

REVISION OF THE ASIAN SPECIES OF THE GENUS *HYPODORYCTES* KOKUJEV, 1900 (HYMENOPTERA: BRACONIDAE: DORYCTINAE)

SERGEY A. BELOKOBYSKIJ¹ and XUEXIN CHEN²

¹ Museum and Institute of Zoology PAS, Wilcza 64, 00-679 Warsaw, Poland and Zoological Institute Russian Academy of Sciences, St. Petersburg 199034, Russia; e-mail: hymenopt@zin.ru ; sb@zin.ru

² Institute of Applied Entomology and Department of Plant Protection, College of Agriculture and Biotechnology, Zhejiang University, Huajiachi Campus, Hangzhou 310029, China; e-mail: xxchen@zju.edu.cn

Abstract.— A revision of the Asian species of the genus *Hypodoryctes* Kokujev, 1900 is provided. Seven new species are described and figured: *H. cantata* Belokobylskij et Chen **sp. nov.** (Russian Far East, Korea, Japan), *H. fuga* Belokobylskij et Chen **sp. nov.** (Russian Far East, Korea, Japan, China, Vietnam), *H. rapsodia* Belokobylskij **sp. nov.** (Azerbaijan), *H. rondo* Belokobylskij et Chen **sp. nov.** (Vietnam, China), *H. serenada* Belokobylskij et Chen **sp. nov.** (China), *H. symphonia* Belokobylskij **sp. nov.** (Vietnam), *H. tango* Belokobylskij et Chen **sp. nov.** (China). Redescriptions of *H. sibiricus* Kokujev, 1900 (Palearctic, Myanmar, Mexico, Costa Rica), *H. bilobus* (Shestakov, 1940) (Russian Far East, Korea, Japan, China) and *H. torridus* Papp, 1987 (Russian Far East, Korea, Japan, China) are given. A key to all species of the genus *Hypodoryctes* is provided.



Key words.— Taxonomy, Hymenoptera, Braconidae, Doryctinae, *Hypodoryctes*, new species, redescription, distribution, Russian Far East, China, Korea, Japan, Vietnam.

INTRODUCTION

Hypodoryctes Kokujev, 1900 is one of the less derived genera of the subfamily Doryctinae Foerster, 1862. This genus includes 3 known species distributed in the Palearctic, Oriental and Neotropical (Mexico and Costa Rica) Regions. The type species, *H. sibiricus* Kokujev, 1900, is widely distributed in the Palearctic Region, penetrating into the north part of the Oriental Region (Taiwan, Myanmar) and it is more abundant in the Eastern Asian fauna. *Mixtec whartoni* Marsh, 1993, described from Mexico (Marsh 1993), was synonymized with *H. sibiricus* after study of the types and other additional material (Belokobylskij 1995).

The other two species of this genus are known only from Eastern Asia. *H. bilobus* (Shestakov, 1940) was originally described in the genus *Doryctes* Haliday, 1836 (Shestakov 1940) and later, after study of the holotype, transferred into *Hypodoryctes* by Belokobylskij (1982). It is distributed from the Chita Region of Russia to

Japan and Central China. The third species, *H. torridus* Papp, 1987, which is closely related to *H. bilobus*, was described from Korea (Papp 1987) and later was recorded also from the Russian Far East and Taiwan (Belokobylskij 1990, 1996). Additionally, seven new species of this genus are described in the present work from Japan, Korea, China, Vietnam, Russian Far East and Azerbaijan.

Van Achterberg (1995) synonymized *Wachsmannia* Szèpligeti, 1900 with *Hypodoryctes* Kokujev, 1900 by the presence of a distinct keel on the acrosternite of the first tergite. Our study showed that presence of such a keel is connected with elongation of the metasoma and with a long first tergite in some doryctine genera (*Ontsira* Cameron, 1900, *Hypodoryctes* Kokujev, *Doryctes* Haliday in part) and has only infraspecific meaning (Belokobylskij 1998a). The main diagnostic characters of *Hypodoryctes* (the triangular area on the second metasomal tergite and the partly sculptured fourth and fifth tergites) are absent in a single *Wachsmannia* species – *W. spathiiformis*

(Ratzeburg 1848). On the other hand, there are no real differences (especially after receiving new data on the tropical fauna: Belokobylskij 1998a) between the genera *Ontsira* and *Wachsmannia*, which was the reason these names were synonymized (Belokobylskij 1992, 1998a).

Information about hosts of this genus was absent until now. On the basis of the collection of a cocoon of *H. sibiricus* in the tunnels of longhorn beetle larvae in Bulgaria, it was suggested that larvae from the family Cerambycidae are hosts of this taxon (Belokobylskij 2003). The first real rearing of the member of the genus *Hypodoryctes*, *H. torridus* Papp, from the larva of *Ovalisia virgata* Motschulsky, 1859 (Buprestidae), was made in Japan (see below).

The terms for wing venation are used as defined by Belokobylskij and Tobias (1998). The following abbreviations are used: POL – postocellar line; OOL – ocular-ocellar line; Od – maximum diameter of lateral ocellus; HNHM – Hungarian Natural History Museum (Budapest, Hungary); IEBR – Institute of Ecology and Biological Resources (Hanoi, Vietnam); IZANU – Institute of Zoology, NANU (Kiev, Ukraine); MIZW – Museum and Institute of Zoology (Warsaw, Poland); NIAES – National Institute of Agro-Environmental Sciences (Tsukuba, Japan); SMNH – Swedish Museum of Natural History (Stockholm, Sweden); ZISP – Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia); ZJUH – Zhejiang University (Hangzhou, China).

The names of the new species are arbitrary combinations of letters.

TAXONOMY

Hypodoryctes Kokujev, 1900

Type species. *Hypodoryctes sibiricus* Kokujev 1900.

Description. Head subcubical. Ocelli arranged in triangle with base longer than its sides. Eyes glabrous or shortly setose, weakly concave opposite antennal sockets. Clypeus with narrow and rather distinct lower flange. Malar suture absent or very shallow. Hypoclypeal depression rather large and round. Face with 2 distinct submedian oval depressions above clypeal suture. Occipital carina distinct, usually fused with hypostomal carina. Postgenal bridge present and narrow. Maxillary palpi 6-segmented, labial palpi 4-segmented. Antennae rather slender, weakly setiform, long. First flagellar segment longer than second segment. Apical segment with short spine apically. Mesoscutum about twice as long as height. Pronotum anteriorly with distinct and curved up transparent flange. Pronotal carina complete, rather distinct, situated submedially. Mesonotum highly and almost perpendicularly raised above pronotum, densely punctate, entirely densely setose. Median lobe of mesoscutum

more or less distinctly protruding forward. Notauli deep and complete. Metanotum without distinct dorsal tooth. Sternauli deep and sculptured. Prepectal carina distinct. Postpectal carina absent. Metapleural flange wide, usually rounded apically. Propodeum with marginate areas; areola rather small. Radial cell of fore wing not shortened. Second radial abscissa longer than first radiomedial vein. Both radiomedial veins present. Recurrent vein distinctly antefurcal. Discoidal cell anteriorly petiolate. Nervulus postfurcal. Parallel vein arising before middle of apical margin of brachial cell. In hind wing, first abscissa of mediocubital vein usually not shorter than second abscissa; submedial cell large. Recurrent vein present. Legs. Fore tibia with distinct numerous and usually small spines arranged in narrow stripe, and with row of dense spines on inner apical margin. Hind coxa usually with basoventral tubercle. Hind femur elongate-oval, rather thick. Basitarsus of hind tarsus rather long, (0.6) 0.7–0.9 (1.0) times as long as second-fifth segments combined. Hind tibia with short, dense and semi-erect setae dorsally, length of these setae distinctly less than maximum width of hind tibia. First metasomal tergite not petiolate, more or less wide, with deep dorsope; acrosternite not elongate, with distinct basoventral keel. Second tergite with more or less distinct basal triangular area delineated on outer margin by depressions (sometimes very shallow) or at least contrastingly colorated stripes; this area petiolate apically, and at least shortly separated from second suture. Second suture distinct, straight or curved. Third tergite usually with fine, but more or less distinct narrow or wide transverse submedian depression. First and second tergites entirely, third at least in basal half, fourth and fifth tergites basally sculptured. Ovipositor long, usually about as long as body. Ovipositor sheaths with short, semi-erect and very dense black setae.

Distribution. Palaearctic, North Neotropical and Oriental Regions.

Key to species of the genus *Hypodoryctes* Kokujev

1. Second metasomal tergite of female transverse, its median length 0.55–0.8 times basal width (Figs 11, 22, 51, 85) 2
- . Second metasomal tergite of female subsquare, its median length 1.0–1.3 (rarely 0.9) times basal width (Figs 30, 43, 63, 75, 96, 107). 5
2. Occipital carina rather widely interrupted dorsally (Fig. 13). Hind femur 2.5–2.6 times as long as wide (Fig. 18). Transverse diameter of eye 1.1–1.3 times as long as temple (dorsal view) (Fig. 13). First flagellar segment of antenna 2.3–2.6 times as long as its apical width. (Fig. 14). Median lobe of mesoscutum weakly convex anteriorly. [Hind tibia pale basally (Fig. 19). Body length 5.0–10.0 mm]. *H. cantata* sp. nov.
- . Occipital carina complete dorsally (Figs 2, 45, 77). Hind femur 2.8–3.5 times as long as wide (Figs 9, 48,

- 80). Transverse diameter of eye 1.3–2.0 times as long as temple (dorsal view) (Figs 2, 45, 77). First flagellar segment of antenna 2.8–3.4 times as long as its apical width. (Figs 3, 46, 78). Median lobe of mesoscutum distinctly convex anteriorly. **3**
3. Mesosoma of female black for the most part. Middle tarsi rather thick and short, first segment 3.0–4.0 (rarely 5.0) times and second segment 2.2–3.0 times as long as wide. Temple longer, transverse diameter of eye 1.3–1.6 times as long as temple (dorsal view) (Fig. 2). Second radiomedial cell 2.3–2.8 times as long as wide, almost as long as brachial cell (Fig. 7). [Body length 3.7–8.8 mm] ***H. bilobus*** (Shestakov)
- . Mesosoma of female light brownish red for the most part. Middle tarsi slender and long, first segment 5.5–7.0 times and second segment 3.0–4.0 times as long as wide. Temple shorter, transverse diameter of eye 1.7–2.0 times as long as temple (dorsal view) (Fig. 45, 77). Second radiomedial cell 2.7–3.2 (rarely 2.5) times as long as wide, 1.2–1.3 times as long as brachial cell (Fig. 52, 83). **4**
4. Vertex sparsely and very finely punctate, almost smooth (Fig. 45). Lateral lobes of mesoscutum densely and finely punctate. All tibiae dark basally (Fig. 50). Body length 3.0–6.6 mm. ***H. rondo*** sp. nov.
- . Vertex rather densely and distinctly punctate (Fig. 77). Lateral lobes of mesoscutum densely and distinctly rugulose-striate with additional dense punctation partly. All tibiae pale basally (Fig. 82). Body length 5.6 mm. ***H. symphonia*** sp. nov.
5. First metasomal tergite very long, 2.7 times as long as its apical width (Fig. 96). Third tergite without transverse furrow (Fig. 96). [Hind tibia dark basally (Fig. 93). Hind basitarsus as long as second-fifth segments combined. Body length 10.4 mm] ***H. tango*** sp. nov.
- . First metasomal tergite shorter, 1.6–2.2 times as long as its apical width (Fig. 30, 63, 75, 107). Third tergite with more or less distinct transverse furrow (Fig. 30, 63, 75, 107) **6**
6. Ovipositor sheath with long white subapical band. Third tergite of mesosoma with deep and complete transverse submedian furrow (Fig. 63). First tergite longer, its length 2.1–2.2 times apical width (Fig. 63). Hind coxa almost smooth or finely striate dorsally (Fig. 57). [Body length 4.6–11.0 mm]. ***H. serenada*** sp. nov.
- . Ovipositor sheath without white band. Third tergite of mesosoma with more or less shallow and incomplete transverse submedian furrow (Figs 30, 43, 75, 107). First tergite shorter, its length 1.6–2.0 times apical width (Figs 30, 43, 75, 107). Hind coxa coarsely sculptured dorsally (Figs 28, 37, 74, 105). **7**
7. Median lobe of mesoscutum almost perpendicularly raised above pronotum, distinctly protruding forward (Fig. 100), densely pubescent anterolaterally, weakly convex anteriorly (dorsal view). Hind basitarsus 0.6 times as long as second-fifth segments combined. Furrows of the second tergite deep (Fig. 107). [Body length 3.3–11.5 mm] ***H. torridus*** Papp
- . Median lobe of mesoscutum roundly raised above pronotum, weakly protruding forward (Fig. 67), not densely pubescent anterolaterally, distinctly convex anteriorly (dorsal view). Hind basitarsus 0.75–0.9 times as long as second-fifth segments combined. Furrows of the second tergite shallow, sometimes indistinct (Figs 30, 43, 75) **8**
8. Hind coxa without basoventral tooth (Fig. 37). Metapleural lobe short (Fig. 42). Fore and middle tibiae with sparse and thick spines. Third-fifth metasomal tergites entirely setose. Face almost entirely smooth (Fig. 33). Mesoscutum very finely punctate. [Hind tibia pale basally (Fig. 39). Body length 5.0 mm] ***H. rapsodia*** sp. nov.
- . Hind coxa with distinct basoventral tooth (Figs 28, 74). Metapleural lobe long (Fig. 69). Fore and middle tibiae with dense and slender spines. Third-fifth metasomal tergites setose only submedially. Face distinctly sculptured at least medially (Figs 23, 64). Mesoscutum distinctly and usually densely punctate, partly with granulation **9**
9. Head behind eyes less distinctly and less strongly narrowed (Fig. 64). Transverse diameter of eye 1.2–1.5 times as long as temple (Fig. 64). Second radiomedial cell longer (Fig. 72); second radial abscissa 0.45–0.55 times as long as third abscissa. Second tergite with rather distinctly delineated triangular area. Hind tibia infusate basally (Fig. 70). Body length 2.0–8.3 mm ***H. sibiricus*** Kokujev
- . Head behind eyes distinctly and more strongly narrowed (Fig. 24). Transverse diameter of eye 1.7–2.0 times as long as temple (Fig. 24). Second radiomedial cell shorter (Fig. 31); second radial abscissa 0.35–0.45 times as long as third abscissa. Second tergite without delineated triangular area. Hind tibia pale basally (Fig. 29). Body length 2.8–6.8 mm. . . ***H. fuga*** sp. nov.

Hypodoryctes bilobus (Shestakov, 1940)
(Figs 1–11)

Doryctes bilobus Shestakov, 1940: 6; Shenefelt and Marsh 1976: 1278.
Doryctodes bilobus: Telenga 1941: 87.
Hypodoryctes bilobus: Belokobylskij 1982: 612; 1998b: 58.

