funicle with 5 articles. Eyes distinctly located on base of rostrum, coarsely faceted or granulate. Pronotum arcuate along lateral margins. Prosternal process less

than 1/2 as broad as fore coxa.

MEASUREMENTS: Body length. 3.0−4.0 mm.
COLOR: Body not lustrous, dull.
BIOLOGICAL NOTES: This species was collected on dead branches of *Pinus* spp. and has extended its distribution in Japan by ocean current (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), USA (Florida, Hawaii), Australia, Galapagos Is., West Indies, Pan-tropical regions.
KOREA: Central, South and Ulreung Is.
KOREAN RECORDS: Kwon and Lee, 1986: 87 (Central); ESK/KSAE, 1994: 210; Morimoto, 1994: 342; Hong et al., 2000: 131 (Central, South, Ulreung Is.).
SPECIMEN EXAMINED: GB 1 ex. (Ulreungdo: 25.v.1995). GN 1 ex. (Masan: 19.v.1990); 23 exs. (Geojedo Gujora: 5.vi.1997).

Tribe Onycholipini Wollaston, 1873

SYNONYMS: Stereocorynini Voss, 1955

Genus *Hexarthrum* Wollaston, 1860: 448.

Ja-jak-na-mu-mak-dae-ba-gu-mi-sok (자작나무막대바구미속)

Type species: *Hexarthrum compressum* Wollaston, 1860=*Rhyncholus capitulum* Wollaston, 1858.

Rostrum longer than wide, conically narrowing towards apex. Antennal funicle with 6 articles. Scutellum situated at same level with sutural intervals. Elytra lacking erect setae; 2nd stria extending to base of elytra, closed with 1st stria; base of sutural intervals not deepened, 2nd and 3rd intervals not protruding. Femora wide and flat.
BIOLOGY: Food sources of these weevils include dried wood and crops, such as rice, corn, wheat, and various beans (Zhang and Osella, 1995).

NUMBER OF SPECIES: (9 species in Palaearctic), (1 species in Korea and Japan), (4 species in China).
DISTRIBUTION: Korea, Japan, China, E. Siberia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Europe, Madeira, Tanzania, Canada, USA, Chile (introduced).

108. *Hexarthrum brevicorne* Wollaston, 1873 (Pls. 17-108, 31-108)

Ja-jak-na-mu-mak-dae-ba-gu-mi (자작나무막대바구미)

Hexarthrum brevicorne Wollaston, 1873: 38.
TL: Japan - Hiogo.

Head with dense punctures between vertex and frons, interval between punctures less than diameter of puncture. Rostrum short and thick, cylindrical. Frons about twice as broad as diameter of eye. Antennal funicle with 6 articles, abbreviated; 1st article longer than broad. Scutellum not positioned below level of sutural intervals. Elytra with striae fairly deep, punctures somewhat larger; 2nd interval with rows of fine punctures; intervals on declivity with small tubercles. Procoxae contiguous; 1st and 2nd abdominal ventrites distinctly separated by sutural line. Aedeagus at apex pointed medially.

MEASUREMENTS: Body length 2.4−2.7 mm.
COLOR: Body lustrous and black.
BIOLOGICAL NOTES: Adults bore into various woody materials, such as the following: the wood plates for printing preserved in the Museum at Jeonbuk National University (JB; 2004) and in the temple at Suncheon (JN; 2007), and the wood cabinets in the Museum at Milyang (GN; 2008).
DISTRIBUTION: Korea, Japan (Honshu, Kyushu).
KOREA: South.
KOREAN RECORDS: Hong, 2008: 198 (South).
SPECIMEN EXAMINED: JB 5 exs. (Woodblock preserved in Jeonju hyanggyo: x.2004).

Tribe Rhyncolini Gistel, 1856

Subtribe Rhyncolina Gistel, 1856

Genus *Rhyncolus* Germar, 1817: 340.

Bun-bi-na-mu-mak-dae-ba-gu-mi-sok (분비나무막대바구미속)

SYNONYM: *Eremotes* Wollaston, 1861: 364.
Type species: *Curculio ater* Linnaeus, 1758.

Rostrum not shorter or slightly shorter than its width. Antennal scrobe less sloped, directed under eyes. Antennal club small, clearly widely separated from funicle. Prosternum before coxae not depressed. First abdominal ventrite in males slightly depressed in middle, densely covered with erect setae.
BIOLOGY: Weevils develop in timber of conifers and deciduous species, preferring old and damaged timber. Sometimes injurious to moist industrial timber and buildings (Zherikhin, 1996).

NUMBER OF SPECIES: (1 species in Korea), (1 species in Japan), (More than 10 species in Russia, 3 species in the Far East).
DISTRIBUTION: Palaearctic, India, Cameroon, Congo, Madagascar, S. Africa, Tanzania, Togo, Zaire, Canada, Alaska, USA, Mexico, Guadeloupe, Martinique, New Guinea, Australia.

Subgenus *Rhyncolus* s. str.

109. *Rhyncolus* (*Rhyncolus*) *sculpturatus* (Waltl, 1839) (Pl. 17-109)

Bun-bi-na-mu-mak-dae-ba-gu-mi (분비나무막대바구미)

Eremotes sculpturatus Waltl, 1839: 223.
TL: Japan.

Rostrum hardly shorter than its width, as long as interval between eyes. Antennal funicle with 7 articles, longer than scape. Eyes moderately prominent behind contour of head. Pronotum with dense, large punctures, narrowing anteriorly, preapical construction on dorsal side not distinct. Elytra with intervals raised, narrowly costate along inner margin; 7th and 9th intervals united before apex, raised, thin, and costate, reaching 2nd interval.

Measurements: Body length 4.0−4.2 mm.
Color: Body dull, almost matte, reddish-brown.
Biological notes: Adults bore into woody materials preserved in museums.
Distribution: Korea, Russia (Siberia, Kuril Is.), Europe.
Korea: Central.
Korean records: Hong, 2008: 200 (Seoul).
Specimen examined: GG 2 exs. (woody materials preserved in museum in Seoul: 2008).

Genus *Xenomimetes* Wollaston, 1873

San-mak-dae-ba-gu-mi-sok (산막대바구미속)

Type species: *Xenomimetes desrtuctor* Wollaston, 1873.

Body narrow, cylindrical, not flattened. Rostrum not longer or slightly longer than its width. Base of sutural intervals of elytra slightly deepened; 2nd and 3rd intervals of elytra protruding, with rough, granular sculpturing. Apex of elytra with wide, lobed divergence, protruding behind apex of abdomen. First and 2nd abdominal ventrites strongly convex, more or less concealed by lateral margins of elytra. Posterior margins of mesepimera longer than dorsal margins. Fore coxae widely separated.
Biology: Develop in wood of conifer and broad-leaf species; injurious to woody materials of buildings and stored timber.

Number of species: (1 species in Korea), (4 species in Japan), (4 species in Far Eastern Russia).
Distribution: Korea, Japan to India, China, South of the Russian Far East.

110. *Xenomimetes destructor* Wollaston, 1873 (Pls. 17-110, 31-110)

San-mak-dae-ba-gu-mi (산막대바구미)

Xenomimetes destructor Wollaston, 1873: 36
TL: Japan - Nagasaki.
Xenomimetes todomatsuanus Kôno, 1935: 55.
TL: Japan - Hokkaido.

Rostrum as long as its width. Pronotum distinctly narrowing anteriorly, with anterior constriction along lateral sides and dorsum. Elytra with 1st to 3rd intervals flattened throughout; 2nd interval not narrowing on declivity; 9th interval before apex with irregular, angled tubercles on lateral sides; apices acute, triangular.

MEASUREMENTS: Body length. 3.9 mm.
COLOR: Body black.
BIOLOGICAL NOTES: This species was collected from *Abies sachalinensis* in Japan (Kôno, 1938) and *Abies* spp., *Taxus* spp., and *Pinus* spp. in the Far East of Russia (Zherikhin, 1996).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), China (Kuatun), Russia (Primorskii Terr., Sakhalin, Kuriles).
KOREA: Central, Ulreung Is.
KOREAN RECORDS: Kwon and Lee, 1986: 88 (Ulreungdo); ESK/KSAE, 1994: 210; Morimoto, 1994: 345; Hong et al., 2000: 132 (Ulreung Is.).
SPECIMEN EXAMINED: GW 4 ex. (Odaesan: 18.vi.2010). GB 1 ex. (Ulreungdo: 18.vi.1983).

Subfamily Mesoptiliinae Lacordaire, 1863

Tong-ba-gu-mi-a-gwa (통바구미아과)

This is a very small subfamily of only three genera in East Asia. They are recognized by the presence of a large, hook-like, apical tooth on the hind tibia, the pronotum only slightly narrower than the base of the elytra, and the elytra having their basal margin from intervals 2–4 extended anteriorly and overlapping the base of the pronotum.

Larvae of all species mine wood (both hardwoods and conifers) or the stems of herbaceous plants.

Key to the tribes of the subfamily Mesoptiliinae

1. Rostrum quite thick, not longer than head. Tibiae wide, flat, and short. Fore coxae separated ··· ····· Tribe Carciliini [*Carcilia*]
− Rostrum thin, longer than head, occasionally short. Tibiae not flattened and narrowed. Fore coxae contiguous ····· Tribe Magdalini [*Magdalis*]

Tribe Carciliini Pierce, 1916

Genus *Carcilia* Roelofs, 1874: 152.

Min-ga-seum-ba-gu-mi-sok (민가슴바구미속)

SYNONYMS: *Paramagdalis* Ter-Minassian, 1956: 394.
Type species: *Carcilia strigicollis* Roelofs, 1874.

Middle-sized (5.5−13.0 mm), brown or jet-black to black, oblong. Rostrum quite thick, not longer than head. Postmentum stem-like, distinctly widening towards apex, lacking bristles. Prementum with bristles along lateral sides and disk. Eyes large, strongly transverse. Temples shorter than eye. Prosternum with canal for positioning rostrum before coxae, enclosed by lateral keels, with distinctly extended emargination and more or less long cilia along anterior margin. Tenth interval and 9th stria of elytra at same level of metasternum, with fairly distinct depression. Base of elytra flat, truncated anteriorly and lobe-shaped. Mesepimera arranged nearly at same level with mesepisterna; metepimera concealed under elytra, with smooth sculpturing, glabrous. Tibiae wide, flat, and short.

NUMBER OF SPECIES: (3 species in Korea), (2 species in Japan), (2 species in the Far East of Russia).
DISTRIBUTION: Korea, Japan, China, South of the Russian Far East, Taiwan, Burma, Vietnam.
REFERENCES: Morimoto (1982).

Key to the species of the genus *Carcilia*

1. Hind tibiae with outer setose fringe of tarsal groove almost straight, oblique; antennae with 1st funicular article about 1.5 times as long as 2nd; mesosternal process convex in middle ····· ····· *C. tenuistriata*
− Hind tibiae with outer setose fringe of tarsal groove strongly sinuate; rostrum almost straight 2
2. Rostrum slender, much longer than head; mesosternal process convex in middle; antennae with 1st funicular article slightly longer than 2nd ····· *C. mesosternalis*
− Rostrum shorter than head; mesosternal process oblique, flat; antennae with 1st funicular article 0.9−1.1 times as long as 2nd ····· *C. strigicollis*

111. *Carcilia mesosternalis* Heller, 1931

Yet-min-ga-seum-ba-gu-mi (옛민가슴바구미)

Carcilia mesosternalis Heller, 1931: 99.
TL: Taiwan.
Laemosaccodes similaris Voss, 1953: 71.
TL: China - Fukien.

Rostrum slender, much longer than head. Antennae with first funicular article slightly longer than second. Elytra uniformly and sparsely pubescent. Mesosternal process convex in middle.

MEASUREMENTS: Body length (excluding rostrum). 10.8 mm.
COLOR: Derm black.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, China (Fukien), Taiwan.
KOREA: North (HN).
KOREAN RECORDS: Hong et al., 2000: 218 (North).
SPECIMEN EXAMINED: HN 1 ex. (Shakuoji (=Anbyeon, Seokwangsa): 22.vi.1922).

112. *Carcilia strigicollis* Roelofs, 1874 (Pls. 17-112, 31-112)

Min-ga-seum-ba-gu-mi (민가슴바구미)

Carcilia strigicollis Roelofs, 1874: 152.
TL: Japan.
Tenguzo freyi Zumpt, 1937: 126.
TL: Japan - Sado Is.
Laemosaccodes similaris Voss, 1953: 72.
TL: China - Fukien.

Rostrum straight, shorter than head. Antennae with first funicular article 0.9−1.1 times as long as second. Elytra variegated with indistinct setose patches, patches often densely covered with a rusty powder in fresh specimens. Mesosternal process oblique, flat. Fore tibiae with acute apical projection on exterior angle before uncus; inner side of tibiae lacking keel.

MEASUREMENTS: Body length (excluding rostrum). 8.0−11.0 mm.
COLOR: Derm brown or black.
BIOLOGICAL NOTES: Adults were collected from *Castanopsis cuspidara* and *Quercus acuta* in Japan (Morimoto, 1982).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), NE China (Fukien, Kuatun), Russia (Amur Prov., Khabarovsk and Primorskii Terr.).
KOREA: Central, South and Jeju Is.
KOREAN RECORDS: Iga, 1955: 219; Morimoto, 1982: 161 (?Korea); Kwon and Lee, 1986: 80 (Central, South); Park et al., 1993: 184 (Jirisan); ESK/KSAE, 1994: 207; Morimoto, 1994: 322; Zherikhin and Egorov, 1996: 440; Hong et al., 2000: 218 (Central, South, Jeju Is.).
SPECIMEN EXAMINED: GG 1 ex. (Cheonggyesan: 19.viii.1976). CN 1 ex. (Gyeryongsan Donghaksa: 27.ix.1991). JN 1 ex. (Gwangyang: 20.viii.1992). JJ 1 ex. (Gwaneumsa: 9.viii.1996).

113. *Carcilia tenuistriata* Heller, 1941 (Pls. 17-113, 31-113)

Bol-rok-min-ga-seum-ba-gu-mi (볼록민가슴바구미)

Carcilia tenuistriata Heller, 1941: 82.
TL: Siberia and Amur river.

Paramagdalis fortipes Ter-Minassian, 1956: 394.
TL: Russia - Primorskii Terr.
Laemosaccodes similaris (nec Voss, 1953): Voss, 1956: 14.

Rostrum curved, as long as head. Antennae with first funicular article about 1.5 times as long as second. Mesosternal process convex in middle. Fore tibiae without apical projection on exterior angle before uncus; inner side of tibiae with distinct keel. Hind tibiae with outer setose fringe of tarsal groove almost straight, oblique.

MEASUREMENTS: Body length (excluding rostrum). 9.0–11.0 mm.
COLOR: Derm blackish-brown to brownish-black; legs often dark reddish-brown; antennae reddish-brown.
BIOLOGICAL NOTES: Adults were collected from *Quercus acutissima* and *Acer mono* in Japan (Morimoto, 1982).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russia(Amur Prov., Khabarovsk and Primorskii Terr.).
KOREA: Central, South and Jeju Is.
KOREAN RECORDS: Morimoto and Lee, 1992: 13 (JJ - Yeongsil); ESK / KSAE, 1994: 207; Morimoto, 1994: 322; Paik et al., 1995: 429; Hong et al., 2000: 219 (Central, South, Jeju Is.).
SPECIMEN EXAMINED: GW 1 ex. (Onseiri (=Geumgangsan Onjeongri): 25.vii.1924). GN 1 ex. (Haeinsa: 3.viii.1982). JJ 1 ex. (Seongpanak: 7.viii.1996).

Tribe Magdalidini Pascoe, 1870

Genus *Magdalis* Germar, 1817: 340.

Ppul-ba-gu-mi-sok (뿔바구미속)

Type species: *Curculio violaceus* Linnaeus, 1758.

Derm lustrous, intermixed with black, blue, green, or violet. Rostrum narrow, longer than head, occasionally short. Postmentum narrow, almost parallel-sided, with 2 basal, short, erect bristles. Prementum with lateral bristles. Eyes small and round. Temples not shorter than eye, usually much longer than it. Prosternum lacking sulcus, keel, and extended emargination, with short, inconspicuous cilia on anterior margin. Tenth interval and 9th stria of elytron without depression; base of elytra more or less protruding anteriorly, lobed. Mesepisterna connected to mesepimera by obtuse angle. Metepimera with developed, dense sculpturing along lateral sides, usually with almost bushy pubescence. Tibiae not flattened and narrow.

BIOLOGY: Larvae develop in thin twigs of trees and bushes of conifers and broad-leaf species. Many species damage young fruit and forest trees (Zherikhin and Egorov, 1996).

NUMBER OF SPECIES: (More than 100 species, mainly in Palaearctic), (6 species in Korea), (10

species in Japan), (16 species in the Far East of Russia).

DISTRIBUTION: Holarctic.

REFERENCES: Lu et al. (2005).