Material examined. Russia: 1 female (holotype) (without head): “Vladivostok, Sedanka, Malaise, 14/8.[19]30”, “*Doryctes bilobus* sp. n., typ, det. Shestakov” (SMNH); Chita Province (1 female), Amurskaya Province (5 females), Evreyskaya Autonomous Province (6 females), Khabarovsk Territory (6 females), Primorskiy Territory (35 females), Sakhalin I. (1 male), Kunashir I. (2 females, 1 male), Shikotan I. (1 female). China: Anhui (1 female),

Henan (1 female), Hubei (1 female), Hunan (1 female), Zhejiang (3 females, 3 males), Guangdong (3 males), Korea (1 female). Japan: Hokkaido (18 females, 17 males), Honshu (15 females, 10 males), Shikoku (3 females), Kyushu (7 females, 15 males).

Description. Female. Body length 3.8–8.8 mm; fore wing length 3.3–6.2 mm.

Head. Width 1.4–1.5 times median length. Head behind eyes (dorsal view) roundly narrowed. Transverse diameter of eye 1.3–1.6 (rarely 1.75) times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.2–1.3 times its sides. POL 0.7–1.0 times Od, 0.4–0.5 times OOL. Eye very shortly and sparsely setose, 1.3–1.4 times as high as broad. Malar space height 0.2–0.25 times height of eye, 0.4–0.6 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.2–1.3 times height of face and clypeus combined. Malar suture very shallow, but more or less distinct. Hypoclypeal depression round, its width almost equal to distance from edge of depression to eye, 0.4–0.5 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina above base of mandible at least by additional carina.

Antennae almost filiform, 46–63-segmented, 1.2–1.3 times as long as body. Scapus 1.4–1.5 times as long as its maximum width. First flagellar segment 2.8–3.0 times as long as its apical width, 1.2–1.3 times as long as second segment. Penultimate segment 2.3–2.6 times as long as wide, 0.5–0.6 times as long as first flagellar segment, 0.8–0.9 times as long as apical segment; the latter with distinct pointed apical spine.

Mesosoma. Length 1.8–1.9 times its height. Mesoscutum highly and almost perpendicularly raised above pronotum. Median lobe of mesoscutum distinctly protruding forward, distinctly regularly rounded anteriorly and without anterolateral corners (dorsal view), with narrow rather deep median longitudinal furrow at least in posterior 0.7. Notauli deep and wide in anterior $\frac{2}{3}$, shallow and rather narrow in posterior $\frac{1}{3}$, crenulate. Prescutellar depression deep and long, with 1–3 carinae, rugulose-striate, about 0.3 times as long as scutellum. Subalar depression rather shallow, wide, rugulose-striate or rugose. Sternauli rather shallow and narrow, distinctly crenulate, oblique, running along 0.6–0.7 of lower part of mesopleura. Metapleural flange wide, rather long, rounded apically.

Wings. Fore wing 3.0–3.3 times as long as maximum width. Radial vein arising slightly after or from middle of pterostigma. Metacarpus 1.3–1.4 times as long as pterostigma. Second radial abscissa 3.5–4.5 times as long as first abscissa, 0.5–0.6 times as long as the straight third abscissa, 1.2–1.5 times as long as first radiomedial vein. Second radiomedial cell rather short, 2.0–2.8 times as long as its maximum width, 0.9–1.15 times as long as brachial cell, 0.75–0.85 times as long as discoidal cell. Brachial cell wide, weakly widened distally. Distance

from nervulus to basal vein 0.3–0.6 times nervulus length. In hind wing, first abscissa of mediocubital vein about as long as second abscissa. Recurrent vein almost straight, antefurcal or interstitial.

Legs. Tarsal segments of middle leg more or less thickened; first segment 3.0–5.0 times as long as its width, 0.7 times as long as second–fourth segments combined; second segment 2.2–3.0 times as long as wide. Hind coxa with rather distinct tooth, 1.4–1.6 times as long as wide. Hind femur 3.0–3.6 times as long as wide. Hind tarsus 0.9–1.0 times as long as hind tibia. Hind basitarsus 0.7–0.8 times as long as second–fifth segments combined. Second tarsal segment 0.4–0.45 times as long as basitarsus, 1.3–1.4 times as long as fifth segment (without pretarsus); fourth segment 1.8–2.0 times as long as wide, 0.55–0.6 times as long as third segment.

Metasoma 1.0–1.2 times as long as head and mesosoma combined. First tergite with distinct dorsope, with very small (sometimes indistinct) spiracular tubercles in basal $\frac{1}{3}$, rather distinctly and almost linearly widened from base to subapex, and weakly narrowed apically. Maximum width of first tergite 1.6–2.0 times its minimum width; length 1.4–1.85 times its maximum width, 1.4–1.5 times length of propodeum. Second tergite with rather distinct shallow convergent furrows, fusing in its posterior 0.75–0.8; length of tergite 0.7–0.8 (rarely 0.85) times its basal width, almost equal to length of third tergite. Second suture deep, without or with weak lateral bends. Third tergite with shallow transverse furrow in its basal $\frac{1}{3}$ – $\frac{2}{5}$. Ovipositor sheath 0.85–1.0 times as long as body, 1.5–1.9 times as long as metasoma, 2.2–2.6 times as long as mesosoma, 1.0–1.2 times as long as fore wing.

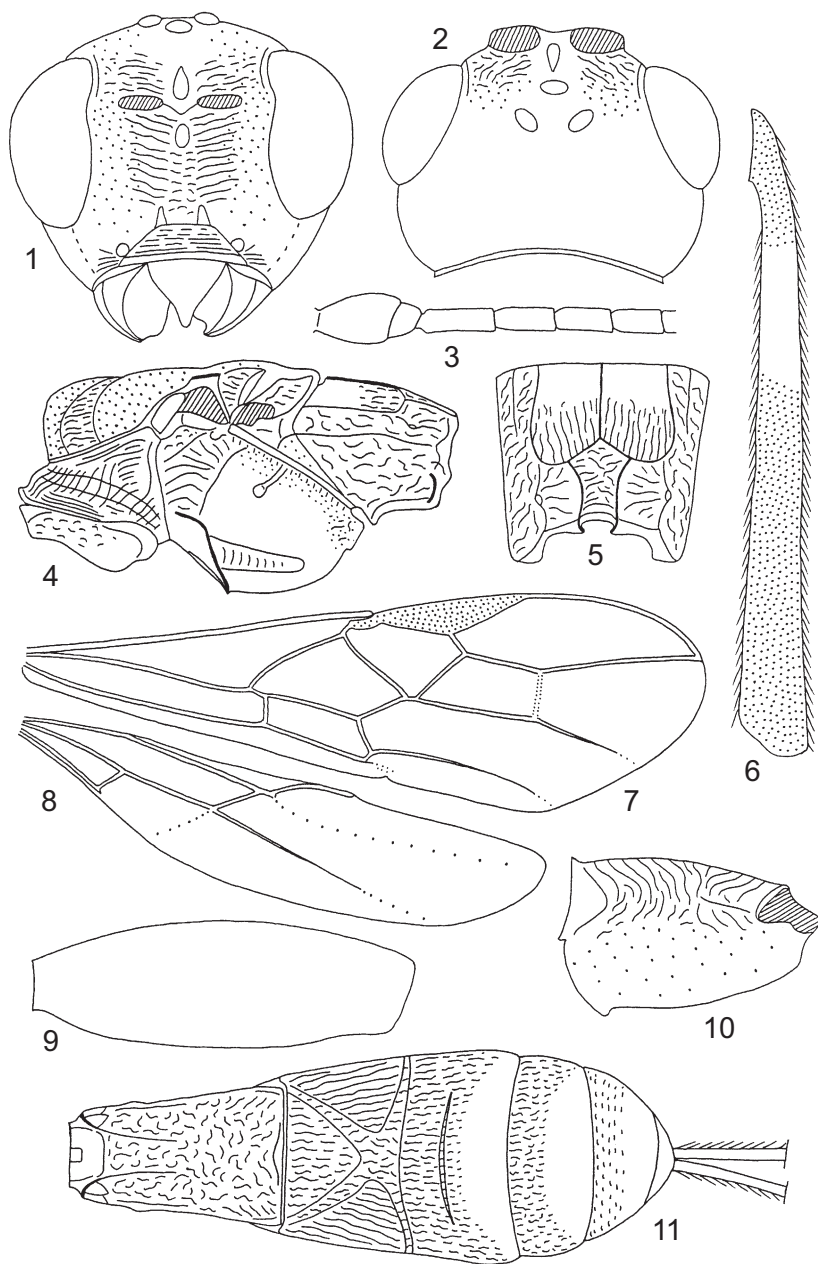
Sculpture and pubescence. Head finely and sparsely punctate or almost smooth; frons in anterior half at least laterally rugulose-striate; face densely punctate, rugulose-striate medially, in small specimens finely punctate only. Mesoscutum densely and rather distinctly punctate, narrowly rugulose medioposteriorly. Scutellum finely and densely punctate. Mesopleura smooth, sparsely punctate upper. Propodeum with distinctly marginate areas, basolateral areas large, smooth in anterior $\frac{1}{3}$ – $\frac{1}{2}$, striate-rugulose in posterior $\frac{1}{2}$ – $\frac{2}{3}$, rarely smooth for the most part; rest part of propodeum coarsely rugulose; areola short and rather wide, 1.1–1.3 times as long as wide; basal carina 2.0–2.7 times as long as fork of areola. Hind coxae transversely striate with rugosity dorsally, finely and rather densely punctate laterally. First tergite entirely and median area of second tergite coarsely and irregularly rugulose-reticulate, often first tergite striate in apical $\frac{1}{3}$ – $\frac{1}{4}$; rest part of second tergite and third tergite in basal $\frac{2}{5}$ (medially) – $\frac{4}{5}$ (laterally) densely or rather densely longitudinally or weakly undulately striate with distinct rugosity between striae; fourth and fifth tergites in basal $\frac{1}{2}$ – $\frac{1}{3}$ very densely and usually finely rugulose-reticulate, but sometimes (in small specimens usually) very finely and densely reticulate or entirely smooth;

sixth tergite sometimes finely rugulose-coriaceous basally; following parts of tergites smooth. Vertex densely setose. Mesoscutum without dense pubescence in anterolateral sides. Third-fifth tergites medially rather widely setose in basal halves, almost entirely setose laterally, bare in medioapical halves.

Colour. Body black, rarely dark reddish brown or reddish brown, furrows of second tergite and second suture reddish or yellowish; rarely propodeum and/or second tergites light reddish brown. Antennae dark reddish brown or (rarely) light reddish brown for the most part, infuscate or almost black apically. Palpi pale yellow. Legs light reddish brown or brownish yellow, rarely faintly or distinctly infuscate to dark reddish brown, fore and middle or sometimes only fore coxae and all trochanters yellowish; often femora darkened dorsally and (rarely) ventrally; all tibiae shortly more or less dark basally, but sometimes indistinctly, then light reddish brown or yellow (in hind tibia often pale part rather long), their apical $\frac{1}{2}$ – $\frac{3}{4}$ light reddish brown or brownish yellow to dark reddish brown; tarsi reddish brown, hind tarsi often dark reddish brown. Wings faintly infuscate. Pterostigma entirely dark brown.

Male. Body length 3.7–6.5 mm; fore wing length 3.0–4.7 mm. Head behind eyes usually convex. Transverse diameter of eye 1.1–1.5 times as long as temple (dorsal view). Hind femur 2.6–2.8 times as long as wide. Length of second tergite 0.7–0.9 times its basal width, 1.0–1.2 times length of third tergite; furrows of second tergite sometimes very shallow and triangle area shorter. Hind coxa mostly smooth, only shortly striate dorsally. Sculpture of metasoma usually coarse, sometimes (in large specimens) fifth and sixth tergites basally widely striate. Otherwise similar to female.

Diagnosis. This species is similar to type species of the genus *H. sibiricus* Kokujev, but differs in the second metasomal tergite being transverse, the first tergite relatively being short, the median area of the second tergite being longer, the tarsal segments being short, and the hind femur being wide. *H. bilobus* (Shestakov) is also similar to *H. torridus* Papp, but differs in the base of hind tibia usually being dark colored, the anterior part of median lobe of mesoscutum being regularly convex-



Figures 1–11. *Hypodoryctes bilobus* (Shestakov, 1940). (1) Head, frontal view, (2) head, dorsal view, (3) six basal segments of antenna, (4) mesosoma, (5) propodeum, (6) hind tibia, (7) fore wing, (8) hind wing, (9) hind femur, (10) hind coxa, (11) metasoma, dorsal view.

rounded and without anterolateral shoulders, the anterior part of notauli being rather sparse setose, the second radial abscissa being short, and the second metasomal tergite being transverse.

Remarks. This revision of all *Hypodoryctes* species and finding of new diagnostic characters allowed more careful reconsideration of the former form *nitidus* in *H. sibiricus* (Belokobylskij 1996). This form is transferred here to *H. bilobus* (Shestakov), because in the studied males [2 males, “Meifeng, Taiwan, 2150 m, V-

10–83, Henry Townes”; 1 male, Guangdong, Fuyuan, Nanling, 8.V.2004 (Xu Zaifu, No 20049403] the second tergite is transverse, the median lobe of mesosoma is weakly convex anteriorly, the mesosoma is short, and the second radiomedial cell is long. It is possible that new material from different places will allow estimation of such characters as a smooth metapleura and most of metasoma to be resurrected as specific characters.

Distribution. Russia (Eastern Siberia, Far East), China (Anhui, Henan, Hubei, Hunan, Sichuan, Zhejiang, Guangdong), Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu).

Hypodoryctes cantata Belokobylskij et Chen sp. nov.
(Figs 12–22)

Type material. Holotype: female, Russia, Primorskiy Territory: “Andreevka, MES, Khasan[skiy] r[ayo]n, Primorie, Kasparyan, 7 VIII.[1]978” (ZISP).