Key to the subgenera of the genus *Magdalis* (modified from Lu et al., 2005)

1. Fore coxae separated ····· *Laemosaccidius*
− Fore coxae contiguous ····· 2
2. Tarsi with single falciform claw ····· *Dagmalis*
− Tarsi with two normal claws ····· 3
3. Rostrum short and straight, in males not longer than head ····· 4
− Rostrum long, in males longer than head ····· 5
4. Femora and claws without tooth. Eyes of males distinctly protruding ····· *Edo*
− Femora and claws with teeth. Eyes of males weakly protruding ····· *Aika*
5. Scutellum at same level as elytra, almost completely filling space between elytra and base of pronotum. Elytral intervals covered with deep, coarse wrinkles, impunctate. Femora with or without small teeth ····· *Panopsis*
− Scutellum strongly depressed or moderately declining anteriorly, not filling space between elytra and base of pronotum. Elytral intervals punctured. Femora with large teeth. If elytra covered with coarse, transverse wrinkles or femoral tooth small, then antennal club as long as funicle ····· 6
6. Lateral margin of pronotum with carina, spine, or projection ····· 7
− Lateral margin of pronotum lacking carina, spine, or projection ····· 8
7. Lateral margin of pronotum in apical part with carina, spine, or projection. Femora and claws with teeth ····· *Odontomagdalis*
− Lateral margin of pronotum near middle with carina, spine, or projection. Femora with teeth; claws without teeth ····· *Amblyodontomagdalis*
8. All femora with teeth, those of fore femora large and pointed; if teeth relatively small, then color brownish-red. Claws simple. Antennal club in both sexes shorter than funicle. Rostrum longer than head. Body bare dorsally. Elytra not completely covering pygidium; intervals in most species very finely rugose, distinctly punctured, often with metallic or greenish-blue luster, rarely brownish-red ····· *Magdalis*
− Femora with or without inconspicuous teeth; claws usually each with a basal tooth. Antennal club in male as long as funicle. Rostrum in male nearly as long as head. Elytra completely covering pygidium; intervals densely, coarsely, and transversely rugose, or with very fine, dull granulation, indistinctly punctate ····· *Porrothus*

Subgenus *Magdalis* s. str.

SYNONYMS: *Thamnophilus* Schoenherr, 1823: 1136 (non Vieillot, 1816); *Magdalinus* Germar, 1843: 135; *Scardamyctes* Gistel, 1848: 11.

Dorsum bare, often with metallic or greenish-blue luster, rarely brownish-red. Rostrum longer than head capsule, curved. Antennae in both sexes inserted at middle of rostrum; if in males inserted more distally of middle, then base of elytra straight. Antennal club in both sexes distinctly shorter

than funicle. Scutellum inclined anteriorly and not reaching bases of elytra. Elytra not completely covering pygidium, intervals in most species very finely rugose, distinctly punctured. All femora with teeth, those of front femora large and pointed; if teeth relatively small, then color brownish-red. Claws simple.

114. *Magdalis* (*Magdalis*) *phlegmatica* (Herbst, 1797) (Pl. 17-114)

Cheong-bit-ppul-ba-gu-mi (청빛뿔바구미)

Curculio phlegmatica Herbst, 1797: 567.
TL: Europe.
Magdalis Takizawai Kôno, 1930: 8.
TL: Japan - Nagano.

Eye strongly convex, distinctly protruding behind contour of head. Vertex densely punctate. Elytra strongly convex; intervals flat, three times as wide as striae, arranged with 2−3 irregular rows of deep, dense punctures. Fore femora with constriction at base.

MEASUREMENTS: Body length (excluding rostrum). 4.5−6.0 mm.
COLOR: Derm greenish-blue, pronotum bluish, elytra steel-blue to greenish-blue.
BIOLOGICAL NOTES: Adults were collected from the twigs of *Pinus densiflora*, *P. thunbergii*, and *P. taeda* in Japan (Morimoto, 1982). The larvae are parasitized by *Hemiteles melanarius* Gr. (Hym., Ichneumonidae) and *Coenocoelius agricolator* L. (Hym., Braconidae), and fed upon by *Rhizophagus depresses* F. (Col., Rhizophagidae) (Barrios, 1986).
DISTRIBUTION: Korea, Japan (Honshu, Shikoku, Kyushu), Mongolia, Russia (southern Far East, Siberia, European part), Caucasus, Europe.
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 220 (Central); Hong and Korotyaev, 2002: 166 (North).
SPECIMEN EXAMINED: GG 1 ex. (Suwon: 24.v.1968). GW 1 ex. (Chuncheon: 5.v.1985).

Subgenus *Odontomagdalis* Barrios, 1984: 385.

SYNONYMS: *Magdalinus* Daniel, 1903: 238 (non Germar, 1843).
Type species: *Curculio carbonarius* Linnaeus, 1758.

Body black. Antennae in males inserted along apical half, in females at middle of rostrum. Rostrum slender, curved. Lateral margin of pronotum along apical part with carina, spine, or projection, somewhat regularly emarginated with coarse, granulose sculpturing. Scutellum inclined anteriorly and not reaching anterior margin of elytra. Femora and claws with teeth.

Key to the species of the subgenus *Odontomagdalis*

1. Fore femora with large tooth. Pronotum along lateral margins with 1−3 acute teeth, distinctly protruding behind contour ····· 2
− Fore femora with small and acute tooth, sometimes inconspicuous. Pronotum along lateral margins with acute tubercles, slightly protruding behind contour ····· *M.* (*O.*) *dieckmanni*
2. Lateral sides of pronotum, distal of middle, with acute tubercles, granulose sculpturing, and 1−2 acute teeth. Inner margin of fore tibiae at base emarginated. Head slightly produced anteriorly in males, rounded in females Rostrum covered with shallow punctures dorsally. Intervals of elytra convex, sparsely and transversely rugulose, usually lustrous, without punctation ····· ····· *M.* (*O.*) *carbonaria*
− Lateral sides of pronotum, distal of middle, with 1 acute, large tooth, protruding posteriorly and dorsally. Emargination of fore tibiae at base weak. Head in males and females strongly produced anteriorly, densely covered with deep punctures dorsally, sometimes united. Intervals of elytra convex, densely, coarsely, and transversely rugulose, matte ····· *M.* (*O.*) *koltzei*

115. *Magdalis* (*Odontomagdalis*) *carbonaria* (Linnaeus, 1758)
(Pls. 18-115, 32-115)
Ppul-ba-gu-mi (뿔바구미)

Curculio carbonarius Linnaeus, 1758: 382.
Curculio cerasi Fabricius, 1775: 141.
Rhynchaenus atrata Gyllenhal, 1813: 187.
Magdalis atramentaria Germar, 1824: 193.
TL: Europe.

Head slightly produced anteriorly in males, rounded in females. Rostrum covered with shallow punctures dorsally. Antennal scrobe on rostrum touching eye. Prothorax with small denticles of similar size. Lateral sides of pronotum, distal of middle, with acute tubercles, granulose sculpturing, and 1−2 acute teeth. Inner margin of fore tibiae at base emarginated. Elytra with intervals convex, sparsely and transversely rugulose, usually lustrous, lacking punctation (sometimes with dense and coarse, transverse, rugulose intervals and with smooth intervals between punctures on pronotum). Fore tibiae strongly expanded along inner margin at middle and emarginated at base. Femora toothed, fore tibia with larger pair of teeth.

MEASUREMENTS: Body length (excluding rostrum). 3.5−7.0 mm.
COLOR: Derm black, lustrous.
BIOLOGICAL NOTES: Larvae feed on *Sorbus*, *Betula*, and *Corylus*, and adults also feed on *Alnus* (Zherikhin and Egorov, 1996).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu), NE China, Mongolia, Russia (Kamchatka, Amur Prov., Khabarovsk and Primorskii Terr., Sakhalin, Kuriles, Chita Prov., Buryatia, Tuva, W. Siberia, European part), Caucasus, C. and N. Europe.
KOREA: Central.
KOREAN RECORDS: Kwon and Lee, 1986: 80 (Central); ESK / KSAE, 1994: 207; Morimoto, 1994: 321;

Kim and Kim, 1996: 131 (Bangtaesan); Hong et al., 2000: 220 (Central).
SPECIMEN EXAMINED: GW 1 ex. (Odaesan: 4.viii.1983).

116. *Magdalis* (*Odontomagdalis*) *dieckmanni* Barrios and Egorov, 1987 (Pls. 18-116, 32-116)

Jom-ppul-ba-gu-mi (좀뿔바구미)

Magdalis dieckmanni Barrios and Egorov, 1987: 39.
TL: Russia - Primorskii Terr.

Antennae with 1st funicular article 2 times as long as 2nd. Pronotum along lateral margins with acute tubercles, slightly protruding behind contour. Elytra with 10th interval only slightly narrower than 9th along apical half, slightly raised. Femoral tooth minute, fore femora with inconspicuous tooth. Fore tibiae not expanded along inner margins at middle.

MEASUREMENTS: Body length (excluding rostrum). 3.5 mm.
COLOR: Derm black.
BIOLOGICAL NOTES: Unknown.
DISTRIBUTION: Korea, NE China, Russia (Primorskii Terr.).
KOREA: Unknown.
KOREAN RECORDS: Hong et al., 2000: 221.
SPECIMEN EXAMINED: 1♀ (No data).

117. *Magdalis* (*Odontomagdalis*) *koltzei* Heyden, 1884 (Pls. 18-117, 32-117)

Keun-ppul-ba-gu-mi (큰뿔바구미)

Magdalis Koltzei Heyden, 1884: 297.
TL: Amur.

Head strongly produced anteriorly, densely covered with deep punctures dorsally, strongly rugosely punctate, lateral sides transverse. Rostrum robust, only slightly curved, with large punctures. Antennal scrobe not reaching eye. Eyes flat. Lateral sides of pronotum, distal of middle, with 1 acute, large tooth, protruding posteriorly and dorsally. Elytra with intervals convex, densely, coarsely, and transversely rugulose, matte. Femora toothed, fore femora with larger pair of teeth. Emargination of fore tibiae weak at base.

MEASUREMENTS: Body length (excluding rostrum). 6.0−8.5 mm.
COLOR: Derm dark, opaque.
BIOLOGICAL NOTES: Larvae feed on thin branches of *Ulmus japonica* (Zherikhin and Egorov, 1996).
DISTRIBUTION: Korea, NE China, Mongolia, Russia (Khabarovsk and Primorskii Terr., Sakhalin).
KOREA: Central.

KOREAN RECORDS: Hong et al., 2000: 221 (Central).
SPECIMEN EXAMINED: GG 1 ex. (Gwangreung: 13.v.1994); 1 ex. (Gwangdeoksan: 17.v.1998). GW 1 ex. (Odaesan: 17.vii.1962).

Subgenus *Panopsis* Daniel, 1903: 237.

Type species: *Thamnophilus flavicornis* Gyllenhal, 1836.

Antennal club oval, in both sexes shorter than funicle. Prothorax widest at middle. Sides of pronotum strongly arcuate, strongly constricted anteriorly. Scutellum at same level as elytra and reaching anterior margins of elytra. Elytral with intervals covered with very sparse, distinct setae. Claws with teeth.

118. *Magdalis* (*Panopsis*) *flavicornis* (Gyllenhal, 1836) (Pls. 18-118, 32-118)

Jak-eun-ppul-ba-gu-mi (작은뿔바구미)

Thamnophilus flavicornis Gyllenhal, 1836: 275.
TL: Europe.

Rostrum in females longer than head, curved. Antennal club oval, in both sexes shorter than funicle. Eyes in males distinctly protruding behind contour of head. Prothorax widest at middle. Sides of pronotum strongly arcuate, strongly constricted anteriorly. Scutellum on same plane as elytra and reaching bases of elytra. Elytral intervals covered with sparse, distinct setae. Claws toothed at base.

MEASUREMENTS: Body length (excluding rostrum). 3.0−3.5 mm.
COLOR: Derm black, elytra with slightly dark blue luster.
BIOLOGICAL NOTES: Adults were collected from *Quercus* spp. in Japan (Morimoto, 1994).
DISTRIBUTION: Korea, Japan (Hokkaido, Honshu, Kyushu), Russia (Primorskii Terr., Sakhalin, Kuriles), C. and S. Europe.
KOREA: Central.
KOREAN RECORDS: Hong et al., 2000: 222 (Central).
SPECIMEN EXAMINED: GW 1 ex. (Hoengseong: 24.v.1993); 1 ex. (Yeongwol: 25.v.1993); 1 ex. (Hwacheon: 25.v.1993).

Subgenus *Porrothus* Dejean, 1821: 98.

Type species: *Curculio cerasi* Linnaeus, 1758.

Antennal club in males as long as funicle. Rostrum in males nearly as long as head. Elytra completely covering pygidium; intervals densely, coarsely, and transversely rugose or with very fine, dull granulation, without distinct punctures. Femora with or without inconspicuous teeth; claws usually with a basal tooth.

119. *Magdalis* (*Porrothus*) *cerasi* (Linnaeus, 1758) (Pl. 18-119)

Jang-mi-ppul-ba-gu-mi (장미뿔바구미)

Curculio cerasi Linnaeus, 1758: 375.
TL: Europe.

Rostrum in males longer than head, curved. Antennae in males inserted at middle, in females more distal of middle of rostrum; club in males as long as funicle, in females shorter. Eyes in males not protruding from outline of head. Pronotum lacking projection, tooth, or keel along apical half of lateral sides. Scutellum moderately declining anteriorly. Elytral intervals between striae with dense, thin, transverse, rugulose or very fine granules, not distinctly pointed. Procoxal cavities contiguous. Femora without tooth or with inconspicuous, acute teeth; claws with teeth at base.

Measurements: Body length 3.0–3.8 mm.
Color: Black, matte.
Biological notes: Larvae develop in the sprouts of various species in Rosaceae: *Malus*, *Pyrus*, *Crataegus*, *Sorbus*, and occasionally in *Prunus* and Cerasus. Adults feed on the leaves of host plants (Zherikhin and Egorov, 1996).
Distribution: Korea, NE China, Russia (Khabarovsk, Amur, Primorsky, South of European part), C. Asia, C. Europe.
Korea: North.
Korean records: Hong et al., 2002: 59 (North); Hong and Korotyaev, 2002: 166 (North).
Specimen examined: PN 1♀ (Daeseongsan Pyeongyang: 16.vi.1988, HMNH); 1♀ (Daeseongsan Pyeongyang: 15.v.1985, HMNH). HN 1 ex. (Sinpo: 14.vii.1990, HMNH).

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Plates

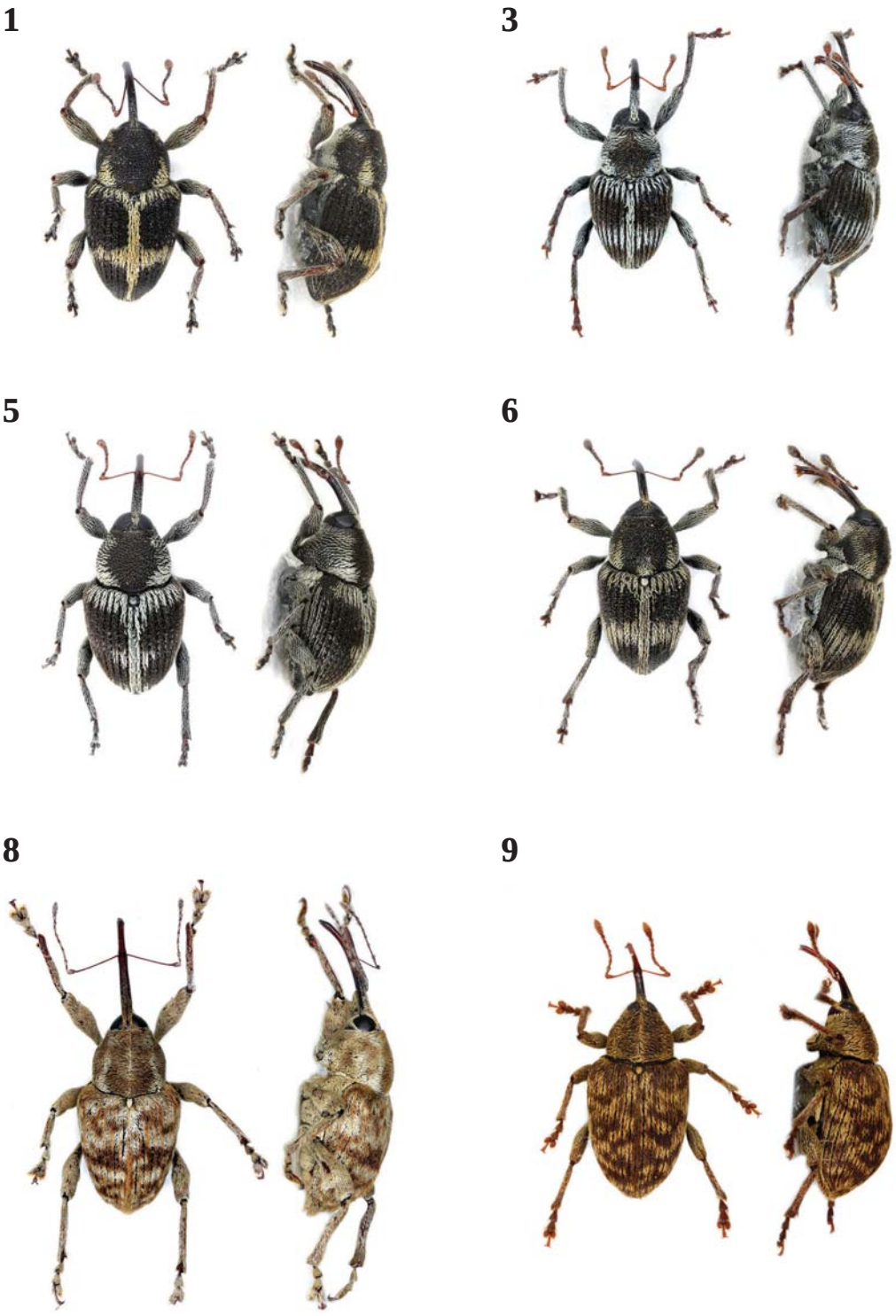

Plate 1. Curculioninae. 1. *Archarius esakii*; 3. *Archarius latispiculum*; 5. *Archarius pictus*; 6. *Archarius roelofsi*; 8. *Curculio conjugalis*; 9. *Curculio convexus*.

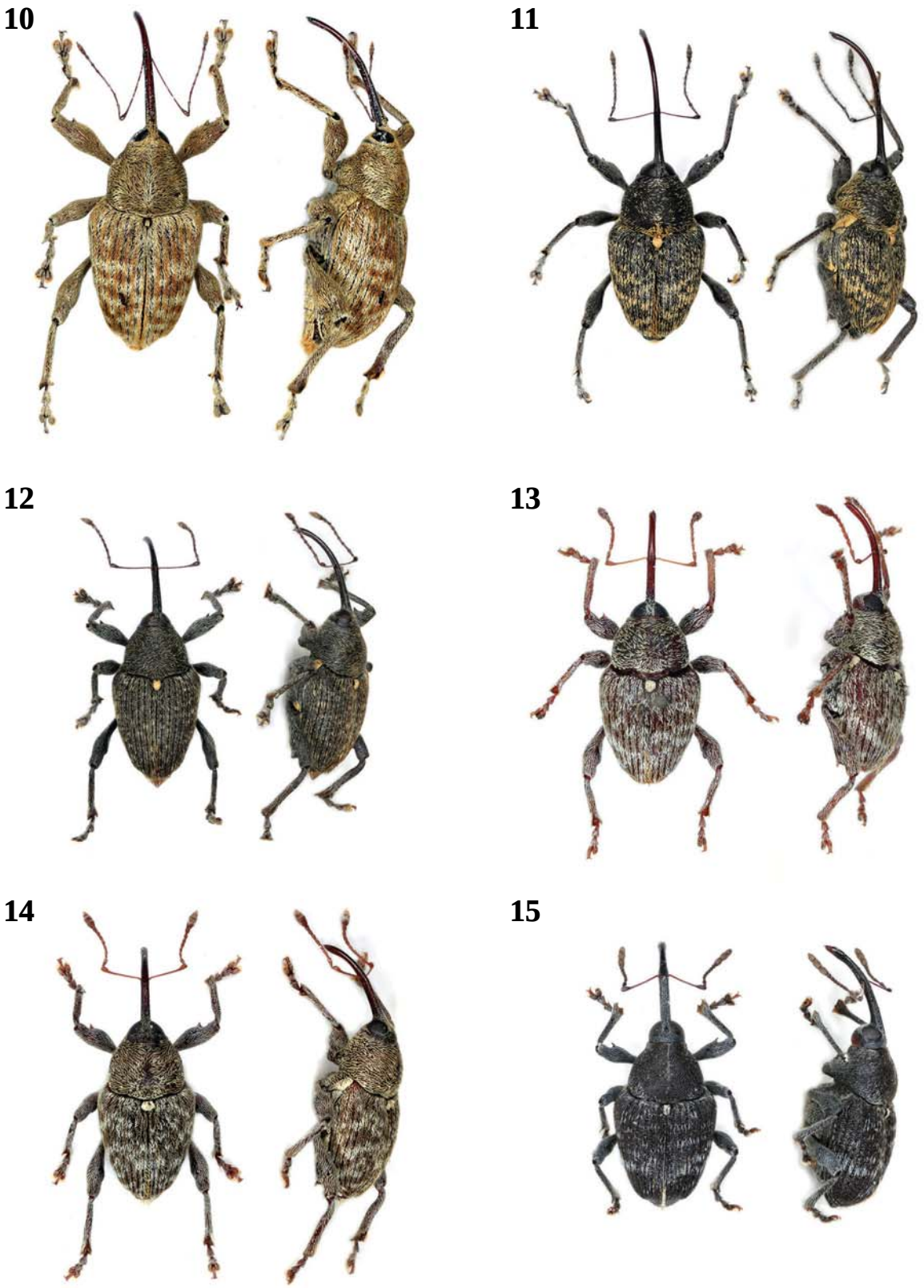

Plate 2. Curculioninae. 10. *Curculio dentipes*; 11. *Curculio dieckmanni*; 12. *Curculio distinguendus*; 13. *Curculio flavidorsum*; 14. *Curculio flavoscutellatus*; 15. *Curculio funebris*.

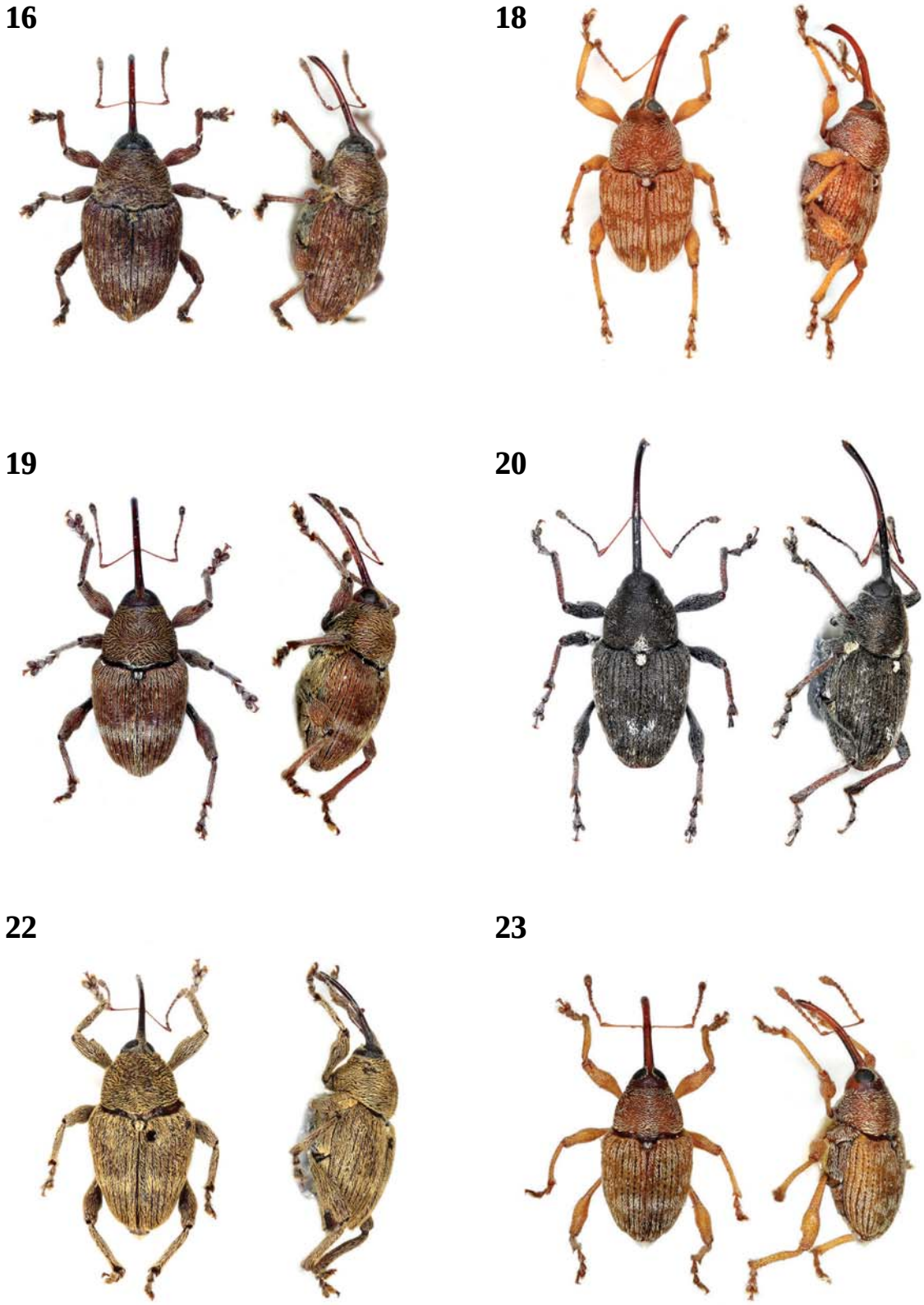

Plate 3. Curculioninae. 16. *Curculio hallasanensis*; 18. *Curculio hime*; 19. *Curculio inornatus*; 20. *Curculio koreanus*; 22. *Curculio ochrofasciatus*; 23. *Curculio quelparticola*.

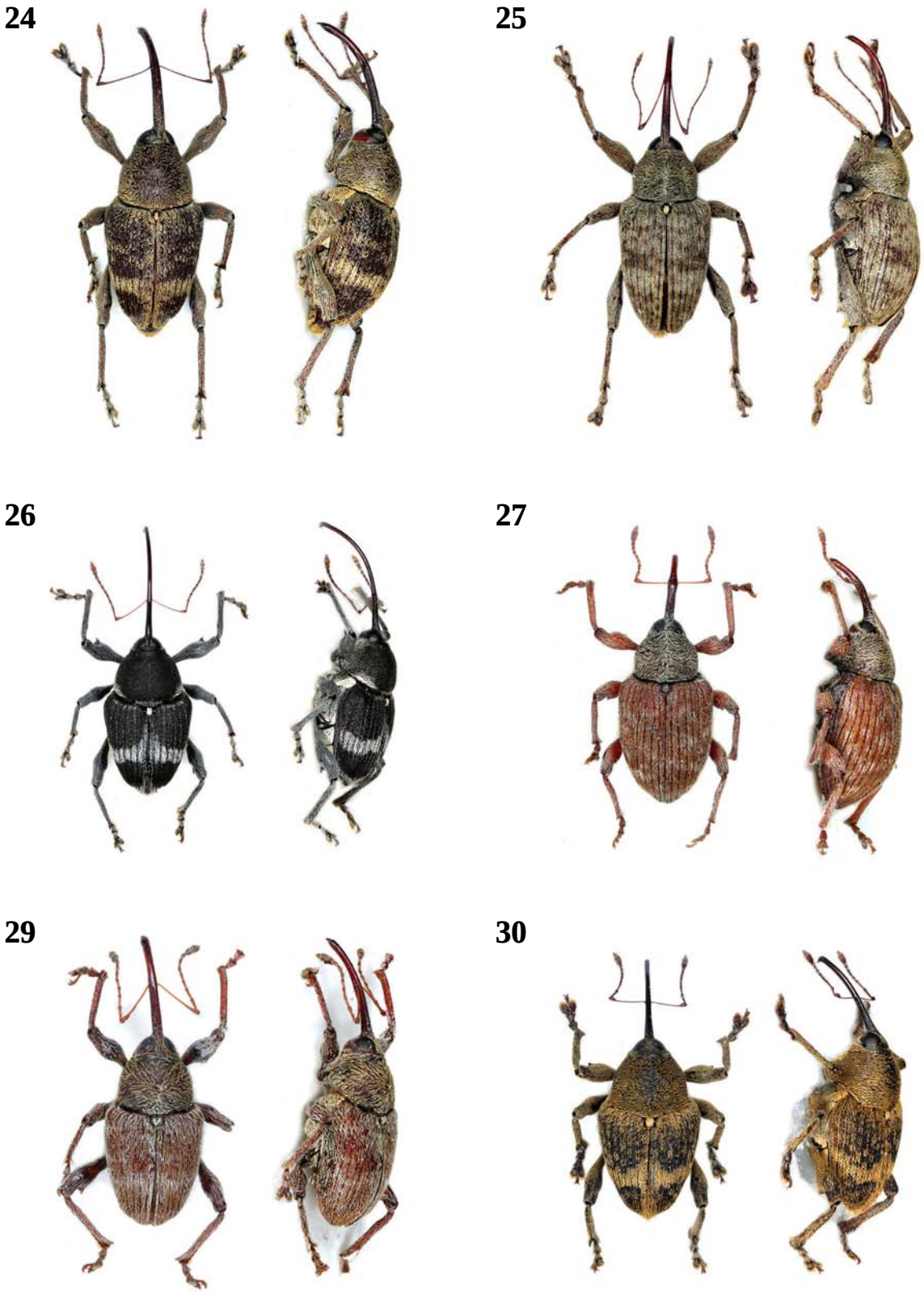

Plate 4. Curculioninae. 24. *Curculio robustus*; 25. *Curculio sikkimensis*; 26. *Curculio styracis*; 27. *Curculio taebaeksanensis*; 29. *Curculio velox*; 30. *Curculio vibariae*.

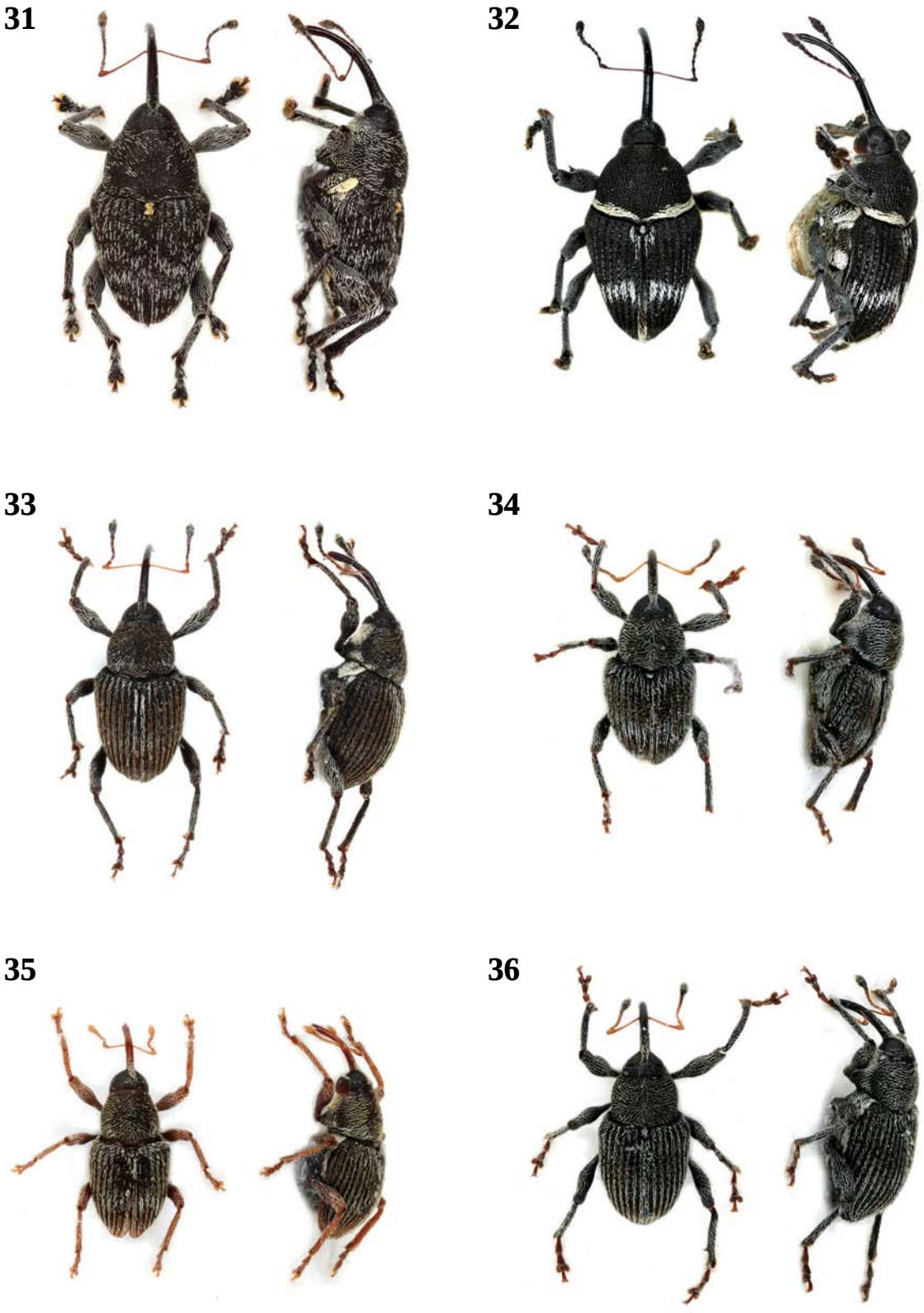

Plate 5. Curculioninae. 31. *Curculio yanoi*; 32. *Labaninus confluens*; 33. *Koreoculio antennatus*; 34. *Koreoculio kunugi*; 35. *Koreoculio minutissimus*; 36. *Pagumia changeoni*.