Paratypes. Russia: 1 female, “Primorskiy kray, 20 km S Spasska (-Dal’nego), les, opushka, 18.08.1991, Belokobylskij” (ZISP); 3 males, “Primorskiy kray, Spassk (-Dal’niy), les, 15.06.1990, Belokobylskij” (ZISP, MIZW); 1 female, “Primorskiy kray, Spassk-Dal’niy, les, kustarnik, 26–28.06.2003, S. Belokobylskij” (ZISP); 1 female, “Primorskiy kray, 20 km YuV Ussuriyska, les, 18.07.1996, S. Belokobylskij” (ZISP); 1 male, same locality, “les, polyany, 2.08.1991, Belokobylskij” (ZISP); 1 female “Gornotayozhn.[aya] st.[antziya], 20 km YuV Ussuriyska, Kasparyan, 30 VIII [1]978” (ZISP); 1 female, same label, but 31.VIII.1978 (HNHM); 1 female, same label, but 12.VII.1981 (ZISP); 1 female, same locality, but “19 VI 1983, Budryns” (ZISP); 3 females, “Primorskiy kray, 50 km Z Ussuriyska, Nikolo-L’vovskoe, r.[eka] Kazachka, dubnyak, opushki, kust.[arnik], 19–20.08.2003, S. Belokobylskij” (ZISP, ZJUH); 1 female, “Primorskiy kray, 20 km YuZ Putzilovki, Monakino, les, polyany, 24–28.06.1993, Belokobylskij” (ZISP); 1 female, “Barabash-Levada, Primor’e, Pogr.[anichnyi] r[ayo]n, Kasparyan, 3 IX [1]978” (ZISP); 1 female, “Primorskiy kray, Vladivostok, Sputnik, les, 21.06.2003, S. Belokobylskij” (ZISP); 1 female, “Primorskiy kray, Vladivostok, Sedanka, les, opushki, 9.08.2003, S. Belokobylskij” (ZISP). Korea: 1 female, 1 male, “S. Korea: Gyeongsangnam-do, 60 km SW Busan (Pusan), Geojedo I., 23.06.2002, S. Belokobylskij” (ZISP). Japan: 1 male, “Hokkaido Univ. Exp. Forest, Tomakomai City, Hokkaido, 18–20.vi.1980, K. Maeto leg.” (NIAES); 1 female, “Mt. Shinbo-dake, Asahi-mura, Niigata Pref., 5.vi.1980, K. Maeto leg.” (NIAES); 1 female, “Hinoemata village, Fukushima Pref., Honshu, Japan, 16–18.viii. 1999, S. Belokobylskij” (ZISP); 1 male, “Nagayama, Tokyo, 1980.7.24, I. Katsuya leg.” (NIAES); 1 male, “[Honshu] Mt. Wasamata, Nara Pref., 22. viii.1994, K. Tenma [L.T.]” (ZISP); 1 male, “Yokouchi-Yaegiku, Aomori City,

Aomori Pref., 14.viii.1994, T. Ichita” (NIAES); 1 female, “[Shimadomari], Sata town, Kagoshima Pref., Kyushu, Japan, 18.v.1996, M. Sueyoshi leg.” (NIAES); 1 male, “Mt. Koyayama (1200 m), Mts. Odamiyama, Ehime Pref., Shikoku, 29.viii.1994, E. Yamamoto” (ZISP); 1 male, same locality, but 26.vi.1995 (at light) (NIAES).

Description. Female. Body length 5.0–10.0 mm; fore wing length 4.0–7.2 mm.

Head. Width 1.3–1.5 times median length. Head behind eye (dorsal view) weakly convex anteriorly, roundly narrowed posteriorly. Transverse diameter of eye 1.1–1.3 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.3–1.4 times its sides. POL 1.2–1.5 times Od, 0.6–0.7 times OOL. Eye glabrous, 1.3–1.4 times as high as broad. Malar space height about 0.2 times height of eye, about 0.4 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.2–1.3 times height of face and clypeus combined. Malar suture more or less distinct. Hypoclypeal depression round, its width 1.1–1.3 times distance from edge of depression to eye, 0.5–0.6 times width of face. Occipital carina rather widely interrupted dorsally, fused below with hypostomal carina above base of mandible at least by additional carina, sometimes obliterated for a short distance.

Antennae almost filiform, 55–69-segmented, 1.1–1.2 times as long as body. Scapus 1.3–1.5 times as long as its maximum width. First flagellar segment 2.3–2.6 times as long as its apical width, 1.1–1.2 times as long as second segment. Penultimate segment 1.7–2.0 times as long as wide, 0.5–0.6 times as long as first flagellar segment, 0.6–0.8 times as long as apical segment; the latter with distinct slender apical spine.

Mesosoma. Length 1.75–1.9 times its height. Mesoscutum highly and perpendicularly raised above pronotum. Median lobe of mesoscutum distinctly protruding forward, very weakly rounded anteriorly, strongly curved laterally and with more or less distinct and rounded anterolateral shoulders (dorsal view), with distinct median longitudinal furrow in posterior 5%. Notauli deep and wide, densely rugose-crenulate. Prescutellar depression shallow and rather short, with 3–5 carinae, rugulose, 0.25–0.3 times as long as scutellum. Subalar depression rather deep, wide, rugose-striate. Sternauli rather shallow and narrow, narrowly crenulate, oblique, running along anterior half of lower part of mesopleura. Metapleural flange wide, rather short, rounded apically.

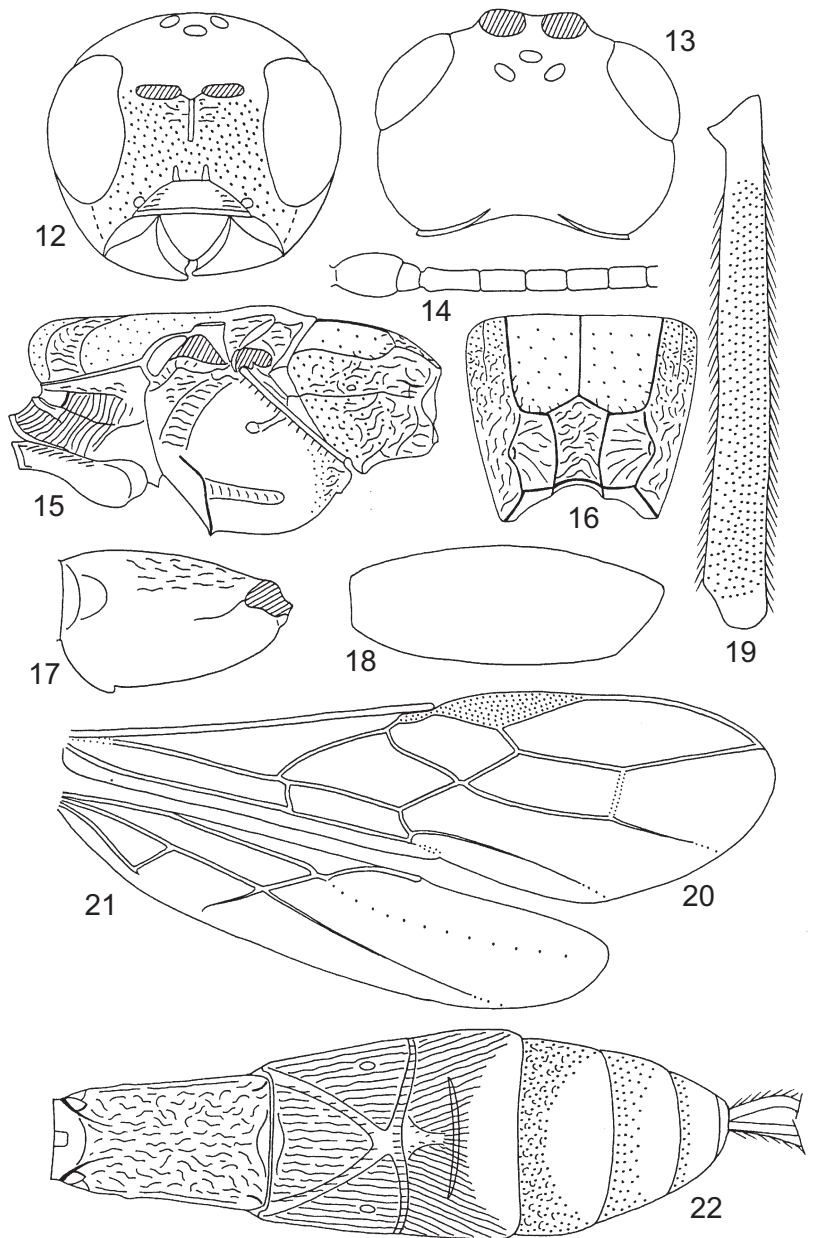
Wings. Fore wing 3.1–3.4 times as long as maximum width. Radial vein arising almost from middle of pterostigma. Metacarpus 1.3 times as long as pterostigma. Second radial abscissa 3.3–4.7 times as long as first abscissa, 0.7–0.8 times as long as the straight third abscissa, 1.6–2.0 times as long as first radiomedial vein. Second radiomedial cell rather long, 2.8–3.1 times as long as its maximum width, 1.15–1.2 times as long as brachial cell, 0.85–0.9 times as long as discoidal cell.

Distance from nervulus to basal vein 0.2–0.3 times nervulus length. In hind wing, first abscissa of mediocubital vein 1.1–1.2 times as long as second abscissa. Recurrent vein straight, weakly curved distally, more or less interstitial.

Legs. Tarsal segments of middle legs rather long; first segment 4.0–4.5 times as long as its width, 0.75–0.8 times as long as second–fourth segments combined; second segment 2.3–2.5 times as long as wide. Hind coxa with rather distinct tooth, 1.4–1.5 times as long as wide. Hind femur 2.5–2.6 times as long as wide. Hind tarsus 0.8–0.9 times as long as hind tibia. Hind basitarsus 0.6–0.7 times as long as second–fifth segments combined. Second tarsal segment 0.5–0.6 times as long as basitarsus, 1.3–1.4 times as long as fifth segment (without pretarsus); fourth segment 1.4–1.6 times as long as wide, 0.5–0.6 times as long as third segment.

Metasoma 1.2–1.3 times as long as head and mesosoma combined. First tergite with distinct dorsope, with small spiracular tubercles in basal $\frac{1}{3}$, weakly and almost linearly widened from base to subapex, weakly narrowed apically. Maximum width of first tergite 1.4–1.6 times its minimum width; length 1.5–1.6 times its maximum width. Second tergite with deep and curved convergent furrows fusing closely to second suture; length of tergite 0.65–0.75 times its basal width, almost equal to length of third tergite. Second suture deep, wide and weakly curved. Third tergite submedially with distinct, rather short and curved transverse furrow. Ovipositor sheath 0.9–1.1 times as long as body, 1.7–2.1 times as long as metasoma, 1.2–1.4 times as long as fore wing, 2.7–3.3 times as long as mesosoma.

Sculpture and pubescence. Head almost smooth; frons smooth, sometimes finely sculptured near antennal sockets; face densely punctate, shortly rugulose medially near antennal sockets. Mesoscutum densely and distinctly punctate, narrowly undulately rugose-striate medioposteriorly. Scutellum finely and rather sparsely punctate. Mesopleura smooth, distinctly punctate marginally. Propodeum smooth in large basolateral areas, densely punctate-rugose in posterior $\frac{1}{3}$; with distinctly marginate areas; areola rather long and wide, 1.3–1.6 times as long as wide; basal carina 2.5–2.8 times as long as fork of areola. Hind coxae undulately rugose dorsally, widely



Figures 12–22. *Hypodoryctes cantata* sp. nov. (12) Head, frontal view, (13) head, dorsal view, (14) seven basal segments of antenna, (15) mesosoma, (16) propodeum, (17) hind coxa, (18) hind femur, (19) hind tibia, (20) fore wing, (21) hind wing, (22) metasoma, dorsal view.

smooth laterally and ventrally. First and second metasomal tergites entirely, third in basal half (but laterally in basal $\frac{5}{6}$) densely and coarsely rugose-reticulate with several striae, fourth tergites in basal $\frac{1}{2}$ (but laterally – in basal $\frac{4}{5}$) densely punctate, partly with striation; rest tergites finely punctate basally. Vertex rather sparsely setose. Mesoscutum with dense whitish pubescence in anterolateral sides. Third–fifth tergites medially rather widely setose in basal halves, almost entirely setose laterally, bare in medioapical halves.

Colour. Body black, sometimes with small reddish spots; furrows of second tergite, second suture and basomedian part of third tergite reddish. Antennae black, dark reddish brown basally. Palpi yellow. Legs yellowish brown or light reddish brown, tarsi infuscate, hind tibia and hind tarsus dark reddish brown, rarely reddish brown, hind tibia basally yellow at short area. Wings faintly infuscate. Pterostigma dark brown.

Male. Body length 5.0–9.0 mm; fore wing length 3.8–6.3 mm. Occipital carina usually interrupted on short distance. Sometimes (in small specimens) temple 1.0–1.1 times as long as transverse diameter of eye. Tarsal segments of middle leg thicker. First tergite usually weakly or very weakly widened toward apex. Length of second tergite 0.80–0.85 times its basal width. Fourth and fifth metasomal tergites with deep curved subbasal transverse furrow. Otherwise similar to female.

Diagnosis. This new species is similar to *H. torridus* Papp, but differs in having the occipital carina widely interrupted dorsally, the second tergite transverse, and the hind femur wide. *H. cantata* sp. nov. is also similar to *H. bilobus*, but differs in having the occipital carina widely interrupted dorsally, the median lobe of mesoscutum distinctly protruding forward, the second radiomedial cell longer, and tarsal segments of the middle leg longer.

Distribution. Russia (Far East), Korea, Japan (Hokkaido, Honshu, Kyushu, Shikoku).

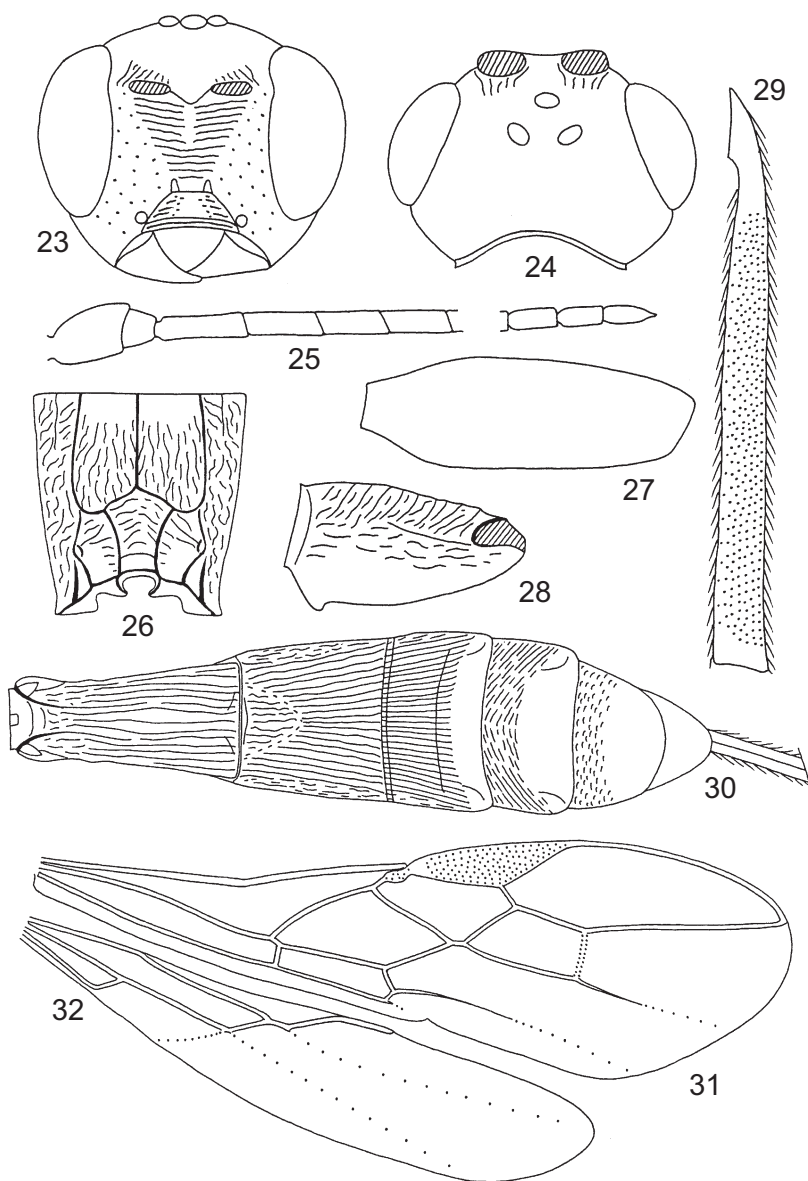
Hypodoryctes fuga Belokobylskij et Chen sp. nov.
(Figs 23–32)

Type material. Holotype: female, Russia, Primorskiy Territory, “Primorskiy kray, 10 km V Spasska [-Dal’nego], les, 20.09.1988, Belokobylskij” (ZISP).