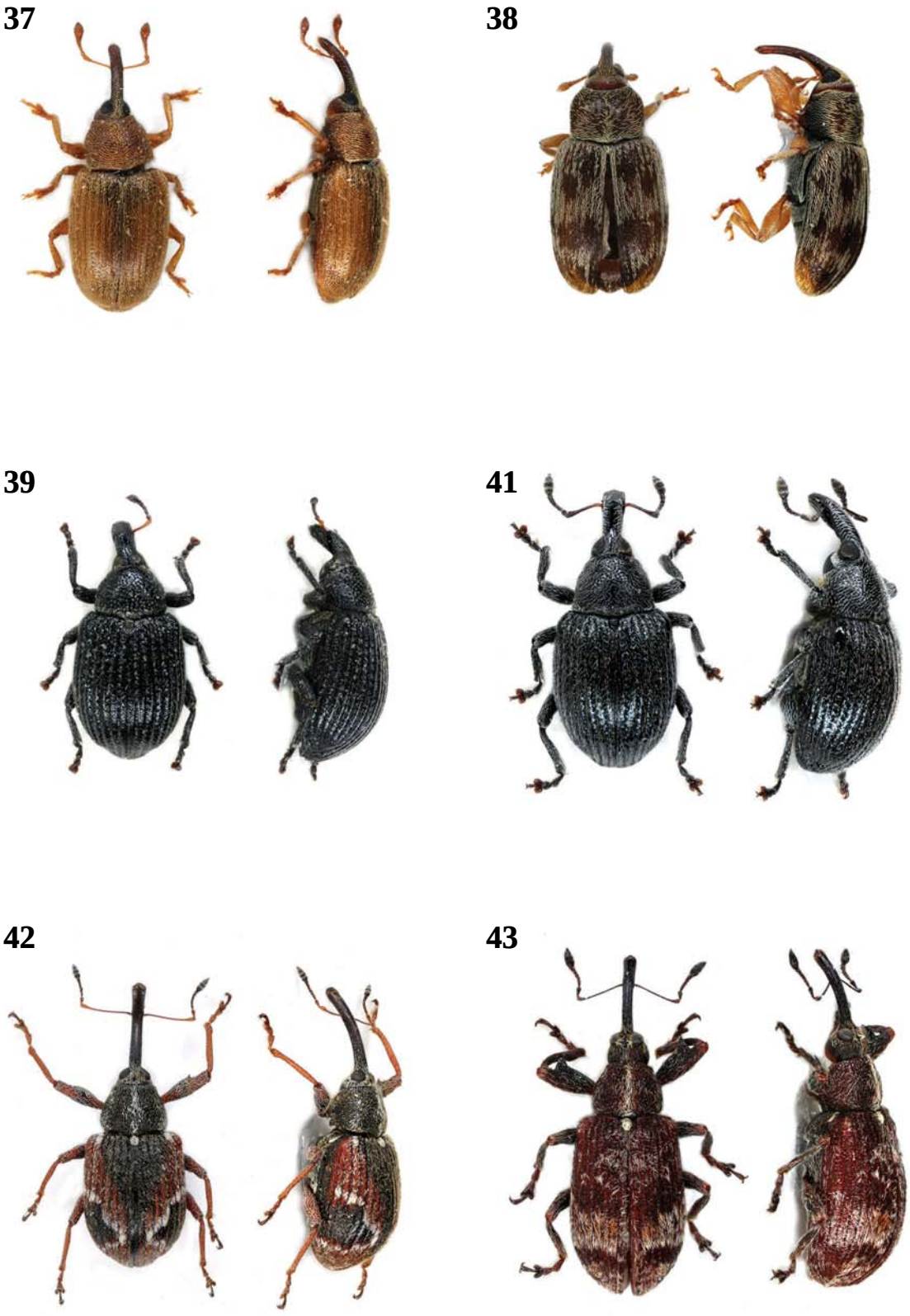

Plate 6. Curculioninae. 37 *Acalyptus carpini*; 38. *Orsophagus trifasciatus*; 39. *Anoplus plantaris*; 41. *Sphinxis pubescens*; 42. *Anthonomus bisignifer*; 43. *Anthonomus persicae*.

Plate 7. Curculioninae. 44. *Anthonomus pomorum*; 45. *Anthonomus rubi*; 47. *Anthonomus yuasai*; 48. *Anthonomus dilutus*; 49. *Anthonomus rectirostris*; 50. *Bradybatus limbatus*.

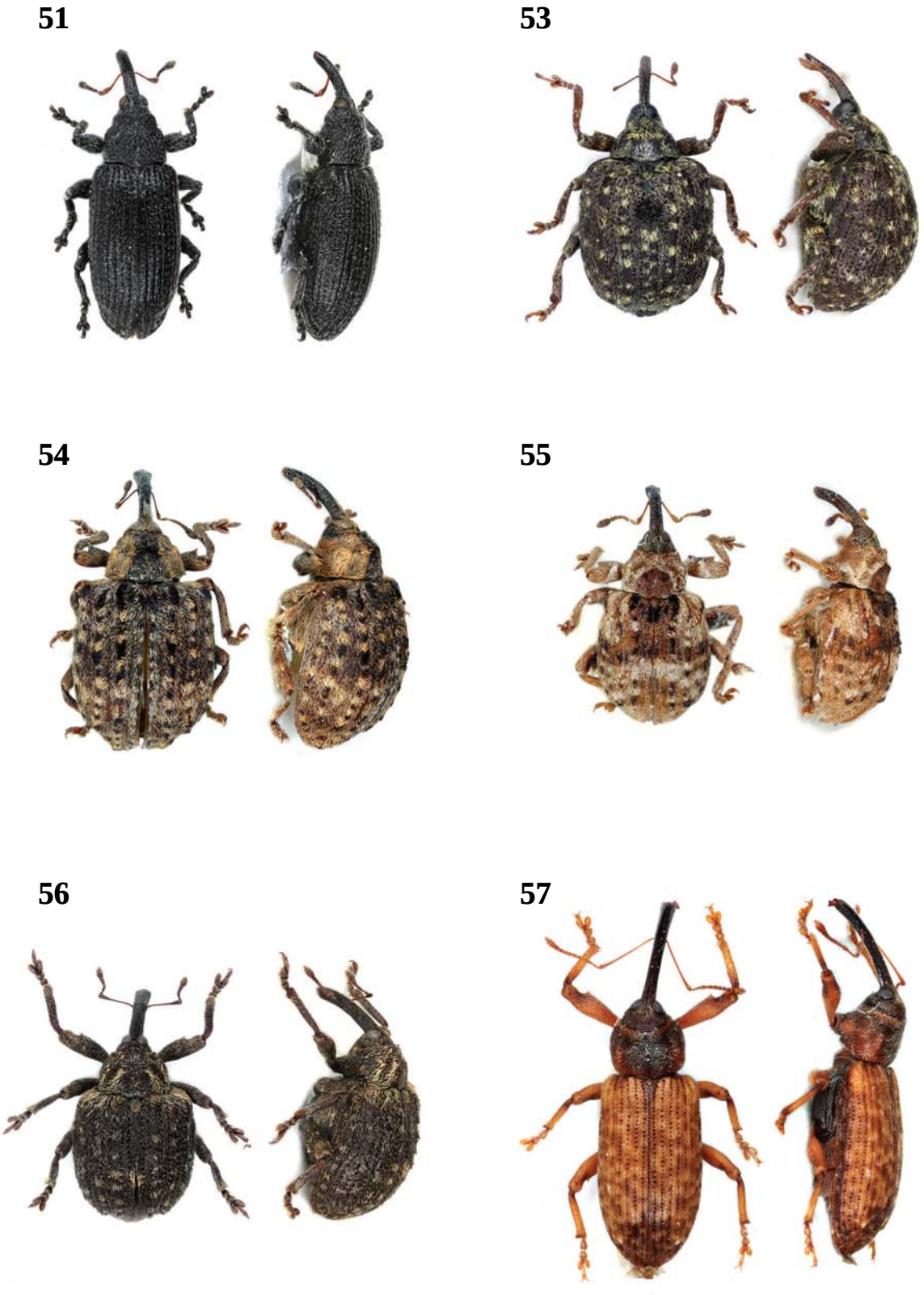

Plate 8. Curculioninae. 51. *Bradybatus sharpi*; 53. *Cionus tamazo*; 54. *Stereonychidius galloisi*; 55. *Stereorynchus japonicus*; 56. *Stereorynchus thoracicus*; 57. *Dorytomus chinensis*.

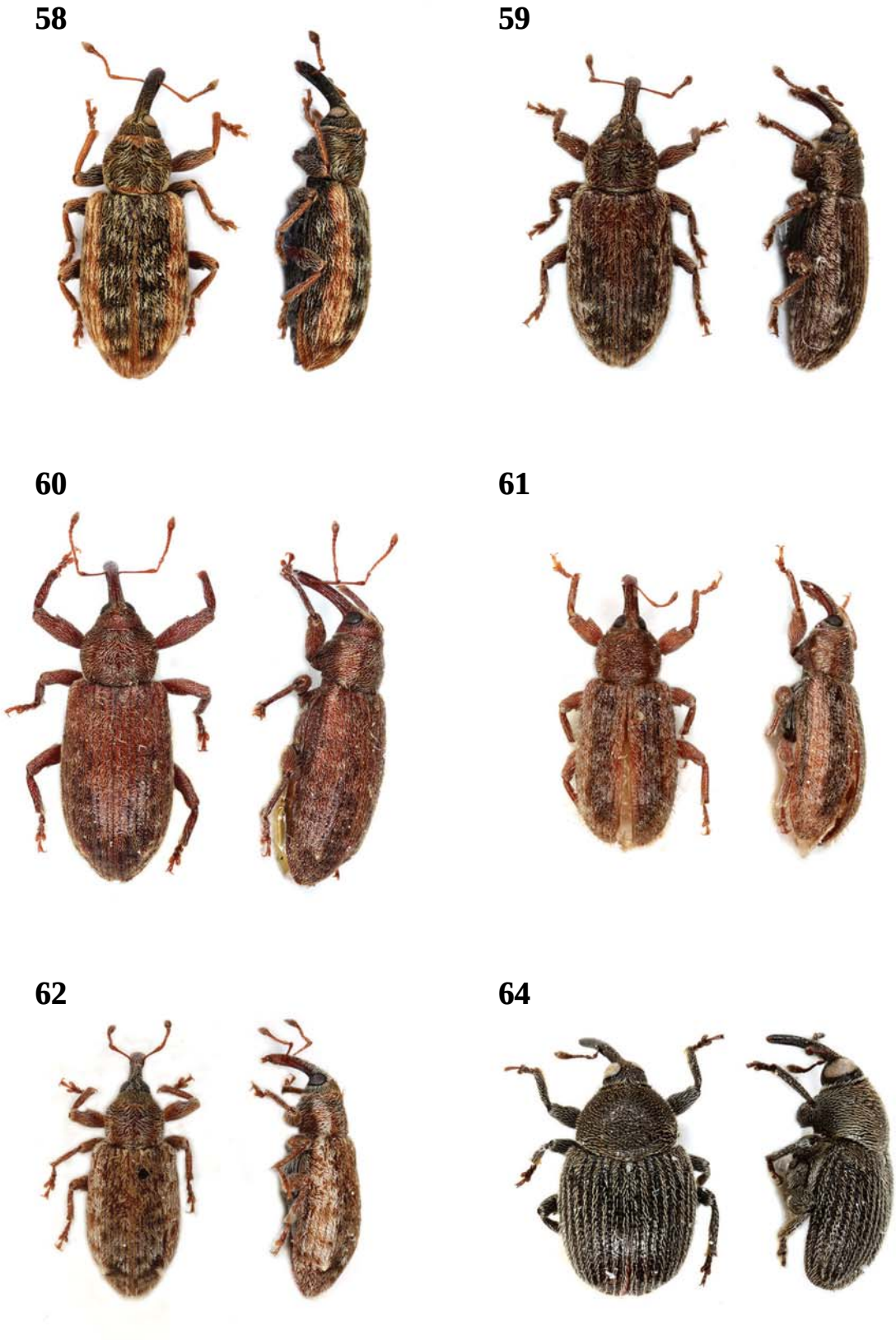

Plate 9. Curculioninae. 58. *Dorytomus imbecillus*; 59. *Dorytomus maculipennis*; 60. *Dorytomus roelofsi*; 61. *Dorytomus setosus*; 62. *Dorytomus subcinctus*; 64. *Cleopomiarus dictamnophilus*.

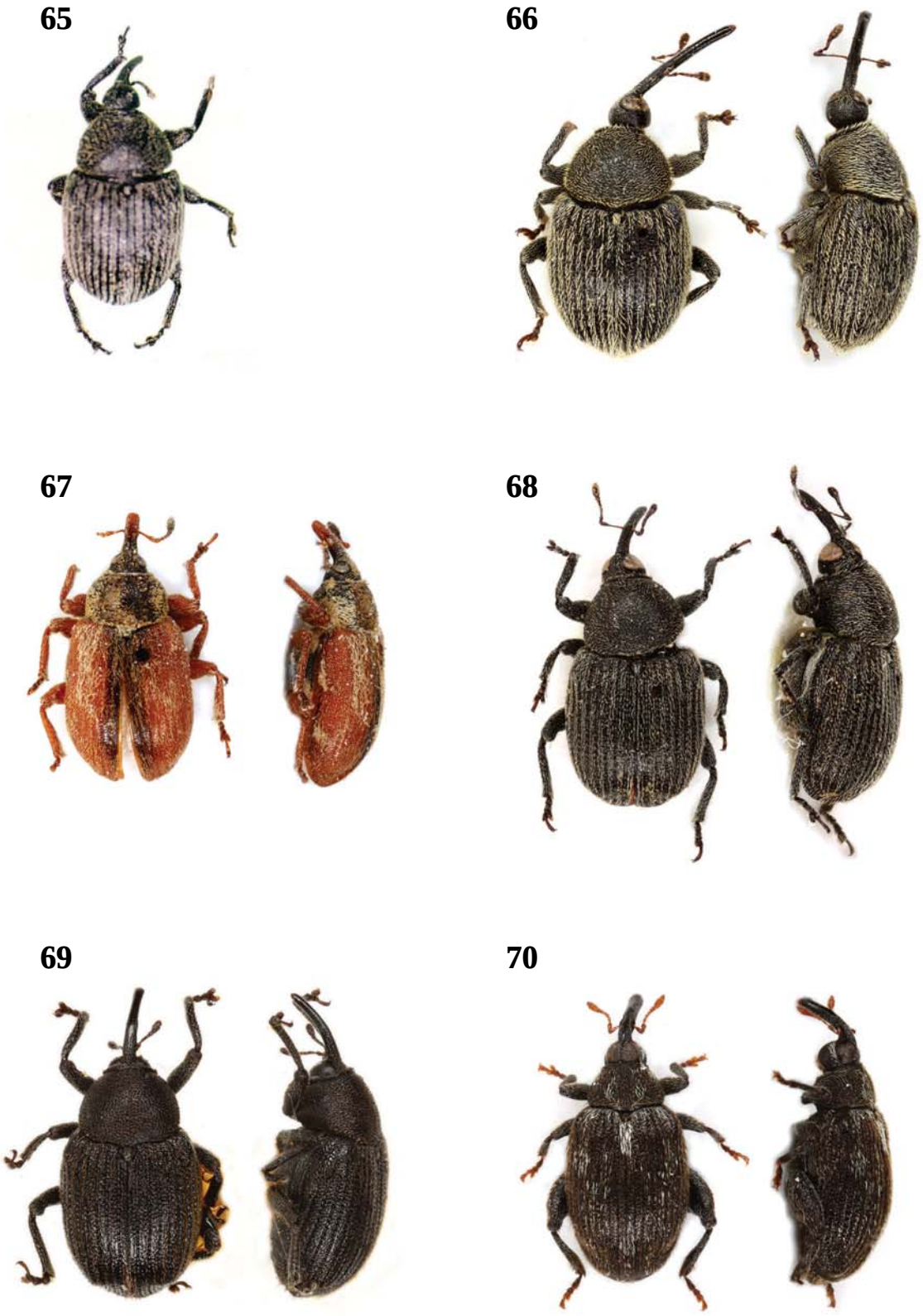

Plate 10. Curculioninae. 65. *Cleopomiarus jakowlewi*; 66. *Cleopomiarus kobanzo*; 67. *Gymnetron miyoshii*; 68. *Miarus ajugae*; 69. *Miarus atricolor*; 70. *Orchestes amurensis*.

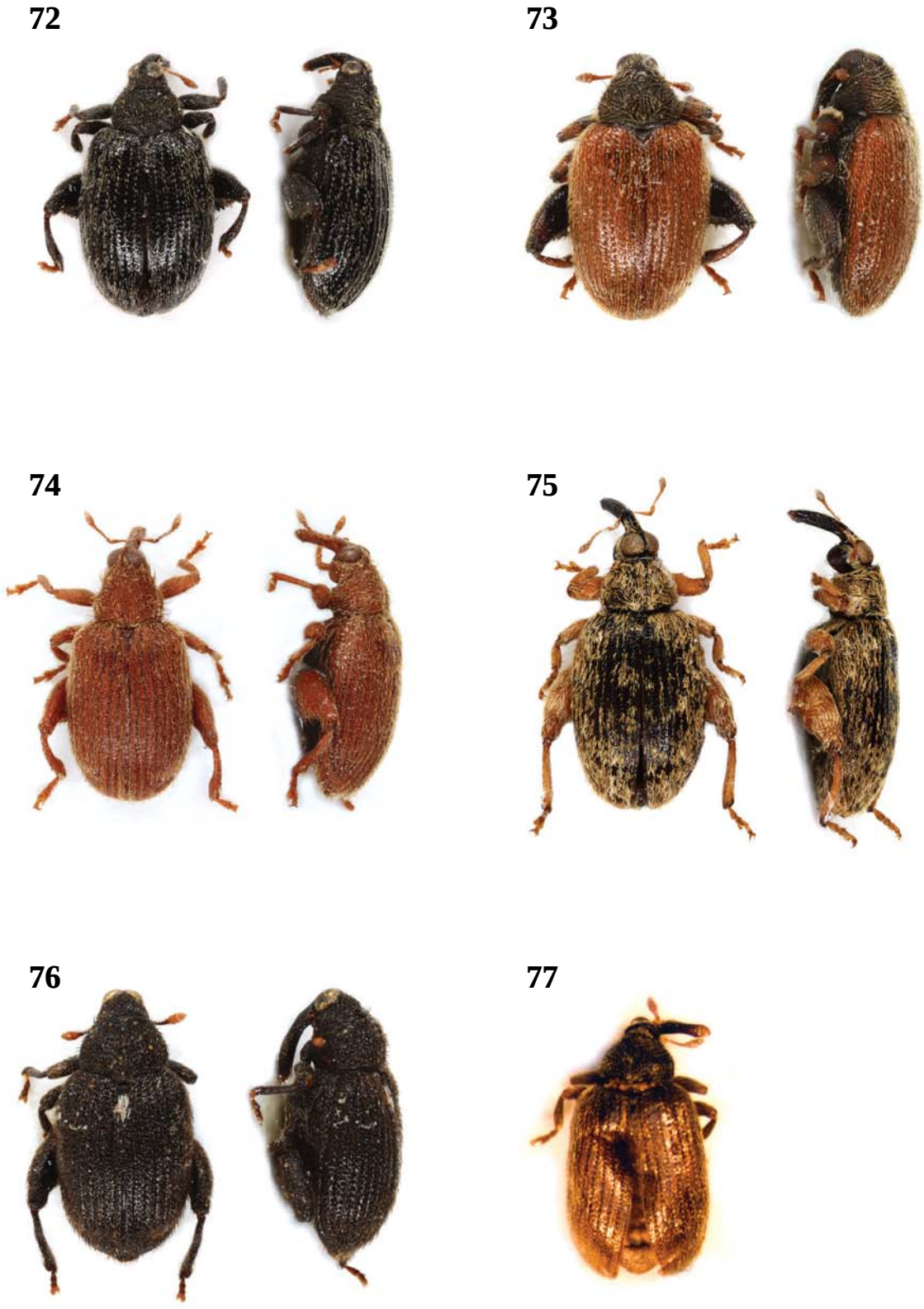

Plate 11. Curculioninae. 72. *Orchestes harunire*; 73. *Orchestes horii*; 74. *Orchestes hustachei*; 75. *Orchestes japonicus*; 76. *Orchestes jota*; 77. *Orchestes lateritius*.

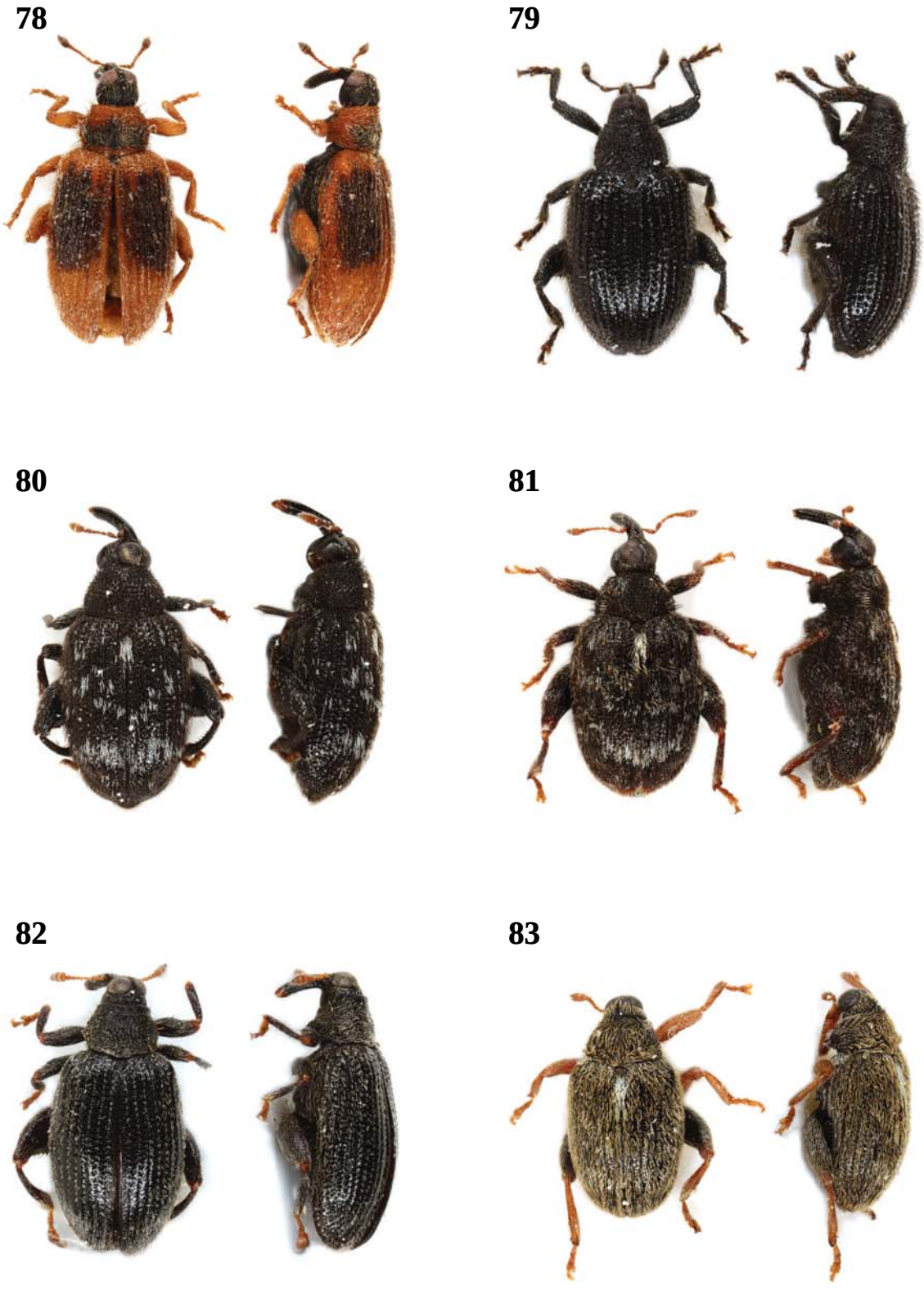

Plate 12. Curculioninae. 78. *Orchestes mutabilis*; 79. *Orchestes nitens*; 80. *Orchestes nomizo*; 81. *Orchestes rusci*; 82. *Orchestes sanguinipes*; 83. *Orchestes subbifasciatus*.

Plate 13. Curculioninae. 84. *Rhamphus pulicarius*; 85. *Rhamphus hisamatsui*; 86. *Rhynchaenus pacificus*; 87. *Tachyerges salicis*; 88. *Tachyerges stigma*; 89. *Smicronyx dentirostris*.

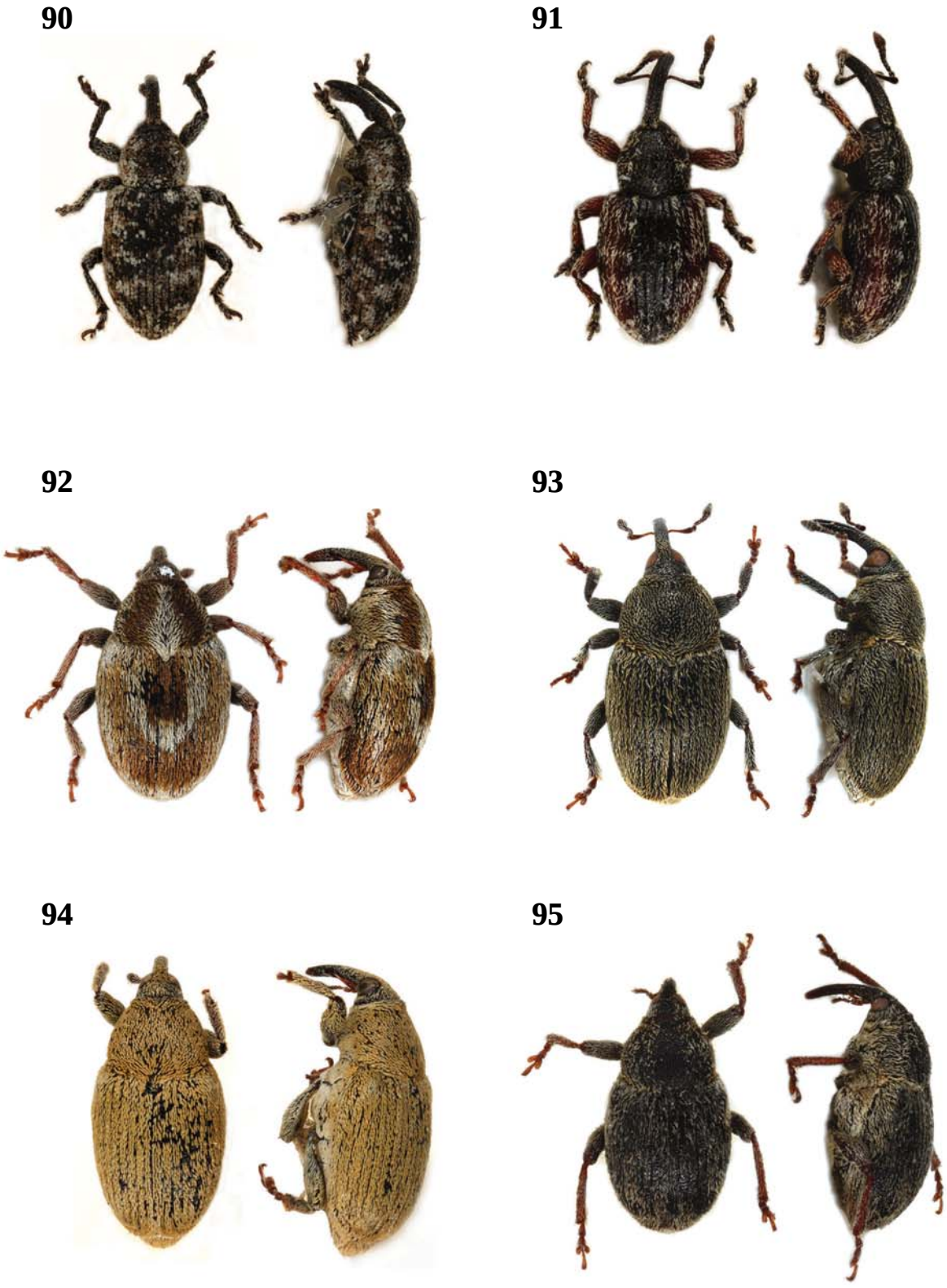

Plate 14. Curculioninae. 90. *Smicronyx madaranus*; 91. *Smicronyx rubricatus*; 92. *Sibinia annulifera*; 93. *Sibinia elliptica*; 94. *Sibinia subelliptica*; 95. *Sibinia ussurica*.

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Plate 15. Curculioninae. 96. *Tychius albolineatus*; 97. *Tychius breviusculus*; 98. *Tychius iwatensis*; 99. *Tychius ovalis*; 100. *Demimaea circula*; 101. *Demimaea fascicularis*.

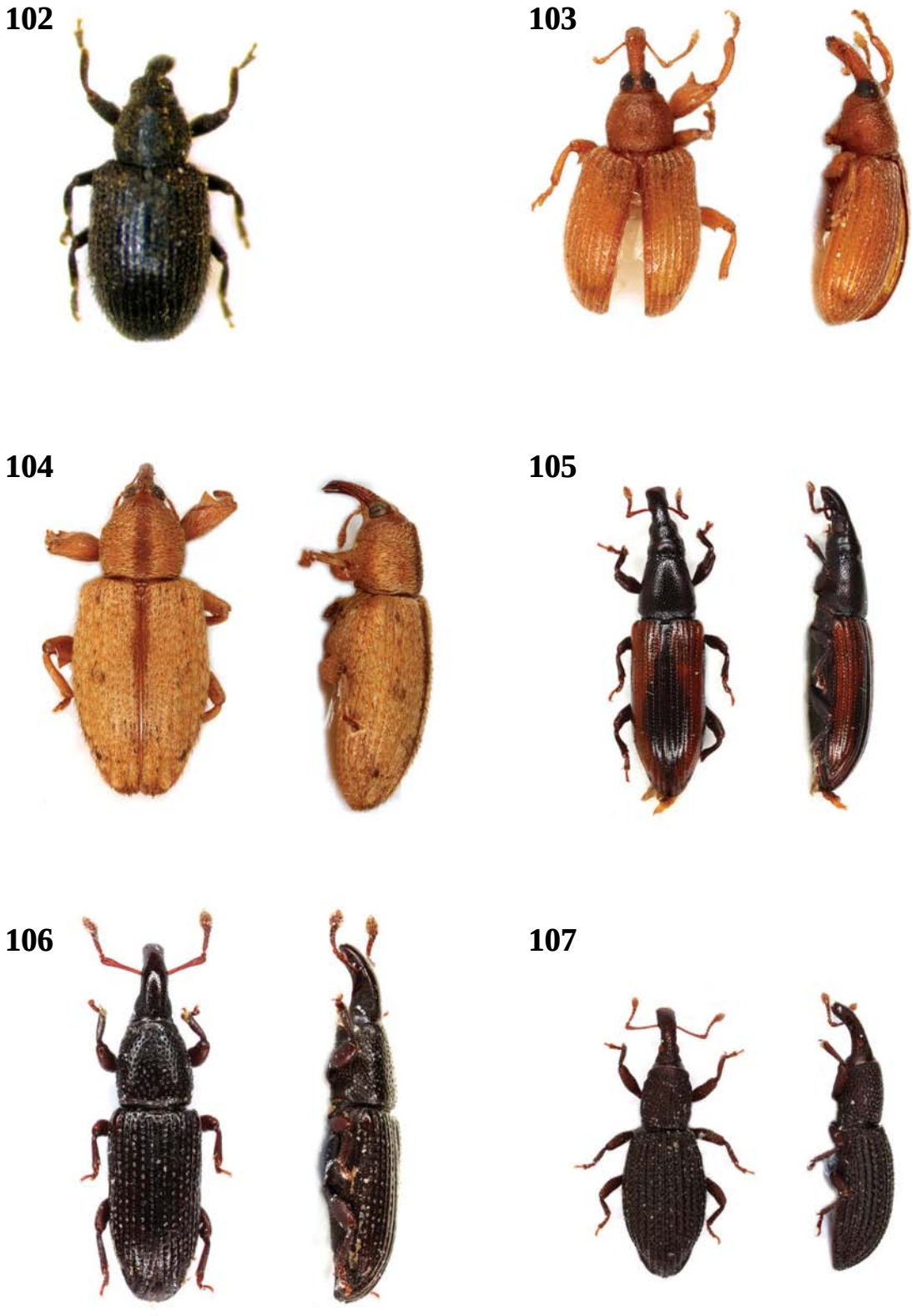

Plate 16. Curculioninae and Cossoninae. 102. *Morimotozo obscurus*; 103. *Ochyromera horikawai*; 104. *Ochyromera suturalis*; 105. *Kojimazo lewisii*; 106. *Phloeophagosoma curvirostre*; 107. *Dryotribus mimeticus*.

Plate 17. Cossoninae and Mesoptiliinae. 108. *Hexarthrum brevicorne*; 109. *Rhyncolus sculpturatus*; 110. *Xenomimetes destructor*; 112. *Carcilia strigicollis*; 113. *Carcilia tenuistriata*; 114. *Magdalis phlegmatica*.

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Plate 18. Mesoptiliinae. 115. *Magdalis carbonaria*; 116. *Magdalis dieckmanni*; 117. *Magdalis koltzei*; 118. *Magdalis flavicornis*; 119. *Magdalis cerasi*.

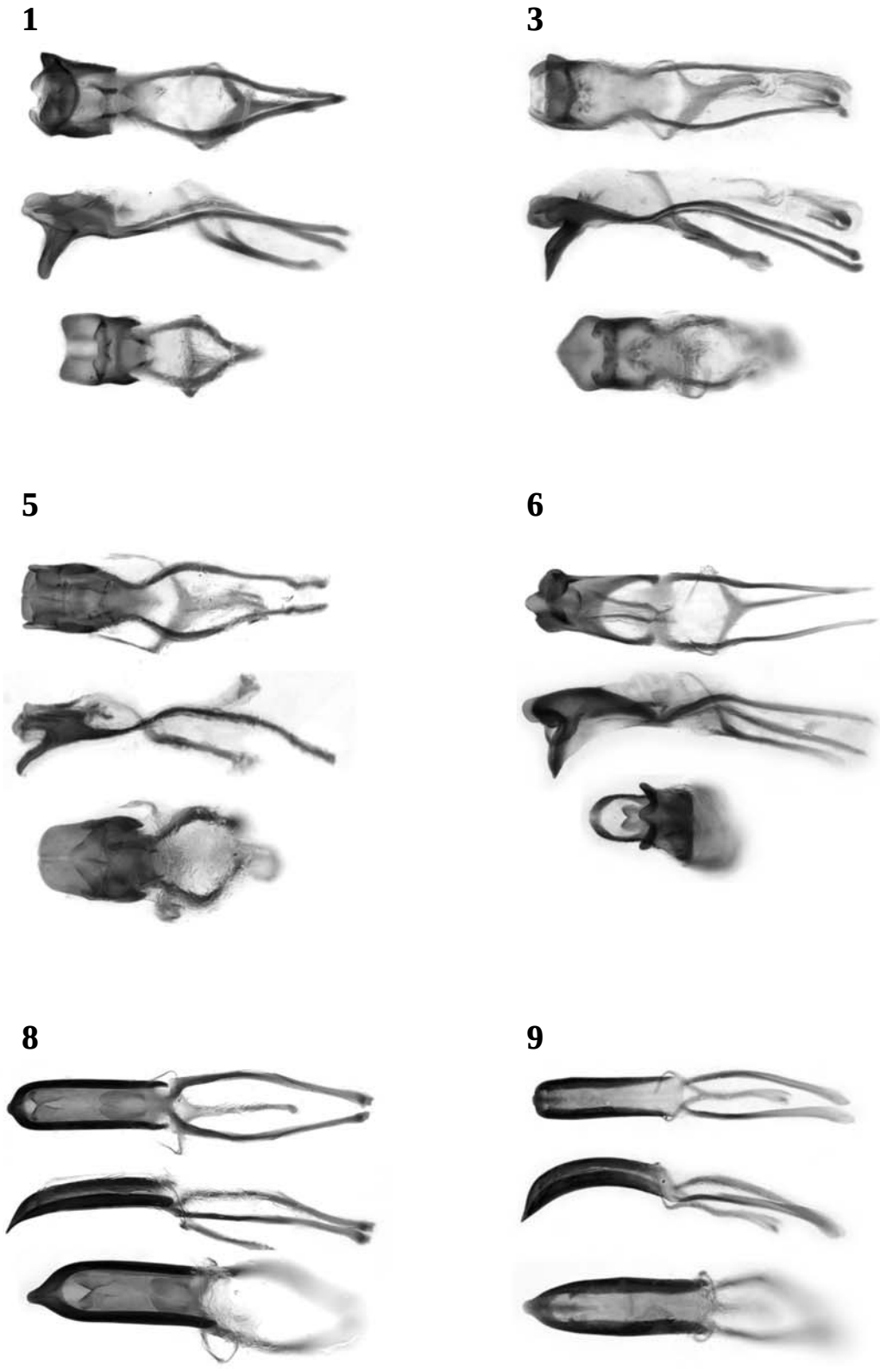


Plate 19. Curculioninae. 1. *Archarius esakii*; 3. *Archarius latispiculum*; 5. *Archarius pictus*; 6. *Archarius roelofsi*; 8. *Curculio conjugalis*; 9. *Curculio convexus*.