Paratypes. Russia. Amurskaya Province: 3 females, “30 km YuZ Arkhary, Vol’noe, r.[eka] Arkhara, o.[strov] Barzha, smesh.[anniy] les, 21–23.07.2003, S. Belokobylskij” (ZISP); 2 females, “Khinganskiy zapovednik, Kundur, les, poliany, opushki, 17–20.07.2003, S. Belokobylskij” (ZISP). Evreyskaya Autonomous Province: 1 female, 2 males, “Kirga, 12 km Z Birobidzhana, dubnyak, Kasparyan” 15 & 16.VI.1983 (ZISP); 1 female, “Kul’dur, smesh.[anniy] les, polyany, 8–9.07.2003, S. Belokobylskij”; 2 females, “Khr.[ebet] Malyi Khingan, Radde, bereg r.[eki] Amur, les, opushki, 12–15.07.2003, S. Belokobylskij” (ZISP). Khabarovsk Territory: 1 female, 1 male, “Sobolevo, 20 km Yu Vyazemskogo, Kasparyan, 29 VII [1]978” (ZISP); 1 female, “Khabarovsk, Khekhtzir, 18-y km, les, Kasparyan, 30 VII [1]983” (ZISP); 1 male, “Khabarovsk, Khekhtzir, r.[eka] Levaya, khv[oyno]-shir.[okolistvennyy] les, Kasparyan, 30 VI [1]983” (ZISP); 1 male, “Khabarovsk, Khekhtzir, 18-y km, shirok.[olistvennyy] les, Kasparyan, 20 VI [1]983” (ZISP); 1 male, same locality, “dubnyak, 4 II [1]983”; 1 male,

“r.[eka] Shevki, 15 km S Bikin, Kasparyan, 2 VI 1983” (ZISP); 1 male, “Slavyanka, Khab.[arovskiy] kr.[ay], SV Troitzkogo, kedr.[ovnik], Kasparyan, 24 VI [1]983” (ZISP); 2 males, “20 km S Bikina, Boitzovo, les, lug, 25–27.05.1993, S. Belokobylskij” (ZISP). Primorskiy Territory: 1 female, “Vladivostok, 2-ya rechka, les, 14 VIII [1]978, Kasparyan” (ZISP); 1 female, “Okeanskaya, les, Vladivostok, Kasparyan, 23 VI [1]981” (ZISP); 1 female, “okr.[estnosti] Vladivostoka, Zinoviev, 30 VIII 1978” (ZISP); 1 female, “Vladivostok, Sedanka, les, opushki, 9.08.2003, S. Belokobylskij” (ZISP); 1 female, “zap.[ovednik] “Kedrovaya pad”, na svet, 4.08.[19]88, Budrys” (ZISP); 1 female, same locality, “dubnyak, 20 VIII 1979, Belokobylskij” (ZISP); 1 female, same locality, “dolina r.[eki] Kedrovka, 15 VI [1]975, Storozheva” (ZISP); 1 female, 2 males, “Kedrovaia Pad’, Khasan.[skiy] r-[ayo]n, dubniak, poima, Kasparyan”, 3 & 6 VII 1981 (ZISP, MIZW); 1 female, “Andreevka, Khasansk.[iy] r-[ayo]n, Primorie, dubnyak, 16.VII.[1]972, Kuslitzky” (ZISP); 1 female, 2 males, “YuZ Barabash, klyuch Narva, Khasan.[skiy] r-[ayo]n, Kasparyan, 5 VIII [1]978” (ZISP); 2 females, 1 male, “15 km SZ Partizanska, les, Belokobylskij” 14 & 17 VII 1979 (ZISP, HNHM); 1 male, “Molchanovka, Partizansk.[iy] r-[ayo]n, Primorie, 28 VI.[1]972, Kuslitzky” (ZISP); 3 females, “Anisimovka, les, lug, 5–7.06.1993, S. Belokobylskij” (ZISP, MIZW); 1 female, “Anisimovka, Shkotovsk.[iy] r-[ayo]n, Kasparyan, 11 IX [1]978” (ZISP); 1 male, “st.[antziia] Kangauz (= Anisimovka), Primorie, les, 3 VII [1]972, Kuslitzky” (ZISP); 1 female, “30 km V Spasska [-Dal’nego], shirok.[olistvennyy] les, polyany, Belokob.[ylskiy], 25.[0]8.1982” (ZISP); 1 female, “25 km V Spasska [-Dal’nego], les, 9 IX 1979, Belokobylskij” (ZISP); 1 female, “Spassk-Dal’niy, les, kustarnik, 26–28.06.2003, S. Belokobylskij”; 1 female, “Kamen’-Rybolov, dubnyak, Kasparyan, 5 IX [1]978” (ZISP); 1 female, “Novokachalinsk, bereg oz.[era] Khanka, les, lug, kustarnik, 12–16.08.2003, S. Belokobylskij” (ZISP); 1 female, “30 km YuV Ussuriyska, Ussuriyskiy z-[apovedni]k, les, 10–11.06.1993, Belokobylskij” (ZISP); 1 female, “Poima Kamenki, Ussuriyskiy zapov.[ednik], Kasparyan, 16 VII [1]981” (ZISP); 1 male, “Suput.[inskiy] (= Ussuriyskiy) zapovednik, Primorie, les, 28.VII.[1]972, Kuslitzky” (ZISP); 1 female, 1 male, “Gornotayozhn[aya] st.[antziya], Ussuriysk[iy] r-[ayo]n, Primorie, polyany, 25.VII.[1]972, Kuslitzky” (ZISP); 3 females, 1 male, “Gorno-tayozhn.[aya] st.[antziya], 20 km YuV Ussuriyska, Kasparyan”, 29 & 30 VIII 1978 and 27 VI 1981 (ZISP, IZANU); 1 female, “Ussuriysk.[iy] zapov.[ednik], Primorie, les, Tobias, 29.VIII.[1]982” (ZISP); 1 female, “20 km YuV Ussuriyska, Gornotayozhnoe, les, Budrys, 19 VI 1983” (ZISP); 1 female, “Lazovsk[iy] zapovednik, les, Kuslitsky”, 7 & 8 VIII. 1972 (ZISP); 4 females, 1 male, “Benevskoe, Yu Lazo, Primorye, Kasparyan” 17 & 18 VIII 1978 (ZISP, ZJUH); 1 female, “p.[osyolok] Lazo, listvennyy les, naberezhnaya reki, A. Kotenko, 14.08.1986” (IZANU); 2 females, “10 km S Chuguevki, les, 30 VI 1979, Belokobylskij” (ZISP); 1 fe-

male, "V.[ostochno]-Ussur.[iyskiy] statzionar, 40 km YuV Chuguevki, Kasparyan, 25 VIII [1]978" (ZISP); 1 female, 1 male, "Pozhiga, 125 km YuV Dal'nerech.[enska], Frantz.[uzskiy] k[lyuch], Kasparyan, 24 VII [1]983" (ZISP); 3 females, "Pozhiga, Prim.[orskiy] kr.[ay], 125 km YuV Dal'nerech.[enska], Kasparyan, 19 VII [1]983" (ZISP, ZJUH); 1 male, "50 km Yu Terneya, dubnyak, 9 VIII 1979, Belokobylskij" (ZISP). China: 1 female, Fujian prov., Wuyishan, Dazhulan, 31.VII.1983 (He Junhua), No 832389 (ZJUH); 1 female, Guizhou prov, Fajinshan, Jingding, 12.VII.1993 (Chen Xuexin), No 937958 (ZJUH); 1 female, Henan prov, Yichuan, Longyuwan, 14.VII.1996 (Cai Ping), No 972427 (ZJUH); 1 male, Henan prov., Neixiang, Baotianman, 15.VII.1998 (Ma Yun), No 986501 (ZJUH); 1 female, 9 males, Henan prov., Neixiang, Baotianman, 14, 15 & 17.VII.1998 (Chen Xuexin), No 988721, 988711, 988658, 988330, 988575, 988521, 988586, 988621, 988324, 989091 & 989030 (ZJUH, ZISP); 1 female, Henan prov., Ludai, Shizifeng, 24.VIII.1996 (Cai Ping), No 973277 (ZJUH); 1 female, Jilin prov., Tonghua, 1.VIII.1994 (Lou Juxian), No 976741 (ZJUH); 1 female, Jilin prov., Changbaishan, 4–20.VIII.1993 (Lou Juxian), No 976338 (ZJUH); 2 females 1 male, Jilin prov., Mt. Longtan, 21.VII.1995 (Lou Juxian), No 961901, 961935 & 961687 (ZJUH, ZISP); 1 male, Shaanxi prov., Huoditang, Bangqiaogou, 5.VI.1998 (Ma Yun), No 982386 (ZJUH); 1 female, Zhejiang prov., West Tianmushan, Xianrending, 10.VIII.1998 (Zhao Mingshui), No 994311 (ZJUH); 1 female, Zhejiang prov., West Tianmushan, Xianrending, 30.V.1998 (Zhao Mingshui), No 992194 (ZJUH); 1 female, Zhejiang prov., West Tianmushan, 4.IX.1987 (Chen Xuexin), No 877090 (ZJUH); 1 male, Zhejiang prov., West Tianmushan, 17–18.V.1988 (Xu Weiliang), No 885944 (ZJUH); 2 females, Zhejiang prov., Anji, Longwangshan, 12.VII & 31.VIII.1993 (Xu Zaifu), No 9310121 & 9310228 (ZJUH, ZISP); 1 female, Zhejiang prov., Anji, Longwangshan, 31.VIII.1993 (Chen Xuexin), No 939744 (ZJUH); 1 female, Zhejiang prov., West Tianmushan, 17.VIII.1999 (Yang Yafen), No 997392; 1 female, Zhejiang prov., Songyang, Andaihou, 15–17.VII.1989 (He Junhua), No 894258; 1 female, 1 male, "Meifeng, Taiwan, 2150 m, V-3-[19]83, Henry Townes" (ZISP). Korea: 6 females, "S. Korea: Gyeongsangnam-do, 60 km SW Busan (Pusan), Geojedo I., 23.06.2002, S. Belokobylskij" (ZISP, BCIK);



Figures 23–32. *Hypodoryctes fuga* sp. nov. (23) Head, frontal view, (24) head, dorsal view, (25) basal and apical segments of antenna, (26) propodeum, (27) hind femur, (28) hind coxa, (29) hind tibia, (30) metasoma, dorsal view, (31) fore wing, (32) hind wing.

1 female, "Korea, Kyongbuk, Bonghwa, Soch'on, Koson 3, V. 28. 1997, Deok-Seo Ku" (ZISP); 1 female, "S. Korea: Gyeongsangnam-do, Sancheong-gun, 30 km NNW Jinju (Chinju), forest, h=800 m, 12.06.2002, S. Belokobylskij" (ZISP); 1 female, "Korea, Gyeonggi-do, Mt. Cheonggyn, 4. VI. 1989" (ZISP). Japan: 2 females, 1 male, "Japan: Honshu, Ibaraki, Tsukuba, Mt. Tsukuba, 25.09.1999, S. Belokobylskij" (ZISP); 4 females, "Hinoemata Village, Fukushima pref., Honshu, Japan, 16–18. viii.1999, S. Belokobylskij" (ZISP, NIAES); 2 females, "Japan: Honshu, Ibaraki Pref., 15 km NW Kitaibaraki, 28. viii.1999, S. Belokobylskij" (ZISP); 3 females, "Japan: Hokkaido, 35–40 km S Sapporo, Shikotsu Lake, 4. ix.

1999, S. Belokobylskij" (ZISP, NIAES); 4 females, 1 male, "Japan: Sapporo, Mt. Maruyama, S. Belokobylskij" 5 & 12 IX. 1999 (ZISP, NIAES); 1 female, "Japan: Hokkaido, Sapporo, sweep, For. Res. Centre, 1.VIII.1989, M.J. Sharkey" (CNCI); 1 female, "Japan: Aichi Pref., Mt. Sanage-yama, 28.VI.1989, MT, A. Takano" (NIAES); 1 female, "Nopporo, Ebetsu City, Hokkaido, 17. vii. 1980, K. Maeto leg." (NIAES); 1 male, "Shimashima-dani (900–1300 m), Nagano Pref., 25. VIII. 1978, K. Maeto leg." (NIAES); 1 male, "Mt. Sobosan (800–900 m), Oita Pref., 22. VII. 1978, K. Maeto leg." (NIAES); 1 female, "Taishaku, Tojo, Hiroshima Pref., Japan, 9. VIII. 1978, K. Maeto leg." (NIAES). Vietnam: 6 males, "Vietnam, Tam Dao, pr. Vinh Phu (=Vinh Phuc), 1000 m, forest, Belokobylskij" 10, 15 & 16.XI.1990 (ZISP, IE BR).

Description. Female. Body length 3.2–6.8 mm; fore wing length 2.7–5.0 mm.

Head. Width 1.4–1.6 times its median length. Head behind eyes (dorsal view) rather strongly and more or less roundly narrowed. Transverse diameter of eye 1.7–2.0 (rarely 1.6) times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.1–1.2 times its sides. POL 0.9–1.3 times Od, 0.5–0.7 times OOL. Eye very shortly and sparsely setose, 1.25–1.3 times as high as broad. Malar space height 0.22–0.27 times height of eye and 0.5–0.6 times basal width of mandible. Face width 0.9–1.0 times height of eye and 1.1–1.25 times height of face and clypeus combined. Hypoclypeal depression round, its width about 1.2 times distance from edge of depression to eye, 0.45–0.5 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina for a short distance above base of mandible.

Antennae weakly setiform, 36–50-segmented, 1.2–1.3 times as long as body. Scapus 1.4–1.5 times as long as maximum width. First flagellar segment 3.0–3.4 times as long as its apical width, 1.1–1.2 times as long as second segment. Penultimate segment 2.5–2.7 times as long as wide, 0.5–0.7 times as long as first segment, 0.8–0.9 times as long as apical segment; the latter with distinct slender apical spine.

Mesosoma. Length of mesosoma 2.0–2.1 times its height. Mesoscutum highly and roundly raised above pronotum. Median lobe of mesoscutum weakly protruding forward, distinctly uniformly rounded anteriorly and without anterolateral corners (dorsal view), with distinct median longitudinal furrow at least in posterior $\frac{5}{6}$. Notauli deep in anterior half, rather shallow in posterior half, complete, rugose-crenulate. Prescutellar depression deep, with 3–5 distinct carinae, usually finely rugulose between carinae, 0.3–0.35 times as long as scutellum. Subalar depression rather deep, wide, coarsely rugose. Sternauli deep, crenulate, running along anterior 0.7 of lower part of mesopleura. Metapleural flange wide, rather short, rounded apically.