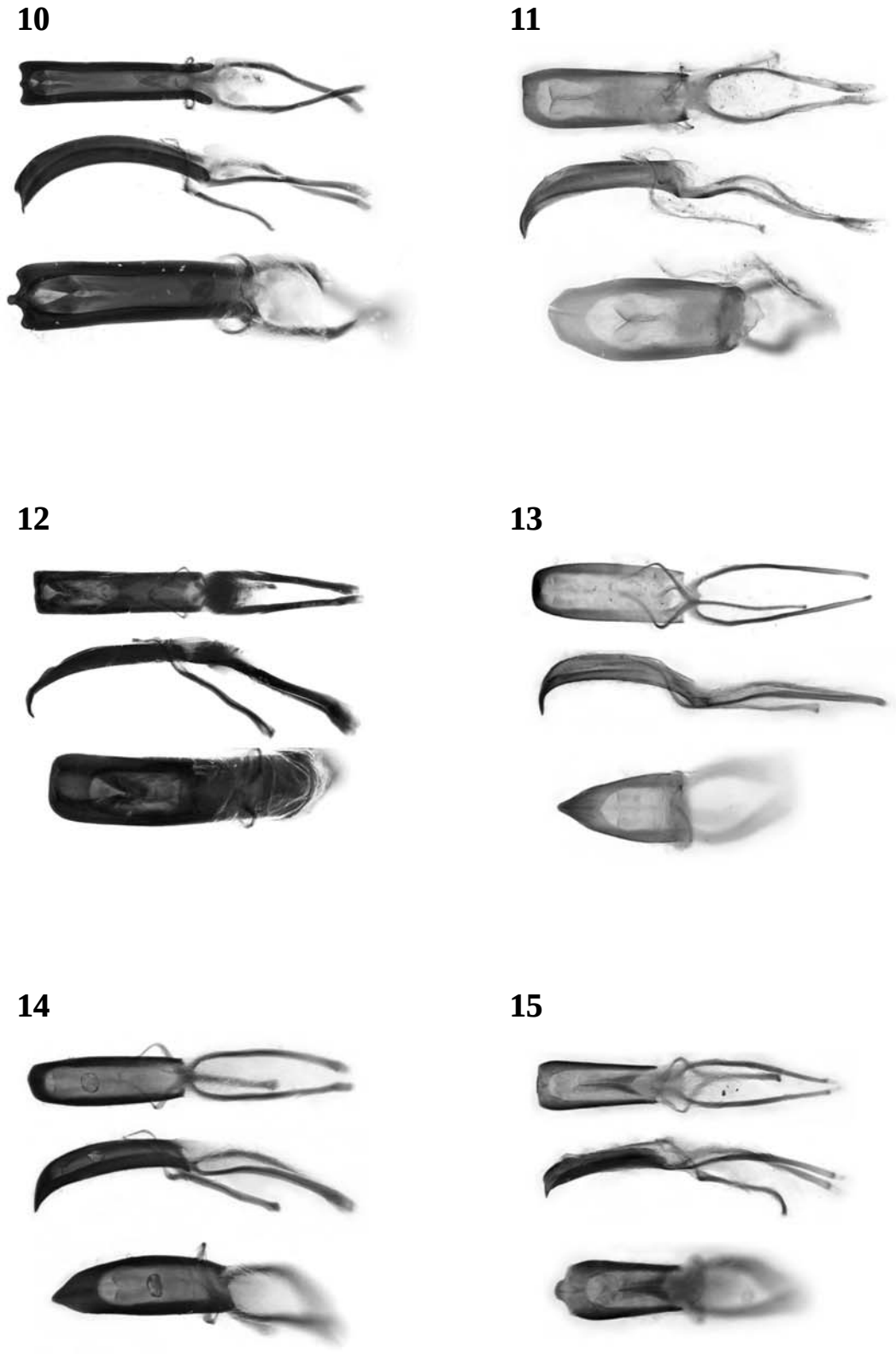


Plate 20. Curculioninae. 10. *Curculio dentipes*; 11. *Curculio dieckmanni*; 12. *Curculio distinguendus*; 13. *Curculio flavidorsum*; 14. *Curculio flavoscutellatus*; 15. *Curculio funebris*.

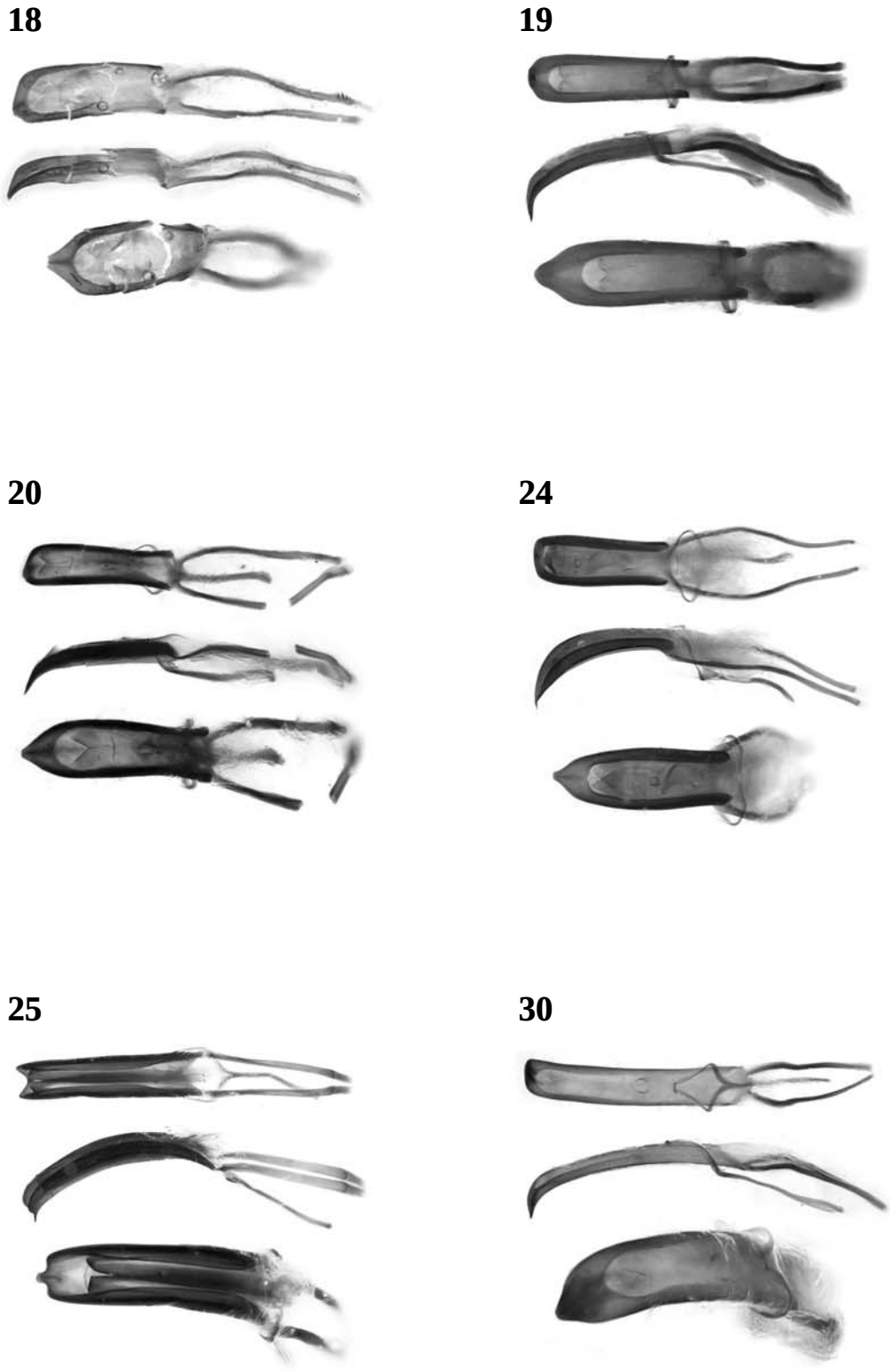


Plate 21. Curculioninae. 18. *Curculio hime*; 19. *Curculio inornatus*; 20. *Curculio koreanus*; 24. *Curculio robustus*; 25. *Curculio sikkimensis*; 30. *Curculio vibariae*.

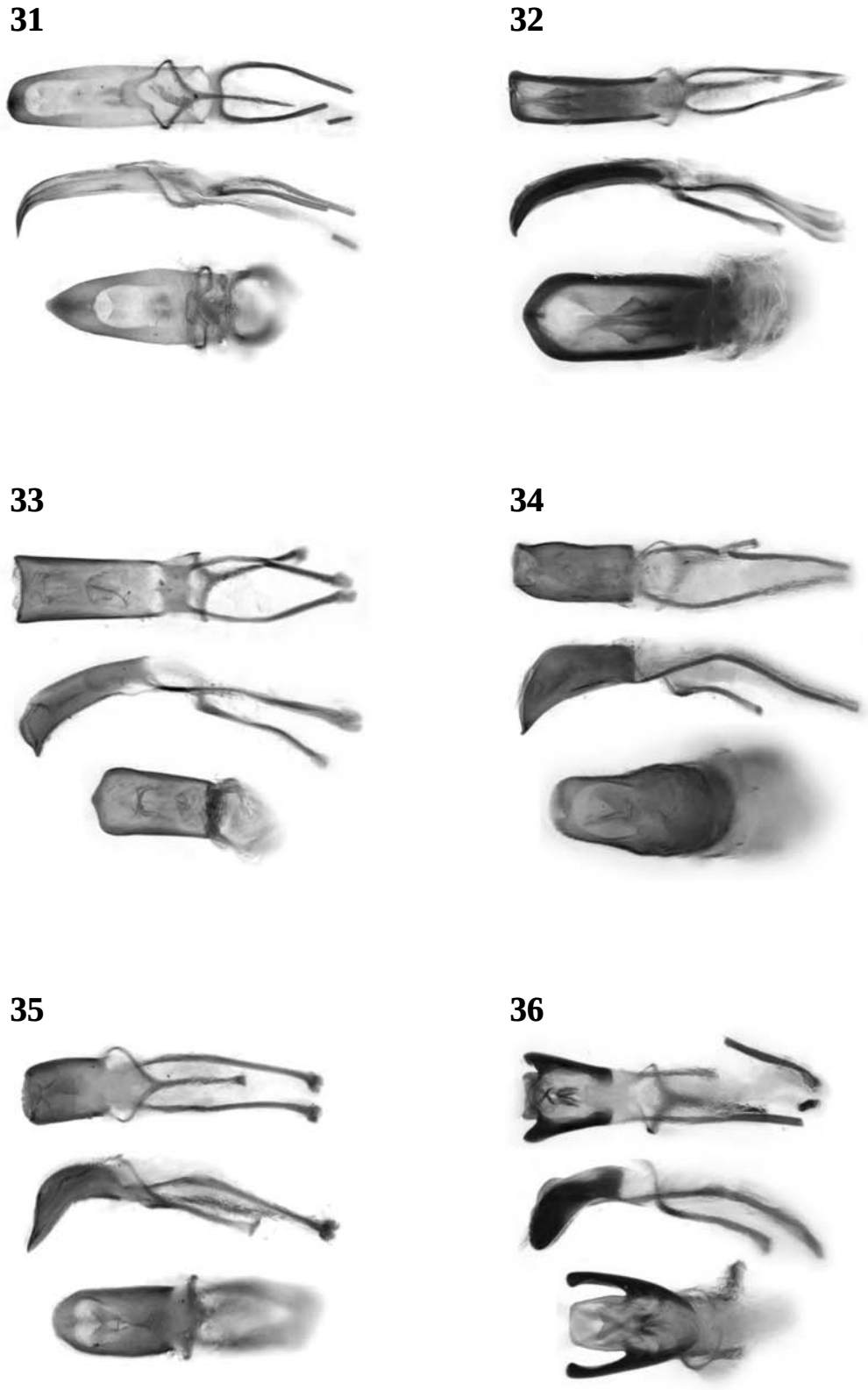


Plate 22. Curculioninae. 31. *Curculio yanoi*; 32. *Labaninus confluens*; 33. *Koreoculio antennatus*; 34. *Koreoculio kunugi*; 35. *Koreoculio minutissimus*; 36. *Pagumia changeoni*.

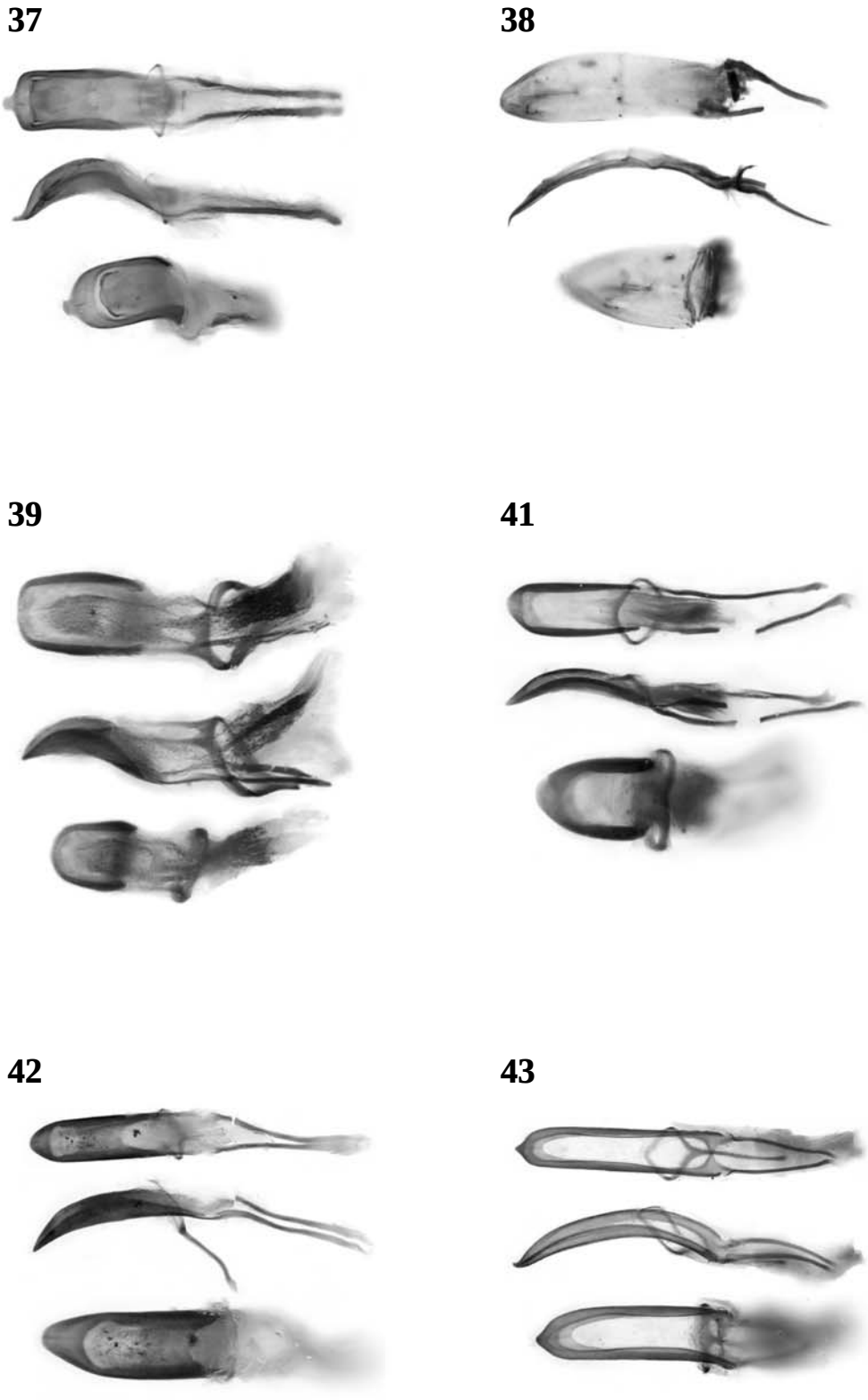


Plate 23. Curculioninae. 37. *Acalyptus carpini*; 38. *Orsophagus trifasciatus*; 39. *Anoplus plantaris*; 41. *Sphinxis pubescens*; 42. *Anthonomus bisignifer*; 43. *Anthonomus persicae*.