Wings. Fore wing 3.1–3.4 times as long as maximum width. Radial vein arising from or weakly behind mid-

dle of pterostigma. Metacarpus 1.3–1.4 times as long as pterostigma. Second radial abscissa 2.3–4.0 times as long as first abscissa, 0.35–0.45 times as long as the straight third abscissa, 1.0–1.2 times as long as first radiomedial vein. Second radiomedial cell rather short, its length 2.1–2.8 times maximum width, almost equal to length of brachial cell, 0.65–0.70 times length of discoidal cell. Brachial cell weakly widened apically. Distance from nervulus to basal vein 0.3–0.5 times nervulus length. In hind wing, first abscissa of mediocubital vein 0.9–1.1 times as long as second abscissa. Recurrent vein weakly curved, interstitial or antefurcal.

Legs. Tarsal segments of middle legs slender; first segment 4.5–5.0 times as long as its width, 0.8 times as long as second-fourth segments combined; second segment 2.8–3.2 times as long as wide. Hind coxa with rather distinct tooth, 1.6–1.7 times as long as wide. Hind femur 2.9–3.2 times as long as wide. Hind tarsus almost as long as hind tibia. Hind basitarsus 0.8–0.9 times as long as second-fifth segments combined; second tarsal segment 0.4–0.45 times as long as basitarsus, 1.4–1.5 times as long as fifth segment (without pretarsus); fourth segment 1.7–2.0 times as long as wide, 0.6–0.7 times as long as third segment.

Metasoma 1.1–1.2 times as long as mesosoma and head combined. First tergite with large dorsope, without distinct spiracular tubercles, rather weakly and linearly widened from base to apex. Maximum width of first tergite 1.6–2.0 times minimum width; length 1.7–2.0 times its maximum width, 1.4–1.45 times length of propodeum. Second tergite without distinct or with very shallow convergent furrows fused submedially; length of tergite 0.95–1.15 times its basal width, 1.2–1.4 times length of third tergite. Second suture shallow, rather narrow, without lateral bends. Third tergite with shallow and more or less distinct submedian transverse furrow. Ovipositor sheath 0.9–1.1 times as long as body, 1.7–1.9 times as long as metasoma, 2.7–3.0 times as long as mesosoma, 1.25–1.45 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth; frons striate or rugose-striate in anterior $\frac{1}{3}$ – $\frac{1}{4}$, face widely medially striate or rugose-striate, punctate laterally. Mesoscutum distinctly and densely punctate, narrowly rugose-reticulate in medioposterior half. Scutellum densely and finely punctate. Mesopleura smooth for the most part. Propodeum smooth in anterior $\frac{1}{5}$ – $\frac{1}{2}$, often coarsely rugose for the most part, with distinctly marginate areas, basolateral areas large, rugose in posterior $\frac{1}{2}$ – $\frac{4}{5}$, rarely (southern population) mostly smooth; areola short and wide, 1.2–1.4 times as long as wide; basal carina 2.5–3.0 times as long as fork of areola. Hind coxa coarsely transversely striate dorsally, with rugosity between striae usually, rugose-punctate or punctate laterally. First and second tergites entirely and rather regularly, third in basal $\frac{2}{5}$ – $\frac{1}{2}$ (but laterally for the most part or almost completely) densely and evenly longitudinally striate with fine rugosity between striae. Fourth and sometimes fifth tergites

in basal $\frac{1}{3}$ – $\frac{1}{2}$ rather densely longitudinally or obliquely and sometimes finely striate with rugulosity. Rarely third-fifth tergites basomedially smooth. Mesoscutum densely and evenly setose. Third-fifth metasomal tergites submedially with narrow transverse row of setae, widely covered by setae laterally, bare in medioapical $\frac{1}{2}$ – $\frac{2}{5}$.

Colour. Body black, mesosoma laterally and metasoma medially usually dark reddish brown, sometimes (in southern populations) metasoma medially widely or very widely brownish yellow, third and fourth tergites reddish brown or partly light reddish brown in apical halves. Antennae dark reddish brown to black, 2–4 basal segments reddish brown or light reddish brown, rarely (in dark form) dark reddish brown. Palpi yellow. Tegula yellow. Legs light reddish brown, sometimes with dark spots, fore and middle coxae, trochanters and trochantelli yellow; hind legs usually darker, sometimes distinctly dark, hind coxa dark or light reddish brown, hind tarsus dark reddish brown to reddish brown, rarely almost black, hind tibia yellow basally. Ovipositor sheath entirely black or dark reddish brown. Wings faintly infuscate. Pterostigma brown.

Male. Body length 2.8–5.2 mm; fore wing length 2.2–3.6 mm. Head behind eyes often less strongly narrowed. Transverse diameter of eye 1.5–2.0 times as long as temple (dorsal view). Antennae 33–48-segmented. First flagellar segment 2.5–2.8 times as long as its apical width. Second radial abscissa 0.4–0.5 times as long as third abscissa, 1.2–1.3 times as long as first radiomedial vein. First tergite 1.8–2.2 times as long as apical width. Second tergites 1.1–1.3 times as long as basal width. In large specimens, third-fifth tergites rather coarsely rugose-striate in basal $\frac{2}{3}$ – $\frac{4}{5}$; sixth tergite rugulose in basal half; in small specimens fourth–sixth tergites smooth for the most part or entirely. Basolateral areas of propodeum almost entirely smooth in small specimens. Areola of propodeum narrow, 1.7–2.0 times as long as wide. Otherwise similar to female.

Diagnosis. This new species is very similar to *H. sibiricus* Kokujev, but differs in having the head behind eyes more strongly narrowed, the temple and second radiomedial cell shorter, the second tergite without distinct triangular area delineated by furrows, the basal areas of propodeum widely sculptured, and the hind tibia yellow basally.

Distribution. Russia (Far East), China (Jilin, Shaanxi, Henan, Zhejiang, Fujian, Guizhou, Taiwan), Korea, Japan (Hokkaido, Honshu, Kyushu), Vietnam.

Hypodoryctes rapsodia Belokobylskij sp. nov.
(Figs 33–43)

Type material. Holotype: female, Azerbaijan, "Lenkoran", les, 6. V. [1]971, Tobias" (ZISP).

Description. Female. Body length 5.0 mm; fore wing length 4.2 mm.

Head. Width 1.3 times its median length. Head behind eyes (dorsal view) rather weakly and roundly narrowed. Transverse diameter of eye 1.1 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.25 times its sides. POL almost equal to Od, 0.4 times OOL. Eye glabrous, 1.4 times as high as broad. Malar space height 0.2 times height of eye, 0.45 times basal width of mandible. Face width 0.9 times height of eye and 1.2 times height of face and clypeus combined. Malar suture rather distinct. Hypoclypeal depression round, its width equal to distance from edge of depression to eye, 0.4 times width of face. Occipital carina complete dorsally, not fused below with hypostomal carina and obliterated for a short distance above base of mandible.

Antennae filiform, more than 37-segmented (apical segments missing). Scapus 1.5 times as long as its maximum width. First flagellar segment almost 3.0 times as long as its apical width, somewhat longer than second segment. Subapical segments 2.2 times as long as wide.

Mesosoma. Length 2.1 times its height. Mesoscutum highly and roundly raised above pronotum. Median lobe of mesoscutum rather weakly protruding forward, distinctly regularly rounded anteriorly and without distinct anterolateral shoulders (dorsal view), with rather distinct median longitudinal furrow in posterior half only. Notauli deep, but shallow in posterior half, complete, crenulate. Prescutellar depression deep, with 3 carinae, smooth between carinae, 0.4 times as long as scutellum. Subalar depression rather deep, wide, striate-rugose. Sternauli deep, mostly smooth, but partly very finely crenulate, running along anterior 0.7 of lower part of mesopleura. Metapleural flange very wide, short, obtuse apically.

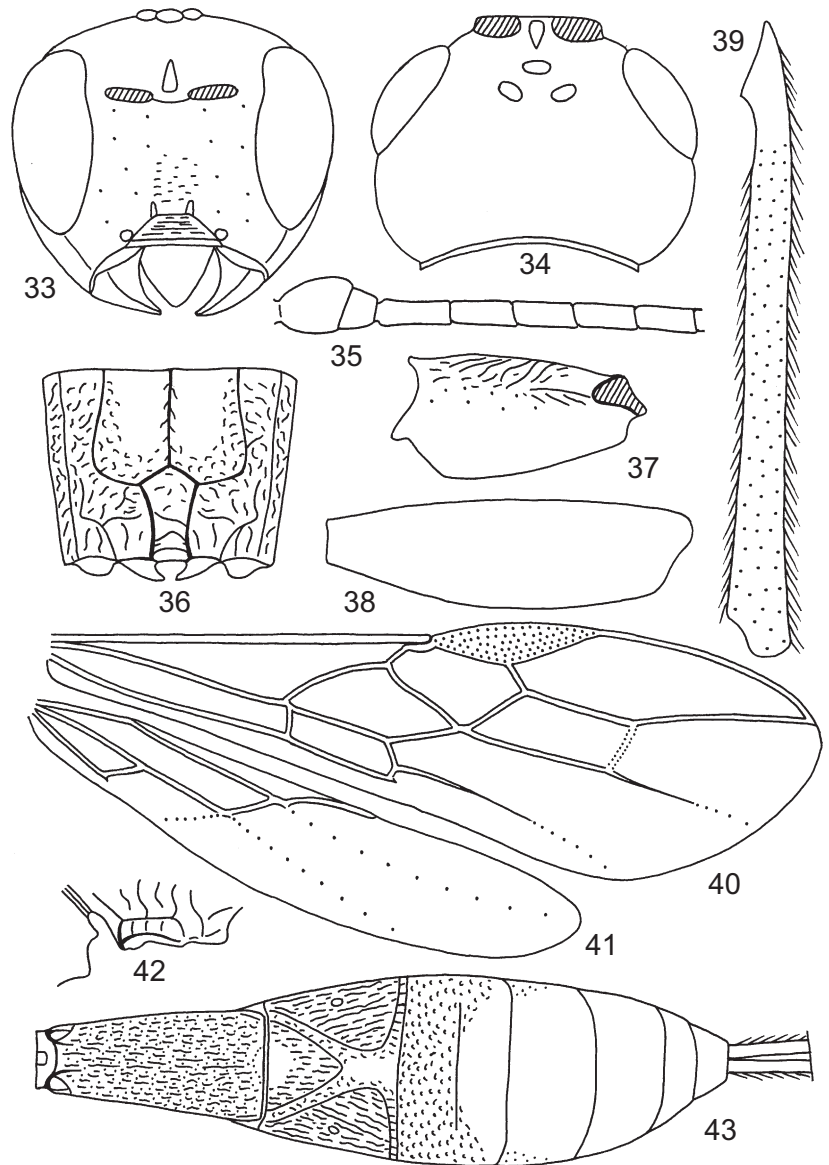
Wings. Fore wing 3.0 times as long as maximum width. Radial vein arising slightly before middle of pterostigma. Metacarpus 1.3 times as long as pterostigma. Second radial abscissa 3.8 times as long as first abscissa, 0.7 times as long as the straight third abscissa, 1.6 times as long as first radiomedial vein. Second radiomedial cell rather long, 3.0 times as long as its maximum width, 1.25 times as long as the wide brachial cell, 0.9 times as long as discoidal cell. Distance from nervulus to basal vein 0.15 times nervulus length. In hind wing, first abscissa of mediocubital vein 1.25 times as long as second abscissa. Recurrent vein weakly curved, slightly antefurcal.

Legs. Tarsal segments of middle legs rather slender; first segment 4.5 times as long as its width, 0.8 times as long as second–fourth segments combined; second segment about 3.0 times as long as wide. Hind coxa without basoventral tooth, 1.8 times as long as wide. Hind femur 3.3 times as long as wide. Hind tarsus 1.1 times as long as hind tibia. Hind basitarsus 0.85 times as long as second–fifth segments combined; second tarsal segment 0.4 times as long as basitarsus, 1.6 times as long as fifth segment (without pretarsus); fourth segment about twice as long as wide, 0.6 times as long as third segment.

Metasoma 1.25 times as long as head and mesosoma combined. First tergite with large dorsope, with very small spiracular tubercles in basal $\frac{1}{3}$, rather weakly and almost linearly widened from base to apex. Maximum width of first tergite 1.6 times its minimum width; length almost twice its maximum width, 1.7 times length of propodeum. Second tergite with fine shallow convergent furrows fusing in its posterior 0.7; length of tergite almost equal to its basal width, 1.1 times length of third tergite. Second suture rather deep, without lateral bends. Third tergite with very shallow and fine submedian transverse furrow. Ovipositor sheath almost as long as body, 1.8 times as long as metasoma, almost 3.0 times as long as mesosoma, 1.25 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth, face medially finely and narrowly striate, sparsely and very finely punctate laterally. Mesoscutum rather densely and very finely punctate, without granulation, narrowly rugose in medioposterior half. Scutellum very finely and densely punctate. Mesopleura smooth for the most part. Propodeum with distinctly marginate areas, basolateral areas finely and densely rugulose-granulate for the most part, almost smooth basally; areola short and rather narrow, 1.3 times as long as wide; basal carina 2.5 times as long as fork of areola. Hind coxa transversely and partly longitudinally rugose-striate dorsally, almost smooth laterally. First tergite densely and finely rugulose-reticulate with fine granulation partly. Second tergite densely and finely rugulose-reticulate with fine and dense striation laterally, median area almost smooth basally. Third tergite in basal half (but laterally in basal $\frac{2}{3}$) very densely and finely rugulose-reticulate with fine striation laterally. Fourth tergite very finely sculpture just basally. Following tergites smooth. Mesoscutum densely and evenly pubescent, without dense pubescence anterolaterally. Third-fifth metasomal tergites entirely (including apical parts) densely setose.

Colour. Body reddish brown, partly light reddish brown, mesosoma in lower half brownish yellow, first metasomal tergite and apical half of metasoma darker. Antennae reddish brown, 2 basal segments light reddish brown. Palpi pale yellow. Legs brownish yellow, fore coxa and all trochanters and trochantelli yellow,



Figures 33–43. *Hypodoryctes rapsodia* sp. nov. (33) Head, frontal view, (34) head, dorsal view, (35) seven basal segments of antenna, (36) propodeum, (37) hind coxa, (38) hind femur, (39) hind tibia, (40) fore wing, (41) hind wing, (42) metapleural flange, (43) metasoma, dorsal view.

hind tibia pale yellow basally. Wings faintly infuscate. Pterostigma brown.

Male. Unknown.

Diagnosis. This new species is similar to *H. sibiricus* Kokujev, but differs in having the hind coxa without basoventral tooth, the fore and middle tibiae with sparse and thick spines, the metapleural lobe short, the hind tibia pale basally, the third-fifth metasomal tergites entirely setose, the second radiomedial cell long, and the face and mesoscutum very finely sculptured or almost smooth.

Distribution. Azerbaijan.