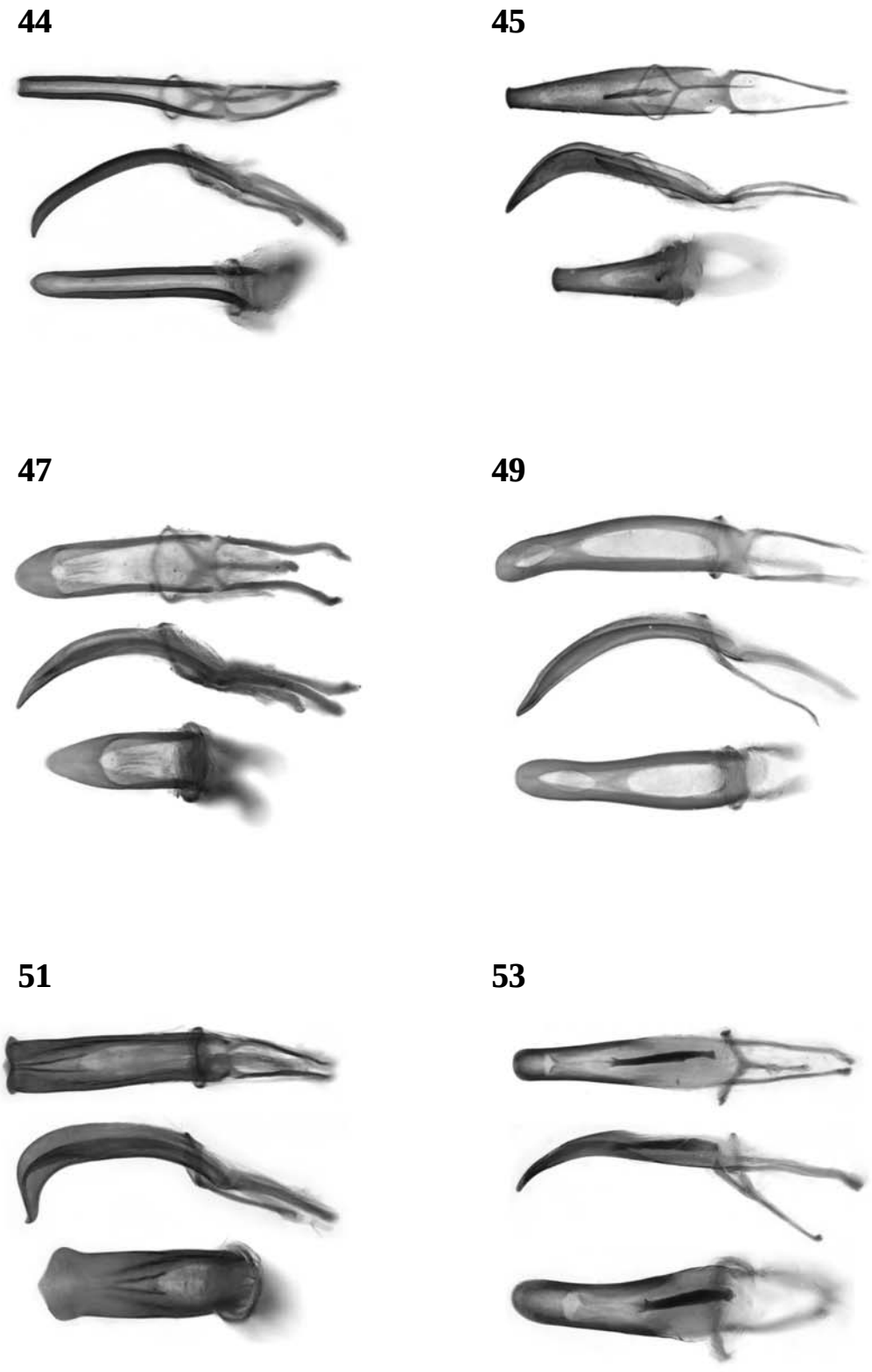


Plate 24. Curculioninae. 44. *Anthonomus pomorum*; 45. *Anthonomus rubi*; 47. *Anthonomus yuasai*; 49. *Anthonomus rectirostris*; 51. *Bradybatus sharpi*; 53. *Cionus tamazo*.

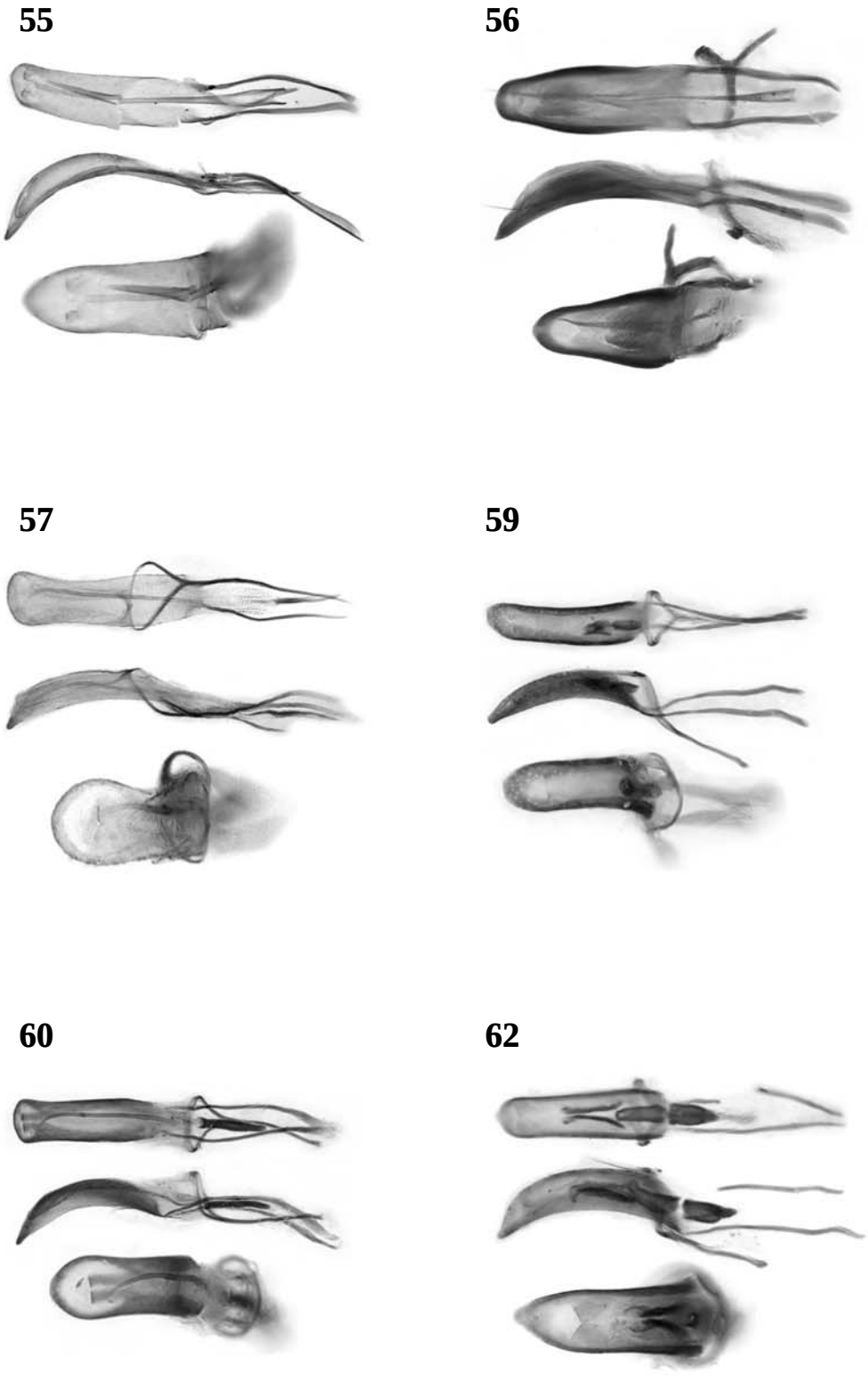


Plate 25. Curculioninae. 55. *Stereorynchus japonicus*; 56. *Stereorynchus thoracicus*; 57. *Dorytomus chinensis*; 59. *Dorytomus maculipennis*; 60. *Dorytomus roelofsi*; 62. *Dorytomus subcinctus*.

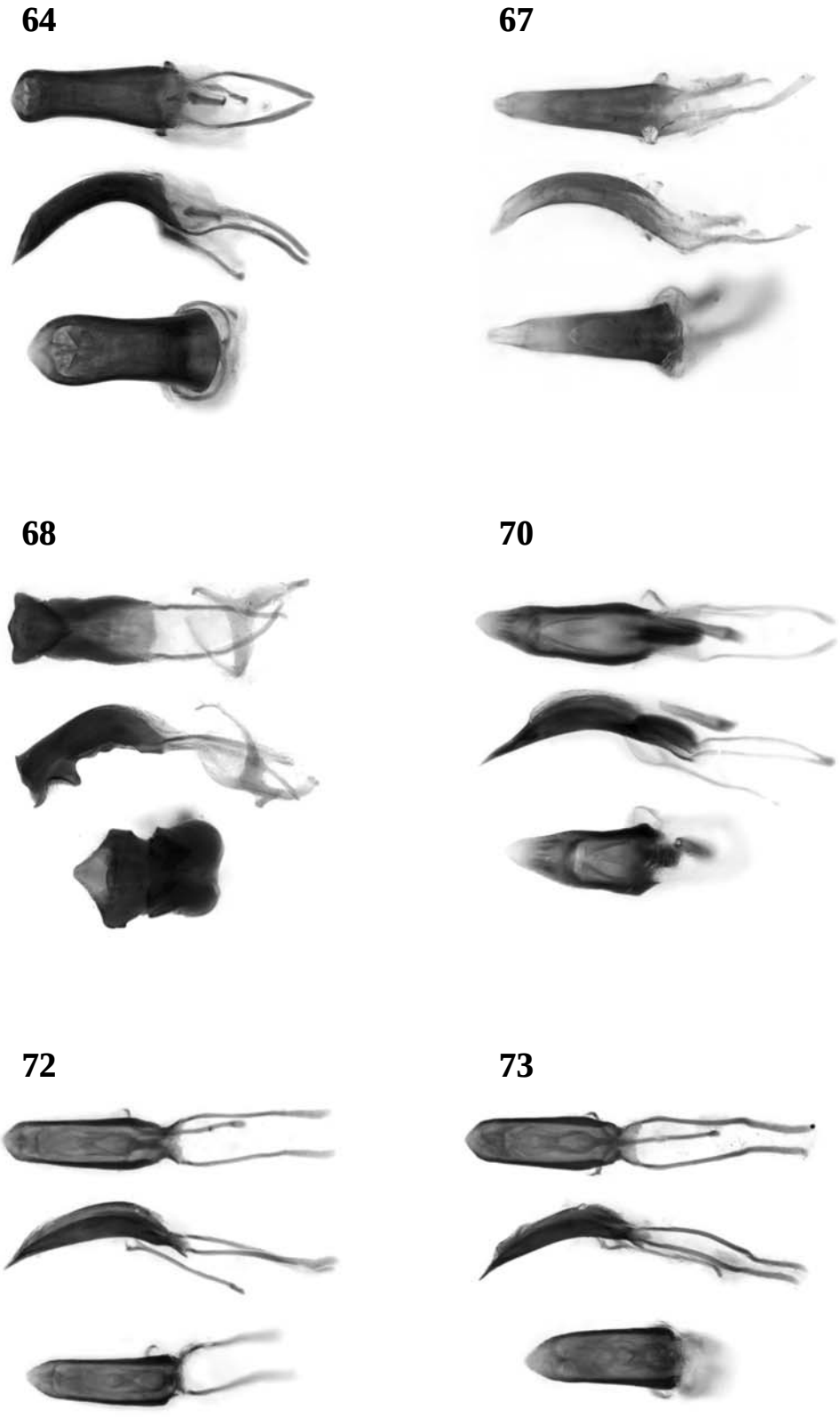


Plate 26. Curculioninae. 64. *Cleopomiarus dictamnophilus*; 67. *Gymnetron miyoshii*; 68. *Miarus ajugae*; 70. *Orchestes amurensis*; 72. *Orchestes harunire*; 73. *Orchestes horii*.

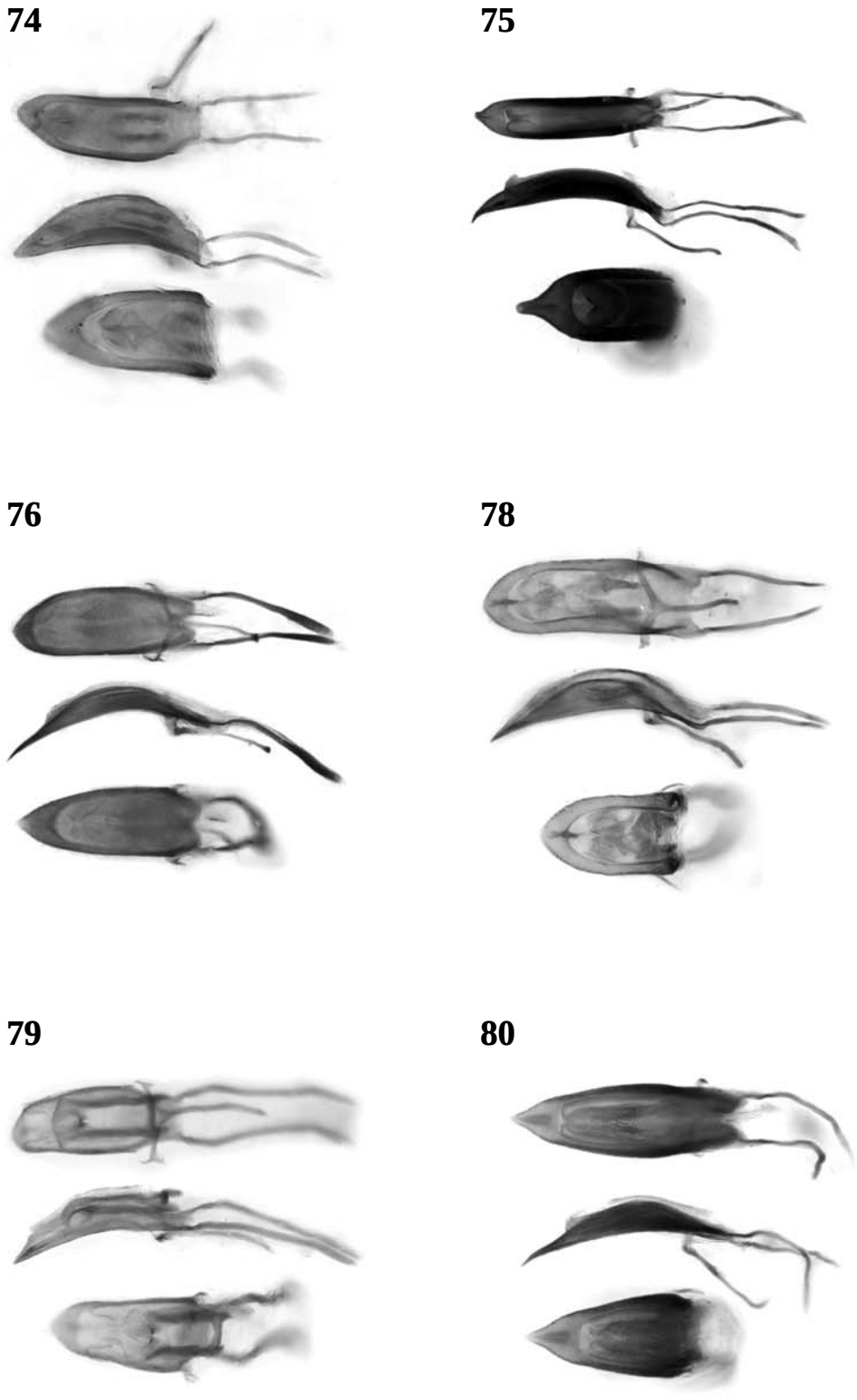


Plate 27. Curculioninae. 74. *Orchestes hustachei*; 75. *Orchestes japonicus*; 76. *Orchestes jota*; 78. *Orchestes mutabilis*; 79. *Orchestes nitens*; 80. *Orchestes nomizo*.