Hypodoryctes rondo Belokobylskij et Chen sp. nov.
(Figs 44–53)

Type material. Holotype: female, "Vietnam, Tam Dao, prov. Vinh Phu (=Vinh Phuc), 1000 m, forest, 16.11.1990, Belokobylskij" (ZISP).

Paratypes. Vietnam: 1 female, 2 males, "Tam Dao, prov. Vinh Phu (=Vinh Phuc), 1000 m, forest, Belokobylskij", 10, 11 & 16.XI.1990 (ZISP, IEBR); 1 female, "pr. Ha Son Binh (= Hoa Binh), Da Bac, Tuly, Belokobylskij, forest, bamboo, 22.10.1990" (ZISP); 1 male, "pr. Ha Son Binh (= Hoa Binh), Da Bac, Tuly, forest, 23.10.1990, Belokobylskij" (ZISP). China: 1 female, Zhejiang prov., Songyang, 14.VIII.1989 (He Junhua), No 895504 (ZJUH); 1 female, Yunnan prov., Pingbian, Daweishanbaohuqu, 18.VII.2003 (Lu Jia), No 20045422.

Description. Female. Body length 3.5–6.6 mm; fore wing length 3.2–5.0 mm.

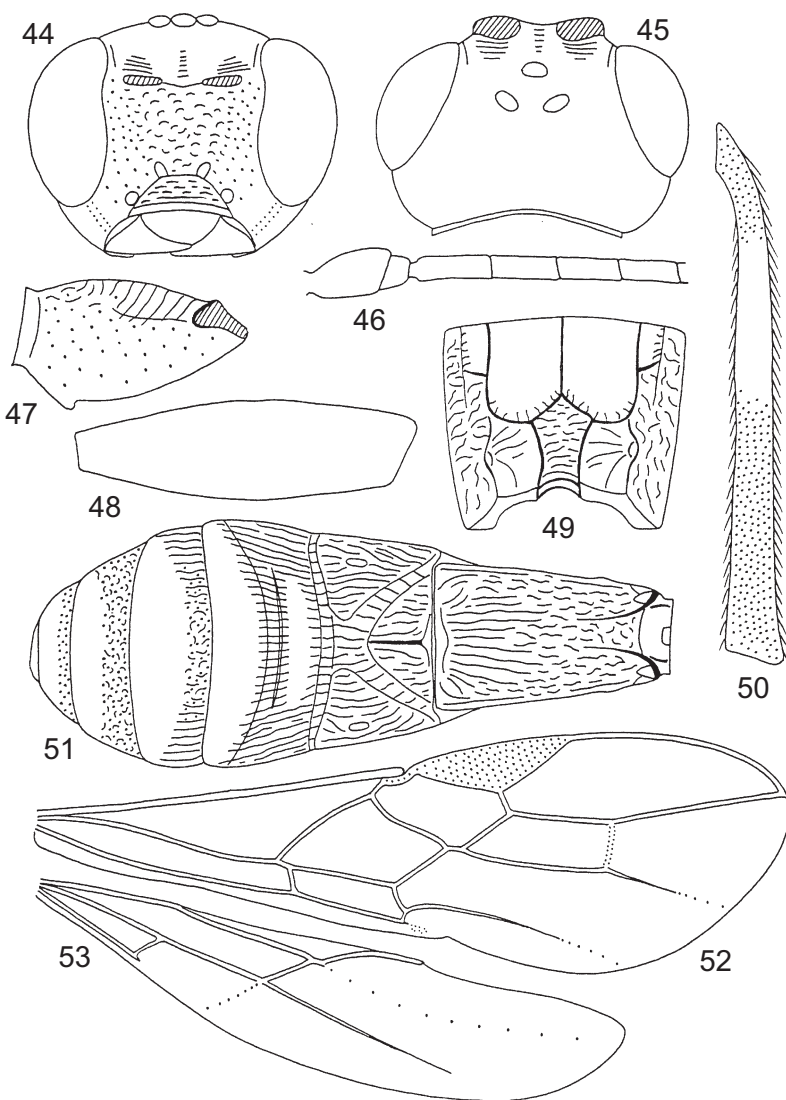
Head. Width 1.5–1.7 times its median length. Head behind eyes (dorsal view) distinctly roundly narrowed. Transverse diameter of eye 1.7–2.0 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.1–1.2 times its sides. POL 0.7–0.8 times Od, 0.4–0.5 times OOL. Eye glabrous, 1.25–1.3 times as high as broad. Malar space height 0.20–0.25 times height of eye and 0.5–0.6 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.2 times height of face and clypeus combined. Hypoclypeal depression round, its width 1.0–1.3 times distance from edge of depression to eye, about 0.45 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina above base of mandible.

Antennae weakly setiform, more than 50-segmented (apical segments missing). Scapus 1.4–1.6 times as long as maximum width. First flagellar segment 3.0–3.4 times as long as its apical width, 1.2 times as long as second segment. Subapical segments 2.3–2.5 times as long as width.

Mesosoma. Length 1.8–1.9 times its height. Mesoscutum highly and almost perpendicularly raised above pronotum. Median lobe of mesoscutum not strongly protruding forward, with distinct median longitudinal furrow in posterior $\frac{2}{3}$, regularly and rather distinctly rounded anteriorly and without anterolateral shoulders (dorsal view). Notauli deep, complete, crenulate or rugose-crenulate. Prescutellar depression deep, with 3–5 (rarely 1) distinct carinae, finely rugulose or almost smooth between carinae, 0.30–0.35 times as long as scutel-

lum. Subalar depression rather shallow, narrow, striate-rugose. Sternauli deep, sparsely crenulate, running along anterior 0.7 of lower part of mesopleura. Metapleural flange wide, rather short, rounded apically.

Wings. Fore wing 3.0–3.3 times as long as maximum width. Radial vein arising almost from middle of pterostigma. Metacarpus 1.2–1.4 times as long as pterostigma. Second radial abscissa 3.7–5.0 times as long as first abscissa, 0.60–0.65 times as long as the straight third abscissa, 1.5–1.8 times as long as first radiomedial vein. Second radiomedial cell medium size, 2.7–3.2 times as long as maximum width, 1.2–1.3 times as long as brachial cell, 0.85–0.90 times as long as discoidal cell. Brachial cell weakly widened apically. Distance from nervulus to basal vein about half nervulus length. In hind wing, first abscissa of mediocubital vein 1.0–1.2



Figures 44–53. *Hypodoryctes rondo* sp. nov. (44) Head, frontal view, (45) head, dorsal view, (46) six basal segments of antenna, (47) hind coxa, (48) hind femur, (49) propodeum, (50) hind tibia, (51) metasoma, dorsal view, (52) fore wing, (53) hind wing.

times as long as second abscissa. Recurrent vein straight, oblique, interstitial or antefurcal.

Legs. Tarsal segments of middle legs slender; first segment 5.5–6.5 times as long as its width, 0.8–0.9 times as long as second–fourth segments combined; second segment 3.0–4.0 times as long as wide. Hind coxa with rather distinct basoventral tooth, 1.6–1.8 times as long as wide. Hind femur 3.0–3.5 times as long as wide. Hind tarsus 0.85–0.90 times as long as hind tibia. Hind basitarsus 0.7–0.8 times as long as second–fifth segments combined; second tarsal segment 0.4–0.45 times as long as basitarsus, 1.3–1.5 times as long as fifth segment (without pretarsus); fourth segment 1.8–2.0 times as long as wide, 0.6–0.7 times as long as third segment.

Metasoma 1.1–1.2 times as long as mesosoma and head combined. First tergite with large dorsope, without spiracular tubercles, rather weakly and linearly widened from base to apex. Maximum width of first tergite 1.7–1.8 times minimum width; length 1.4–1.5 times its maximum width, 1.4–1.5 times length of propodeum. Second tergite with distinct, rather deep convergent furrows fusing in its posterior 0.70–0.75 (rarely submedially); length of tergite 0.55–0.65 (rarely in small specimens 0.8) times its basal width, 0.9–1.1 times length of third tergite. Second suture deep, rather wide, weakly curved, without lateral bends. Third tergite with rather deep incomplete crenulate transverse furrow in basal $\frac{1}{3}$ – $\frac{1}{2}$. Ovipositor sheath 1.0–1.2 times as long as body, 2.0–2.5 times as long as metasoma, 2.2–3.3 times as long as mesosoma, 1.1–1.3 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth, often frons finely rugulose in anterior $\frac{1}{4}$, face densely punctate in wide median part, with rugulosity medially. Mesoscutum finely or very finely and usually densely punctate, narrowly rugose-reticulate in medioposterior half. Scutellum sparsely and finely punctate or almost smooth, densely punctate posteriorly. Mesopleura smooth for the most part. Propodeum smooth in anterior $\frac{3}{5}$, rugose or sometimes sparsely rugulose in posterior $\frac{2}{5}$, with distinctly marginate areas, basolateral areas large; areola short and rather wide, 1.1–1.3 times as long as maximum width; basal carina 2.0–2.5 times as long as fork of areola. Hind coxa transversely striate dorsally, rather densely and deeply punctate laterally, but in small specimens partly finely striate dorsally and almost smooth laterally. First and second tergites entirely, third in basal $\frac{1}{3}$ (but laterally in basal $\frac{3}{4}$) more or less undulately or linearly striate, first tergite medially densely rugose. Fourth–sixth tergites in basal $\frac{1}{4}$ – $\frac{1}{2}$ densely rugulose-punctate (but striate laterally), sometimes fourth tergite interruptedly striate in basal half. Rarely (in small specimens) third–fifth tergites widely or very widely smooth mediobasally. Mesoscutum densely and evenly pubescent. Third–fifth metasomal tergites submedially with transverse row of sparse and long setae, their lateral parts with more disperse and sparse setae in basal $\frac{2}{3}$, bare in medioapical halves.

Colour. Head reddish brown or dark reddish brown, sometimes face for the most part light reddish brown. Mesosoma light brownish red, sometimes with infusate scutellum, metanotum and posterior half of propodeum. Metasoma dark reddish brown to black, second and third tergites submedially yellowish brown, furrows of triangular area of second tergite and second suture brownish yellow or yellow. Antennae black or reddish brown, scapus and pedicel yellow, brownish yellow or light reddish brown. Palpi pale yellow. Tegula pale yellow or yellow. Fore and middle legs yellow, brownish distally, paler basally, tarsi infusate; hind leg light reddish brown, light brown or yellowish brown, trochanters, basal $\frac{1}{4}$ – $\frac{1}{6}$ of femur, and tibia submedially or sometimes subbasally yellow or pale yellow, hind tarsus dark reddish brown, hind tibia distinctly basally and usually in apical $\frac{1}{3}$ – $\frac{2}{3}$ infusate. Ovipositor sheath reddish brown or dark reddish brown, apex almost black. Wings faintly infusate. Pterostigma brown.

Male. Body length 3.0–4.7 mm; fore wing length 2.6–3.7 mm. Antennae 39–44-segmented. Temple long; transverse diameter of eye 1.5–1.6 times as long as temple (dorsal view). Second metasomal tergite long, its median length 0.8–0.9 times basal width, 1.0–1.2 times length of third tergite. Lateral furrows of second tergite fused submedially. In small specimens, third–fifth metasomal tergites widely smooth medially. Mesosoma usually dark reddish brown dorsally. Otherwise similar to female.

Diagnosis. This new species is similar to *H. bilobus* (Shestakov), but differs in having the middle tarsi slender and long, the fourth–sixth metasomal tergites sparsely setose, the temple shorter, the basolateral areas of propodeum mostly smooth, and the mesosoma of female light brownish red.

Distribution. China (Zhejiang, Yunnan), Vietnam.

Hypodoryctes serenada Belokobylskij et Chen sp. nov.
(Figs 54–63)

Type material. Holotype: female, China, Zhejiang prov., Tianmushan, 18.VI.1983 (Ma Yun), No 830974 (ZJUH).

Paratypes. China: 1 female, Zhejiang prov., Kaihua, Gutianshan, 25.VII.1992 (Wu Hong), No 940228 (ZISP); 1 female, Zhejiang prov., West Tianmushan, 31.VII.1984 (Sheng Lirong), No 843832 (ZJUH); 1 male, Zhejiang prov., Gutianshan, 22.VII.1986 (Luo Xiaomin), No 863380 (ZJUH); 1 male, same locality, 21.VIII.1982 (Wu Hong), No 948963 (ZJUH); 1 male, Zhejiang prov., Kaihua, Gutianshan, 27.IX.1994 (He Junhua), No 948675 (ZJUH); 1 male, Zhejiang prov., Tianmishan, Laodian, 20.VII.1998 (Zhao Mingshui), No 20000867 (ZISP); 1 male, Zhejiang prov., Songyang, 15–17.VII.1989 (He Junhua), No 893853 (ZJUH); 1 male, Zhejiang prov., Ginyuanbai, Shanzu, 19.VII.1994 (Wu Hong), No 946859 (ZISP); 1 female, Fujian prov.,

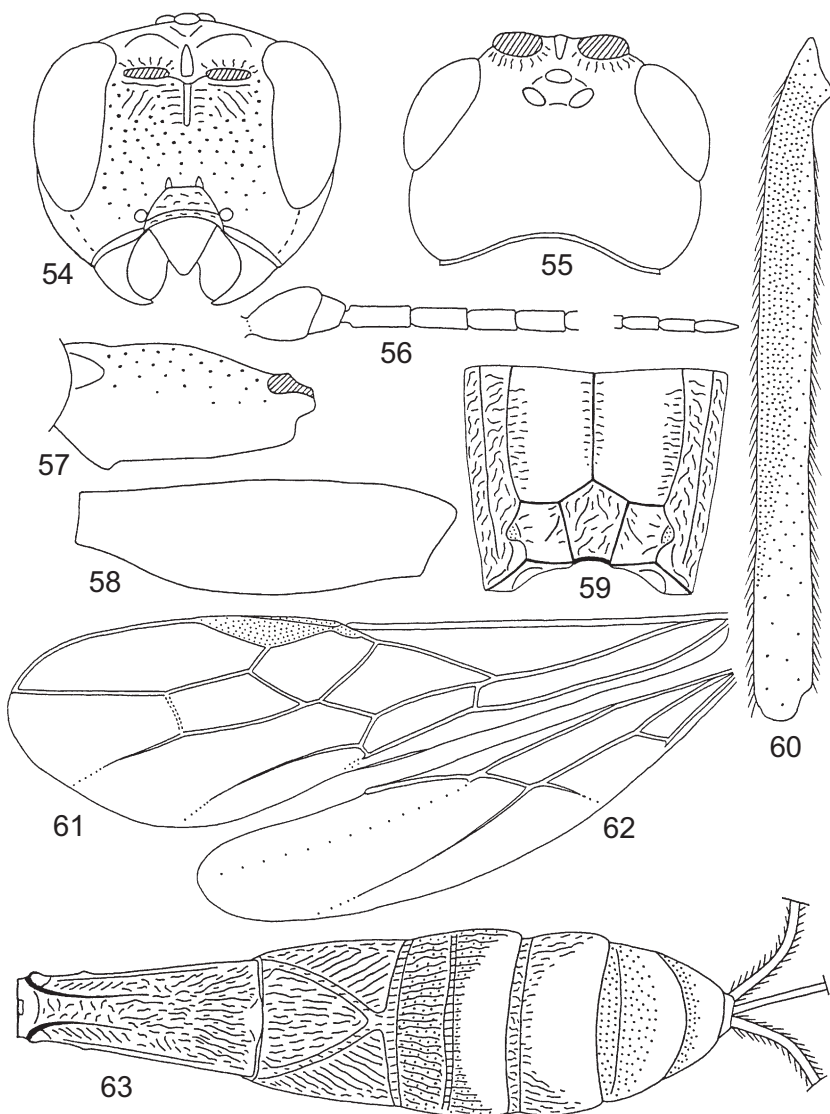
Guadun, 3.VII.1982 (Jiang Fan), No 20003704 (ZJUH); 1 male, Guangdong prov., Fuyuan, Nanling, 4.VIII.2004 (Xu Zaifu), No 20049961 (ZJUH); 1 male, Taiwan, "Formosa, Sauter", "Mt. Hoozan, 1910. III." (HNHM). Vietnam: 1 male, Prov. Vinh Phu (= Vinh Phuc), Tam Dao, 1000 m, forest, 14.XI.1990 (E. Nartshuk) (ZISP); 1 male, "Vietnam, Tram Lap, 20 km N Buon Luoi, forest, 23–30.XI.1988 (A. Gorochoy) (ZISP).

Description. Female. Body length 8.0–11.0 mm; fore wing length 6.0–7.6 mm.

Head. Width 1.4–1.5 times its median length. Head behind eyes (dorsal view) distinctly roundly narrowed. Transverse diameter of eye 1.2–1.4 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.2 times its sides. POL 0.7–0.9 times Od, 0.5–0.6 times OOL. Eye glabrous, 1.3 times as high as broad. Malar space height 0.2–0.3 times height of eye and 0.5–0.7 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.2–1.3 times height of face and clypeus combined. Hypoclypeal depression round, its width 1.2–1.4 times distance from edge of depression to eye, 0.45–0.5 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina above base of mandible.

Antennae weakly setiform, 66–69-segmented, 1.4–1.5 times as long as body. Scapus 1.4–1.6 times as long as maximum width. First flagellar segment 2.7–3.2 times as long as its apical width, 1.1–1.2 times as long as second segment. Penultimate segment 3.0–3.3 times as long as wide, 0.5–0.6 times as long as first segment, 0.8 times as long as apical segment; the latter with distinct slender apical spine.

Mesosoma. Length 2.0–2.2 times its height. Mesoscutum highly and almost perpendicularly raised above pronotum. Median lobe of mesoscutum distinctly protruding forward, with more or less distinct median longitudinal furrow in posterior $\frac{1}{2}$ – $\frac{2}{3}$, distinctly regularly rounded anteriorly and without anterolateral shoulders (dorsal view). Notauli deep in anterior half, rather shallow in posterior half, complete, rugulose. Prescutellar depression deep, with fine median carina, densely and finely rugulose, 0.25–0.30 times as long as scutellum. Subalar depression rather deep, wide, striate. Sternauli deep, narrowly crenulate, smooth posteriorly, running along anterior 0.8 of lower part of mesopleura. Metapleural flange wide, rather short, rounded apically.



Figures 54–63. *Hypodoryctes serenada* sp. nov. (54) Head, frontal view, (55) head, dorsal view, (56) basal and apical segments of antenna, (57) hind coxa, (58) hind femur, (59) propodeum, (60) hind tibia, (61) fore wing, (62) hind wing, (63) metasoma, dorsal view.

Wings. Fore wing 3.3–3.6 times as long as maximum width. Radial vein arising from middle of pterostigma. Metacarpus 1.4–1.5 times as long as pterostigma. Second radial abscissa 2.8–3.5 times as long as first abscissa, 0.5–0.6 times as long as the straight third abscissa, 1.3–1.5 times as long as first radiomedial vein. Second radiomedial cell medium size, 2.5–2.6 times as long as maximum width, 0.9–1.1 times as long as brachial cell, 0.65–0.7 times as long as discoidal cell. Brachial cell weakly widened apically. Distance from nervulus to basal vein 0.4–0.6 times nervulus length. In hind wing, first abscissa of mediocubital vein 0.9–1.0 times as long as second abscissa. Recurrent vein straight and antefurcal.

Legs. Tarsal segments of middle legs rather slender; first segment 5.0–6.0 times as long as its width, 0.9–1.0

times as long as second-fourth segments combined; second segment 3.0–3.5 times as long as wide. Hind coxa with rather distinct tooth, 1.7–2.0 times as long as wide. Hind femur 3.3–3.5 times as long as wide. Hind tarsus 1.1 times as long as hind tibia. Hind basitarsus 0.9–1.0 times as long as second-fifth segments combined; second tarsal segment 0.4 times as long as basitarsus, 1.5–1.7 times as long as fifth segment (without pretarsus); fourth segment 1.7–2.0 times as long as wide, 0.6–0.7 times as long as third segment.

Metasoma 1.2–1.3 times as long as mesosoma and head combined. First tergite with large dorsope, with small spiracular tubercles in basal $\frac{1}{4}$, rather weakly and linearly widened from base to apex. Maximum width of first tergite 1.8–2.0 times its minimum width; length 2.1–2.2 times its maximum width, 1.7–2.0 times length of propodeum. Second tergite with distinct and rather deep convergent furrows fusing in its posterior 0.6–0.7; length of tergite 0.9–1.1 times its basal width, 1.1–1.2 times length of third tergite. Second suture deep, rather wide, without lateral bends. Third tergite with rather deep complete submedian transverse furrow. Ovipositor sheath almost as long as body, almost twice as long as metasoma, 3.0–3.2 times as long as mesosoma, 1.4–1.6 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth, frons punctate-rugulose in anterior $\frac{1}{4}$ – $\frac{2}{3}$, face punctate on wide median part. Mesoscutum finely and densely punctate, rather narrowly rugose-reticulate in medioposterior half. Scutellum densely and finely punctate or almost smooth. Mesopleura smooth for the most part. Propodeum smooth in anterior $\frac{3}{5}$, sparsely rugose and with dense fine rugulosity between rugae at least partly on other part, with distinctly marginate areas, basolateral areas large, areola short and rather wide; basal carina 2.7–3.7 times as long as fork of areola. Hind coxa smooth, finely transversely striate dorsally. First and second tergites entirely, third in basal $\frac{3}{4}$ (but laterally entirely) more or less undulately or linearly striate, first tergite widely medially or rarely almost entirely and second in triangular area densely rugose. Fourth-sixth tergites in basal $\frac{1}{3}$ – $\frac{1}{2}$ densely rugulose-punctate. Mesoscutum densely pubescent, very densely pubescent along notauli in anterior $\frac{1}{5}$. Third-fifth metasomal tergites rather densely and shortly setose in basally, their lateral parts setose almost entirely, bare in medioapical $\frac{1}{2}$ – $\frac{2}{5}$.

Colour. Body black, sometimes partly with reddish tint; furrows of triangular area of second tergite and second suture brownish yellow. Sometimes anterior half of metasoma light reddish brown. Antennae entirely black or reddish brown. Palpi yellow. Tegula yellow. Legs reddish brown or light reddish brown, hind legs usually darker, hind tibia and tarsus dark reddish brown, hind tibia dark basally, fore and middle coxae at least in basal half or entirely and fore trochanters yellow. Ovipositor sheath black with long white subapical band. Wings faintly infusate. Pterostigma brown.

Male. Body length 4.6–9.2 mm; fore wing length 3.4–6.1 mm. Antenna thick; first flagellar segment 2.0–2.5 times as long as maximum width. Hind coxa usually with weak basoventral tooth. First metasomal tergite weakly widened apically; its apical width 1.4–1.5 times basal width. Length of second tergite 1.1–1.2 times its basal width. Furrows of second tergite fused in its posterior $\frac{3}{5}$. Fourth-sixth tergites with distinct and strongly convex basal semicircular furrow, coarsely rugose for the most part. Hind legs often brownish yellow or sometimes yellow. Otherwise similar to female.

Diagnosis. This new species is similar to *H. torridus* Papp, but differs in having the ovipositor sheath with long white subapical band, the third tergite with deep transverse submedian furrow, the second radiomedial cell shorter, the anteriorly median lobe of mesoscutum distinctly convex, and the hind coxa smooth.

Distribution. China (Zhejiang, Fujian, Guangdong, Taiwan), Vietnam.

Hypodoryctes sibiricus Kokujev, 1900 (Figs 64–75)

Hypodoryctes sibiricus Kokujev, 1900: 548; Shenefelt and Marsh 1976: 1313; Fischer 1981: 249; Belokobylskij 1982: 612; Papp 1984: 178; Belokobylskij and Tobias 1986: 41; Belokobylskij 1996: 171; 1998b: 58; 2003: 185.

Mixtec whartoni Marsh, 1993: 25; Belokobylskij 1995: 166 (as synonym of *H. sibiricus*); Marsh 1997: 214; 2002: 136.

Material examined. Sweden (1 female), Poland (2 females), Belarus (1 female, 1 male), Hungary (2 females, 1 male), Croatia (1 female), Bulgaria (1 female), Georgia (2 females). Russia: North Caucasus (3 females, 1 male), Volgograd Province (1 female), Urals (1 female, 1 male), Western Siberia [1 female (holotype), golden circle, “d. Birchikul’, Tomsk.[oy] gu.[berni], 4.VIII.[18]98, 1797”, “*Hypodoryctes* Kok.”, “*H. sibiricus* Kok, No 1797” (ZISP); 1 male], Eastern Siberia (1 female), Far East [Amurskaya Province (1 male); Evreyskaya Autonomous Province (5 females); Khabarovsk Territory (2 females, 9 males); Primorskiy Territory (9 females, 25 males)]. Kazakhstan (1 female). China: Taiwan (1 female, 3 males). Korea (12 females, 2 males). Japan: Hokkaido (68 females, 32 males), Honshu (34 females, 25 males), Shikoku (6 females, 1 male), Kyushu (12 females, 21 males), Tsushima (1 female, 3 males). China: Zhejiang (2 females, 2 males), Guangdong (1 male). Vietnam (6 males). Myanmar (1 male). Mexico [1 female (holotype), “Mexico: Guerrero, 6.4 mi SW Filo de Caballo, 900 ft, VII-8-1987, R. Wharton”, “Holotype *Mixtec whartoni* Marsh” (USNM); 1 female, 1 male].

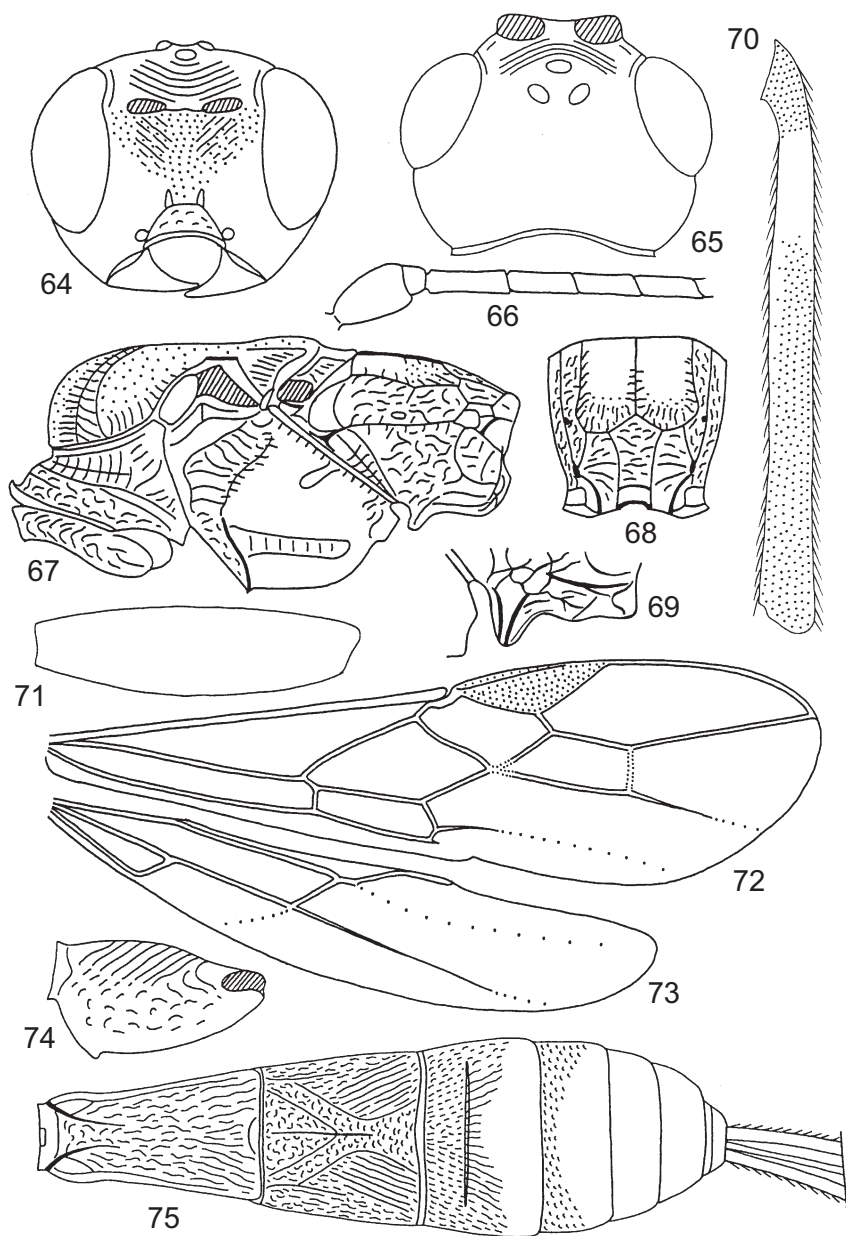
Description. Female. Body length 2.6–8.3 mm; fore wing length 2.2–6.0 mm.

Head. Width 1.3–1.5 times its median length. Head behind eyes (dorsal view) rather weakly and roundly narrowed. Transverse diameter of eye 1.2–1.5 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.1–1.15 times its sides. POL 0.6–1.0 times Od, 0.4–0.6 times OOL. Eye glabrous or (in large specimens) very shortly and sparsely setose, 1.2–1.3 times as high as broad. Malar space height 0.25–0.30 times height of eye, 0.5–0.6 times basal width of mandible. Face width 0.9–1.0 times height of eye and 1.1–1.2 times height of face and clypeus combined. Malar suture shallow. Hypoclypeal depression round, its width 1.0–1.1 times distance from edge of depression to eye, 0.4–0.5 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina above base of mandible.

Antennae weakly setiform, 30–61-segmented, 1.2–1.3 times as long as body. Scapus 1.3–1.5 times as long as its maximum width. First flagellar segment 3.0–3.5 times as long as its apical width, 1.1–1.2 times as long as second segment. Penultimate segment 2.5–3.0 times as long as wide, 0.6–0.9 times as long as first flagellar segment, 0.8–0.9 times as long as apical segment; the latter with slender apical spine.