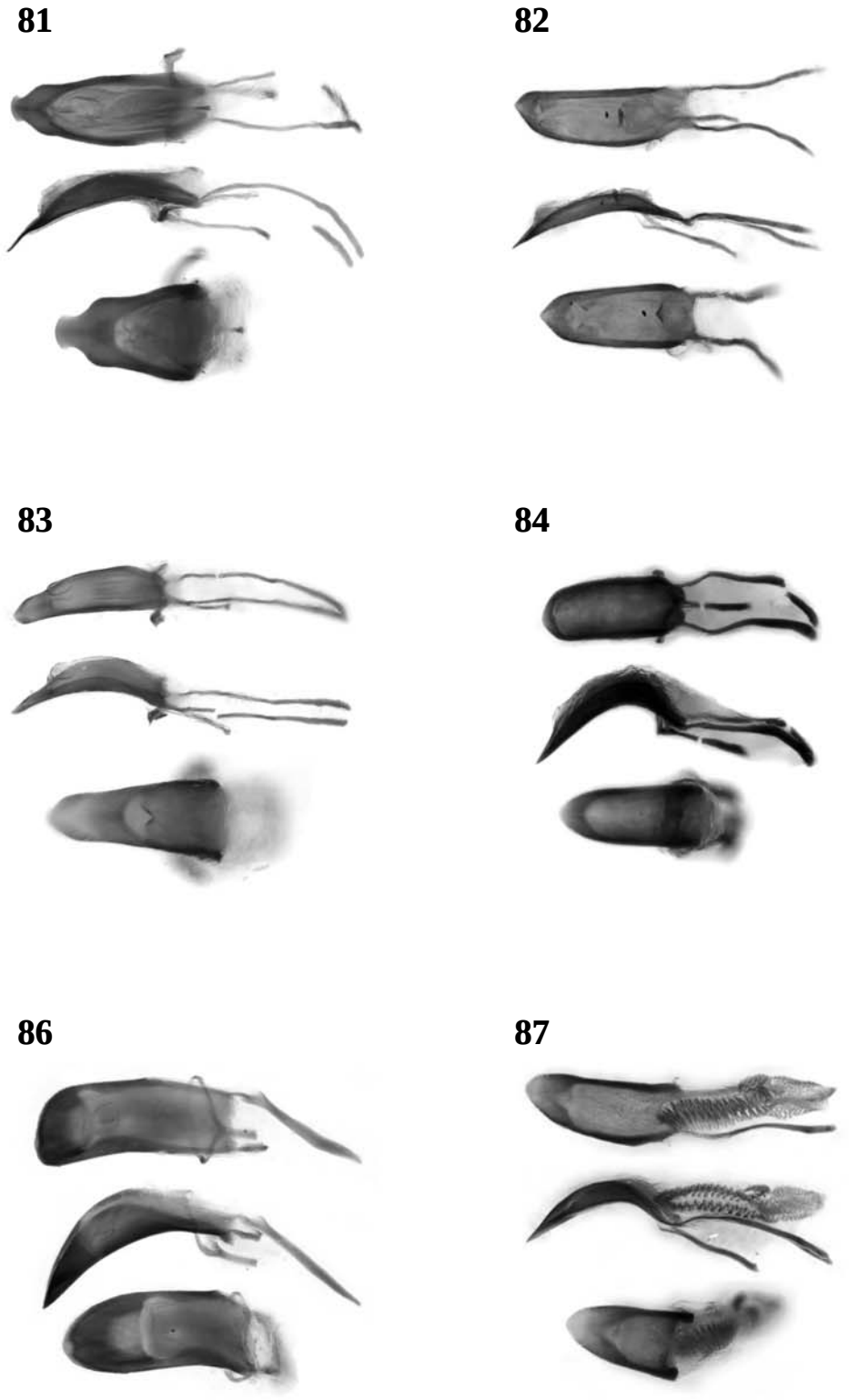


Plate 28. Curculioninae. 81. *Orchestes rusci*; 82. *Orchestes sanguinipes*; 83. *Orchestes subbifasciatus*; 84. *Rhamphus pulicarius*; 86. *Rhynchaenus pacificus*; 87. *Tachyerges salicis*.

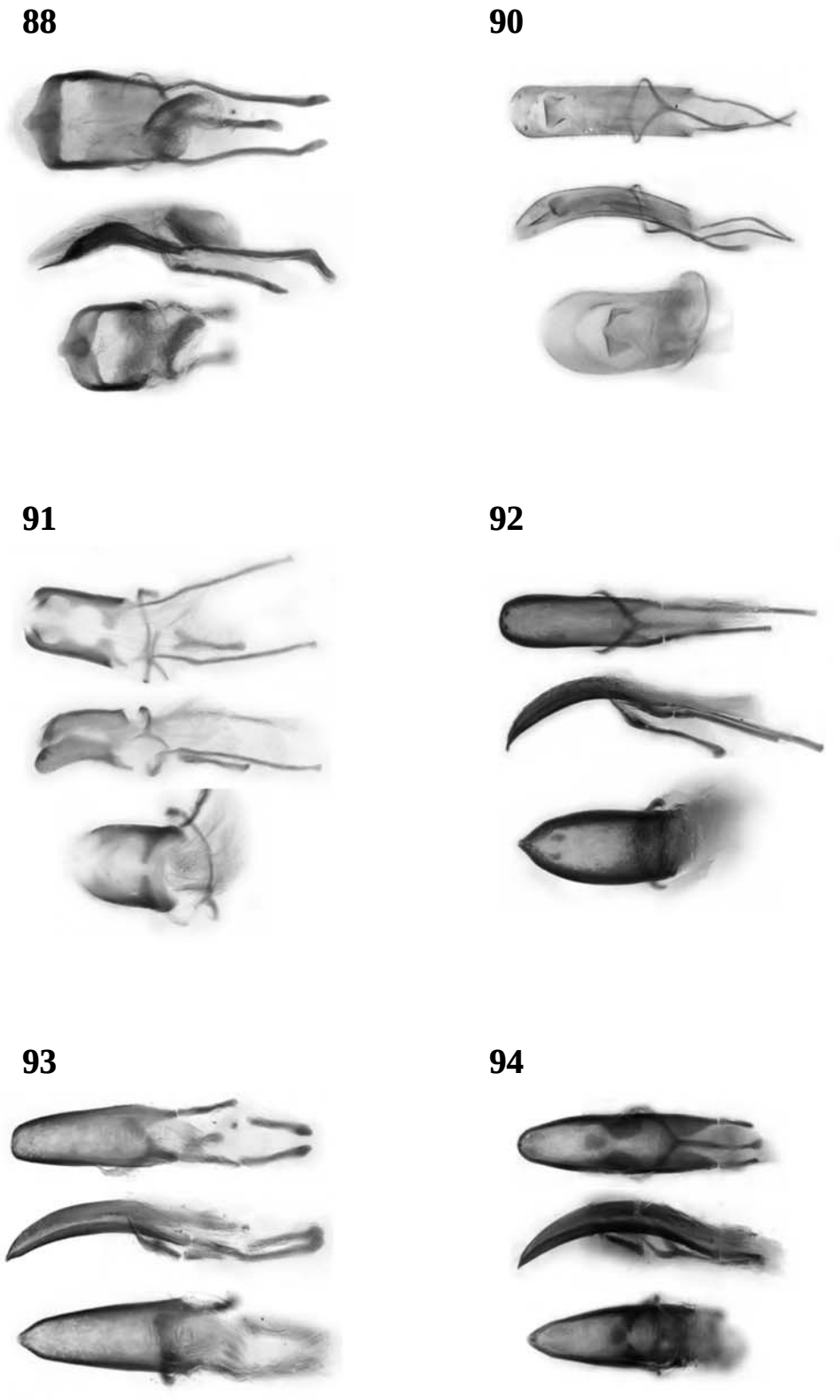


Plate 29. Curculioninae. 88. *Tachyerges stigma*; 90. *Smicronyx madaranus*; 91. *Smicronyx rubricatus*; 92. *Sibinia annulifera*; 93. *Sibinia elliptica*; 94. *Sibinia subelliptica*.

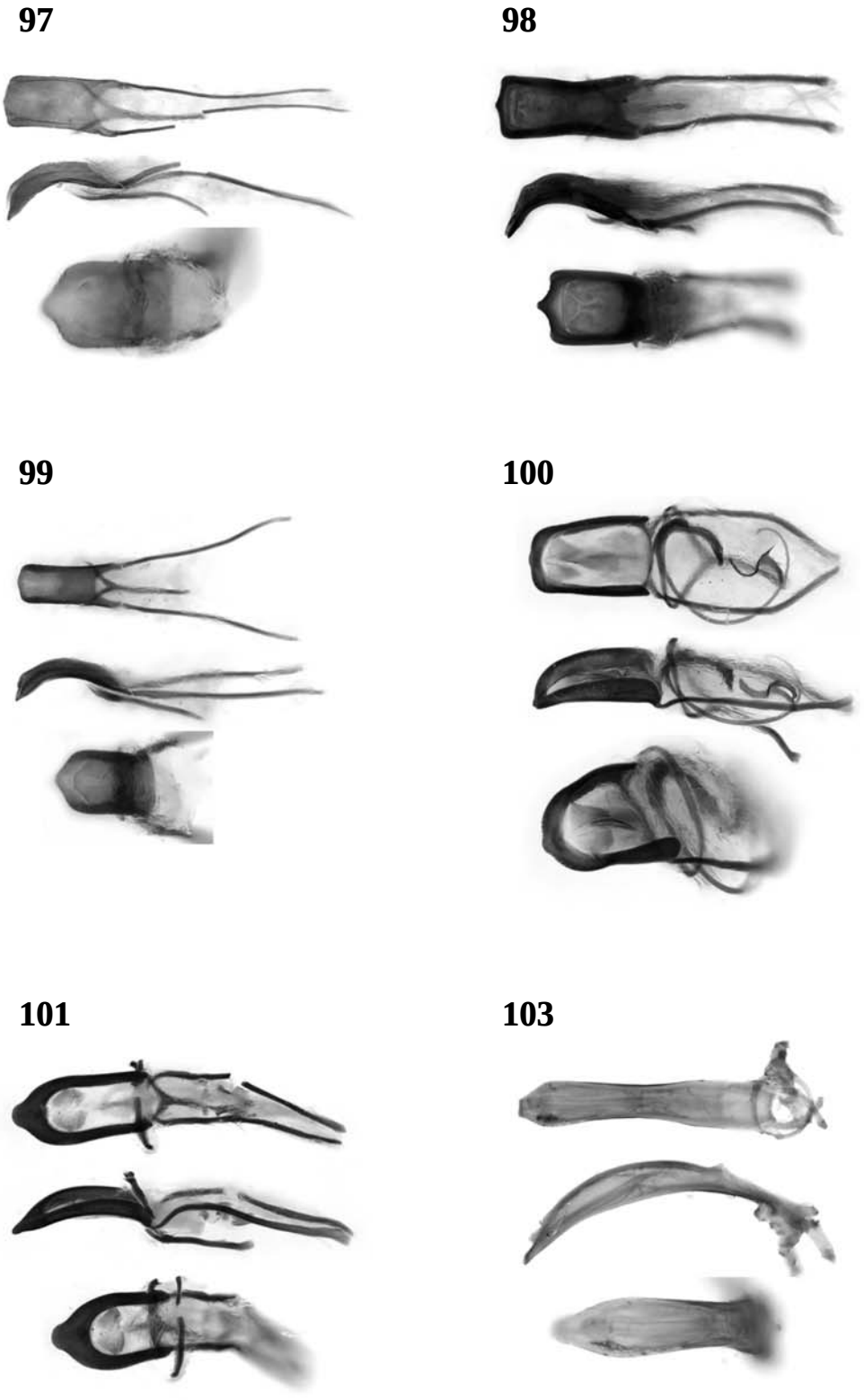


Plate 30. Curculioninae. 97. *Tychius breviusculus*; 98. *Tychius iwatensis*; 99. *Tychius ovalis*; 100. *Demimaea circula*; 101. *Demimaea fascicularis*; 103. *Ochyromera horikawai*.

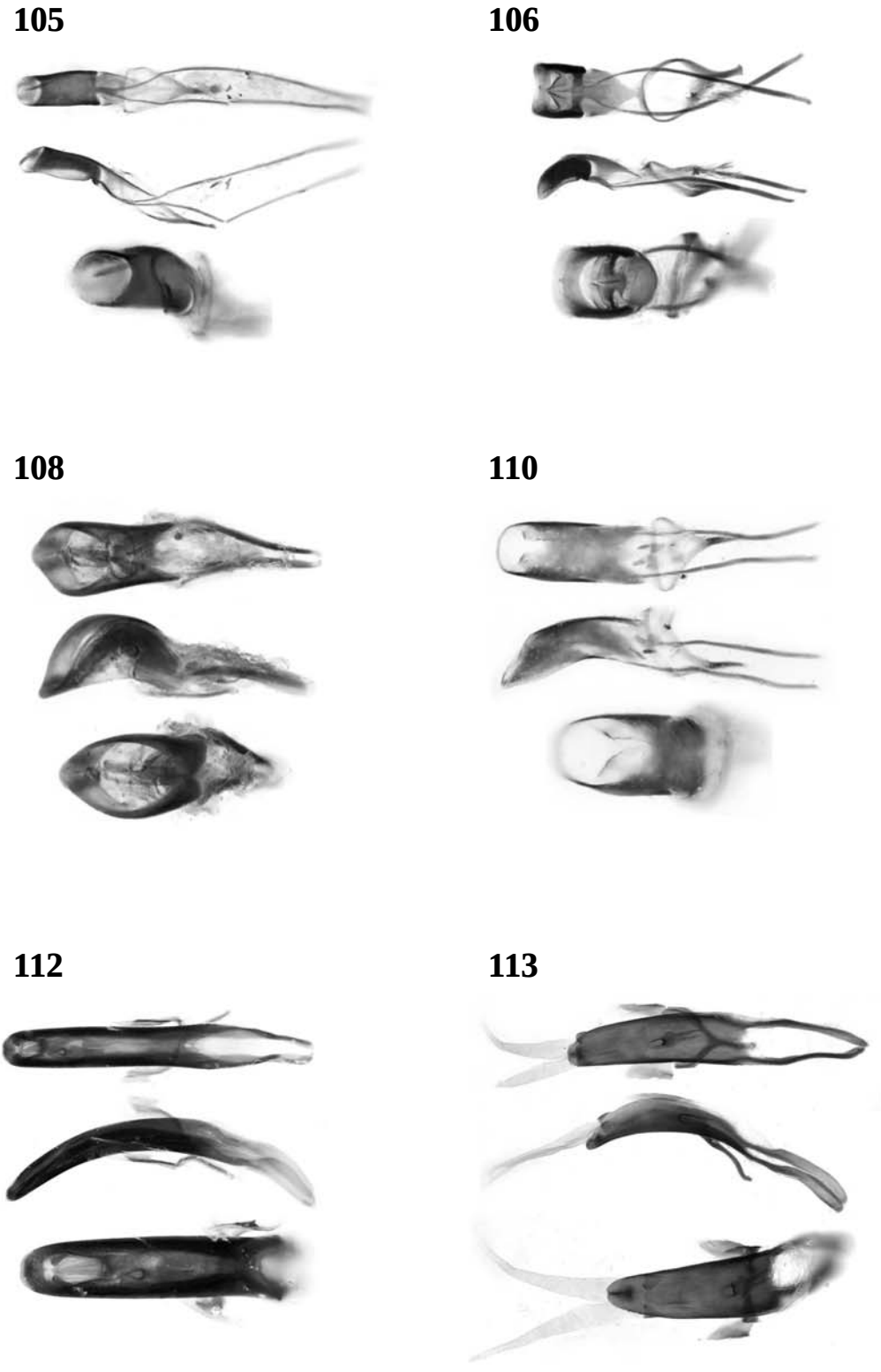
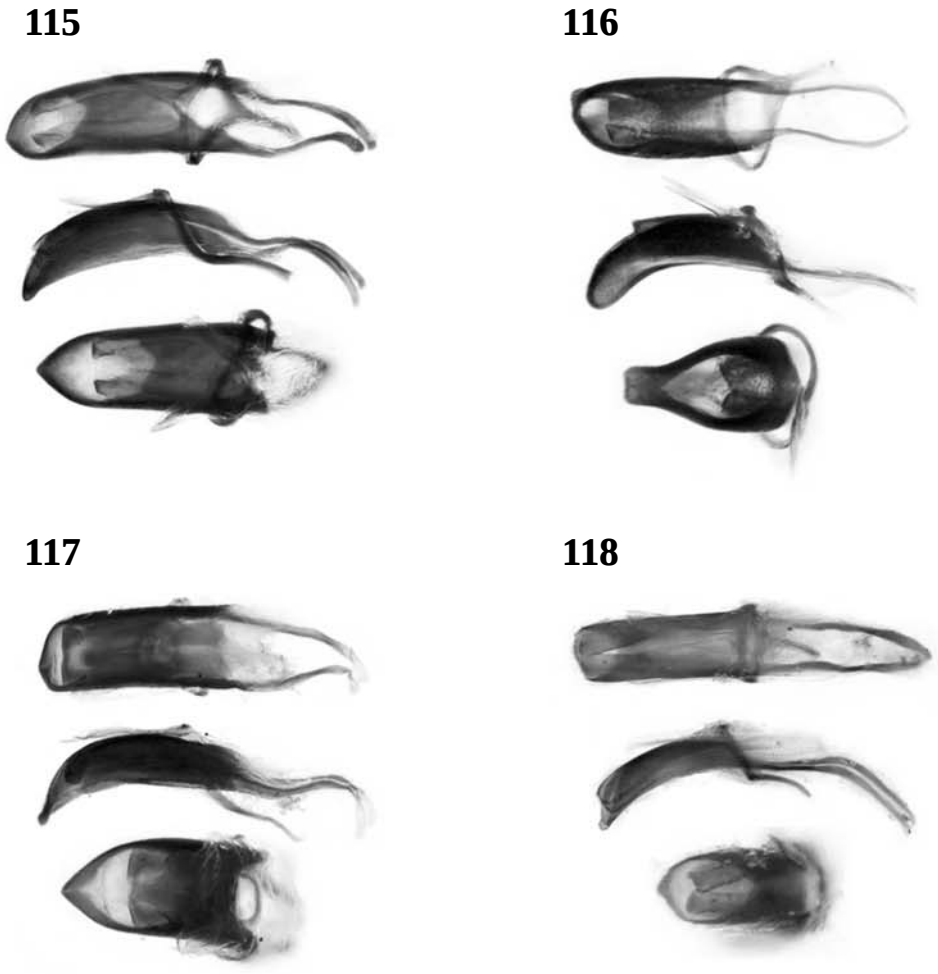


Plate 31. Cossoninae and Mesoptiliinae. 105. *Kojimazo lewisii*; 106. *Phloeophagosoma curvirostre*; 108. *Hexarthrum brevicorne*; 110. *Xenomimetes destructor*; 112. *Carcilia strigicollis*; 113. *Carcilia tenuistriata*.



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