Mesosoma. Length 1.9–2.0 times its height. Mesoscutum highly and roundly raised above pronotum. Median lobe of mesoscutum rather weakly protruding forward, distinctly regularly rounded anteriorly and without distinct anterolateral shoulders (dorsal view), usually with more or less distinct median longitudinal furrow at least in posterior $\frac{1}{2}$ – $\frac{2}{3}$. Notauli deep, but rather shallow in posterior $\frac{1}{3}$, complete, crenulate. Prescutellar depression deep, with 3–5 carinae, sparsely or rather densely rugulose, 0.30–0.35 times as long as scutellum. Subalar depression rather shallow, rather narrow, striate-rugose. Sternauli deep, smooth or narrowly and sparsely crenulate, running along anterior 0.70–0.75 of lower part of mesopleura. Metapleural flange rather narrow, rather long, rounded apically.

Wings. Fore wing 2.9–3.5 times as long as maximum width. Radial vein arising slightly before or from middle of pterostigma. Metacarpus 1.25–1.40 times as long as pterostigma. Second radial abscissa 2.5–3.5 times as long



Figures 64–75. *Hypodoryctes sibiricus* Kokujev, 1900. (64) Head, frontal view, (65) head, dorsal view, (66) six basal segments of antenna, (67) mesosoma, (68) propodeum, (69) metapleural flange, (70) hind tibia, (71) hind femur, (72) fore wing, (73) hind wing, (74) hind coxa, (75) mesosoma, dorsal view.

as first abscissa, 0.45–0.55 times as long as the straight third abscissa, 1.3–1.5 times as long as first radiomedial vein. Second radiomedial cell medium-sized, 2.5–3.0 times as long as its maximum width, 0.9–1.1 times as long as wide brachial cell, 0.7–0.8 times as long as discoidal cell. Distance from nervulus to basal vein 0.2–0.5 times nervulus length. In hind wing, first abscissa of medio-cubital vein 0.9–1.1 times as long as second abscissa. Recurrent vein weakly curved, antefurcal or interstitial.

Legs. Tarsal segments of middle legs slender; first segment about 5.5 times as long as its width, 0.8–0.9

times as long as second–fourth segments combined; second segment 3.5–4.0 times as long as wide. Hind coxa with rather distinct tooth, 1.7–2.0 times as long as wide. Hind femur 3.3–3.7 times as long as wide. Hind tarsus 1.0–1.1 times as long as hind tibia. Hind basitarsus 0.75–0.80 times as long as second–fifth segments combined; second tarsal segment 0.40–0.45 times as long as basitarsus, 1.3–1.6 times as long as fifth segment (without pretarsus); fourth segment 2.0–2.2 times as long as wide, 0.50–0.55 times as long as third segment.

Metasoma 1.1–1.2 times as long as head and mesosoma combined. First tergite with large dorsope, with small spiracular tubercles in basal $\frac{1}{3}$, rather distinctly and almost linearly widened from base to apex. Maximum width of first tergite 1.7–2.0 times its minimum width; length 1.6–2.0 times its maximum width, 1.6–1.8 times length of propodeum. Second tergite with fine shallow or very shallow convergent furrows fusing in its posterior 0.5–0.6; length of tergite 1.0–1.2 (rarely 0.9) times its basal width, 1.1–1.2 times length of third tergite. Second suture rather deep, without lateral bends. Third tergite with shallow incomplete submedian transverse furrow. Ovipositor sheath 0.8–1.1 times as long as body, 1.6–1.8 times as long as metasoma, 2.3–3.0 times as long as mesosoma, 1.0–1.5 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth; frons in anterior $\frac{1}{3}$ – $\frac{1}{2}$ or sometimes almost entirely striate or rugose-striate at least finely, rarely smooth almost entirely; face at least submedially but often widely rugulose-striate with granulation, rather widely smooth laterally. Mesoscutum densely and distinctly punctate, anteriorly with granulation partly, narrowly rugose in medioposterior half. Scutellum finely and densely punctate. Mesopleura smooth for the most part. Propodeum with distinctly marginate areas, basolateral areas smooth for the most part or sometimes rugulose apically and laterally (widely or narrowly) and finely granulate or coriaceous on the rest part; areola short and rather narrow, 1.2–1.5 times as long as wide; basal carina 2.0–3.0 times as long as fork of areola. Hind coxae transversely rugose-striate dorsally, densely and rather finely punctate, punctate-rugulose or almost smooth laterally. First tergite densely and coarsely striate-rugose, second tergite entirely, third in basal $\frac{1}{3}$ – $\frac{1}{2}$ (but laterally in basal $\frac{4}{5}$ – $\frac{5}{6}$) and fourth in basal $\frac{1}{3}$ – $\frac{1}{2}$ densely and rather finely rugulose-reticulate with striation partly, fifth tergite densely punctate basally; sometimes (in small specimens usually) second tergite in posterior half, and third tergite medially finely sculptured or almost smooth, fourth and fifth tergites smooth. Mesoscutum densely and more or less evenly pubescent, without very dense pubescence anterolaterally. Third–fifth metasomal tergites submedially with more or less narrow transverse stripe of setae, almost entirely setose laterally, rather widely bare sometimes anteriorly and always in posterior halves.

Colour. Body black, with reddish sport or tint, or rarely entirely reddish brown; metasoma medially widely reddish brown or light reddish brown, rarely almost yellow; sometimes wide stripes near furrows of second tergite and along second suture yellow or light brown. In some Mexican specimens, propodeum and first–third tergites or metasoma behind first tergite yellowish red or yellowish brown. Antennae black or (rarely) reddish brown, 2–3 basal segments light reddish brown or reddish brown, but sometimes these segments almost black with reddish margins. Palpi pale yellow. Legs light brown or light reddish brown, fore coxa and usually all trochanters yellow, all tarsi (especially hind one), hind tibia always basally and usually at least medially and hind femur dorsally or almost entirely darkened, sometimes dark reddish brown to almost black; rarely (dark form) fore and middle femora at least dorsally, hind femur and hind coxa almost entirely dark reddish brown (sometimes almost black) or reddish brown; in small specimens sometimes almost all legs light brown. Wings faintly infusate. Pterostigma dark brown.

Male. Body length 2.0–6.2 mm; fore wing length 1.6–4.5 mm. Temple sometimes distinctly convex. Antenna 32–61-segmented; antennal segments thicker, first flagellar segment 2.2–2.7 times as long as wide. Second radiomedial cell sometimes longer. Hind femur 2.7–3.3 times as long as wide. Length of second tergite 1.10–1.25 (very rarely in large specimens 1.4) times its basal width. Sculpture of metasoma usually fine and in small specimens often almost absent behind third tergite, rarely second tergite smooth in posterior half. Third–fifth tergites medially wide setose. Hind tibia basally pale or only faintly infusate. Second tergite usually dark. Otherwise similar to female.

Remarks. For discussion of the status of the form *nitidus* (Belokobylskij, 1996) see after redescription of *H. bilobus* (Shestakov). The specimen of this species was reared from a cocoon in the tunnel of the larva of Cerambycidae (Belokobylskij 2003).

Distribution. Sweden, Poland, Belarus, Hungary, Croatia, Bulgaria, Georgia, Russia (North Caucasus, Urals, Siberia, Far East), Kazakhstan, China (Taiwan, Zhejiang, Guangdong), Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Vietnam, Myanmar, Mexico, Costa Rica.

Hypodoryctes symphonia Belokobylskij sp. nov.
(Figs 76–85)

Type material. Holotype: female, “Vietnam, Tram Lap, 20 km N Buon-Luoi, prov. Gai Lai – Con Tum, 13.11.1993, A. Gorochov” (ZISP).

Description. Female. Body length 5.6 mm; fore wing length 4.9 mm.

Head. Width 1.6 times its median length. Head behind eyes (dorsal view) distinctly roundly narrowed.

Transverse diameter of eye 1.8 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.2 times its sides. POL 0.7 times Od, 0.4 times OOL. Eye very shortly and sparsely setose, 1.3 times as high as broad. Malar space height 0.2 times height of eye and 0.6 times basal width of mandible. Face width 0.9 times height of eye and 1.2 times height of face and clypeus combined. Hypoclypeal depression round, its width equal to distance from edge of depression to eye, about 0.4 times width of face. Occipital carina complete dorsally, fused below with hypostomal carina upper base of mandible.

Antennae weakly setiform, more than 49-segmented (apical segments missing). Scapus 1.5 times as long as maximum width. First flagellar segment 3.5 times as long as its apical width, 1.2 times as long as second segment. Subapical segments 2.5 times as long as width.

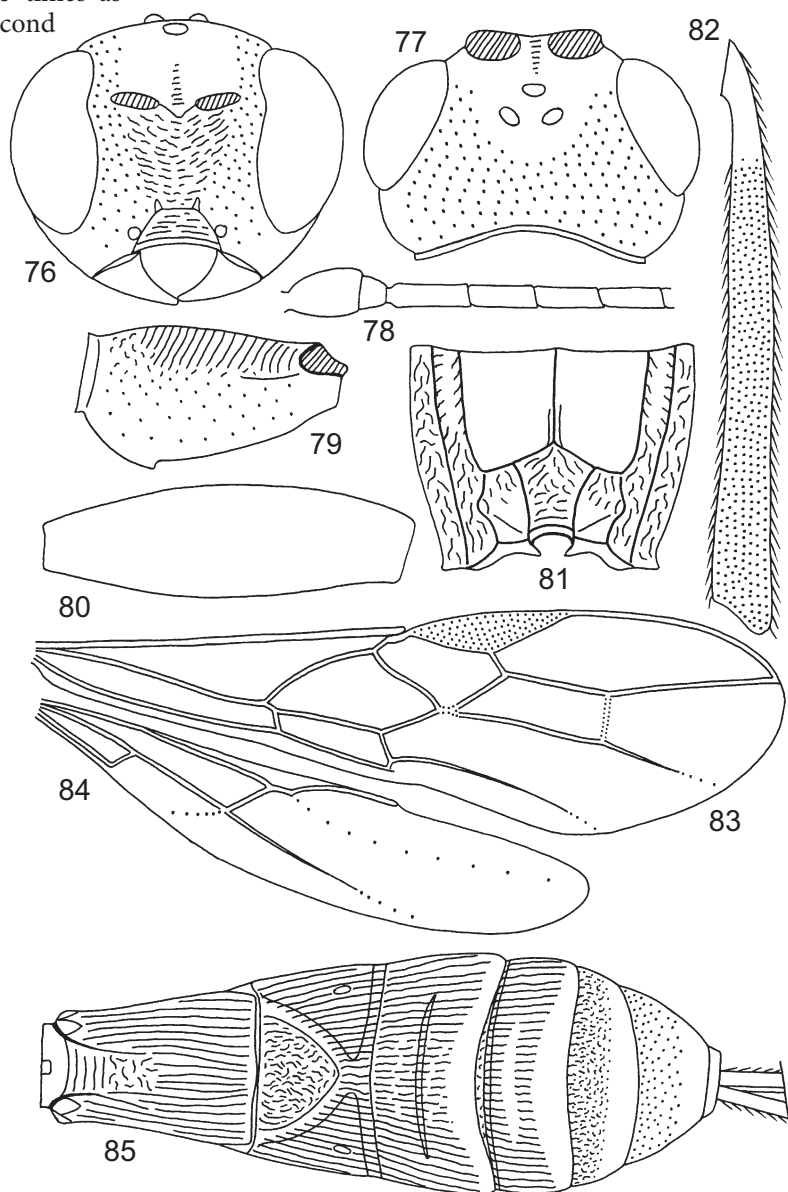
Mesosoma. Length 1.8 times its height. Mesoscutum highly and almost perpendicularly raised above pronotum. Median lobe of mesoscutum not strongly protruding forward, with distinct median longitudinal furrow in posterior $\frac{4}{5}$, regularly and rather distinctly convex anteriorly and without anterolateral shoulders (dorsal view). Notauli deep, complete, rugose-crenulate. Prescutellar depression deep, with 5 distinct carinae, finely rugulose between carinae, 0.3 times as long as scutellum. Subalar depression rather shallow, wide, striate-rugose. Sternauli rather deep, narrowly crenulate, running along anterior 0.6 of lower part of mesopleura. Metapleural flange wide, rather long, rounded apically.

Wings. Fore wing 3.2 times as long as maximum width. Radial vein arising almost from middle of pterostigma. Metacarpus 1.3 times as long as pterostigma. Second radial abscissa 4.5 times as long as first abscissa, 0.65 times as long as the straight third abscissa, 1.7 times as long as first radiomedial vein. Second radiomedial cell rather long, 3.2 times as long as maximum width, 1.25 times as long as brachial cell, 0.9 times as long as discoidal cell. Brachial cell weakly widened apically. Distance from nervulus to basal vein half nervulus length. In hind wing, first abscissa of mediocubital vein as long as second abscissa. Recurrent vein straight, oblique, interstitial.

Legs. Tarsal segments of middle legs slender; first segment about 6.0 times as long as its width, 0.9 times as long as second-fourth segments combined; second segment 4.0 times as long as wide. Hind coxa with rather distinct tooth, 1.8 times as

long as wide. Hind femur 3.2 times as long as wide. Hind tarsus 0.9 times as long as hind tibia. Hind basitarsus 0.7 times as long as second-fifth segments combined; second tarsal segment 0.5 times as long as basitarsus, 1.4 times as long as fifth segment (without pretarsus); fourth segment 1.7 times as long as wide, 0.6 times as long as third segment.

Metasoma 1.2 times as long as mesosoma and head combined. First tergite with large dorsope, without spiracular tubercles, rather weakly and linearly widened from base to subapex, then weakly narrowed in apical $\frac{1}{6}$. Maximum width of first tergite 1.7 times its mini-



Figures 76–85. *Hypodoryctes symphonia* sp. nov. (76) Head, frontal view, (77) head, dorsal view, (78) six basal segments of antenna, (79) hind coxa, (80) hind femur, (81) propodeum, (82) hind tibia, (83) fore wing, (84) hind wing, (85) metasoma, dorsal view.

mum width; length 1.5 times its maximum width, 1.5 times length of propodeum. Second tergite with distinct, rather deep convergent furrows fusing in its posterior 0.75; length of tergite 0.6 times its basal width, equal to length of third tergite. Second suture deep, rather wide, weakly curved, without lateral bends. Third tergite with rather deep incomplete crenulate transverse furrow in basal $\frac{2}{5}$. Ovipositor sheath 1.2 times as long as body, 2.2 times as long as metasoma, 3.3 times as long as mesosoma, 1.35 times as long as fore wing.

Sculpture and pubescence. Vertex distinctly densely punctate; frons smooth, narrowly rugulose medially; temple finely punctate; face densely and distinctly rugulose in wide median part, punctate laterally. Mesoscutum densely punctate on median lobe, densely and distinctly rugulose-striate with dense punctuation partly on lateral lobes, rugose-reticulate in medioposterior half. Scutellum sparsely and finely punctate, densely punctate posteriorly. Mesopleura smooth for the most part. Propodeum smooth in anterior $\frac{3}{5}$, rugose or partly sparsely rugulose in posterior $\frac{2}{5}$, with distinctly marginate areas, basolateral areas large; areola short and rather wide, almost as long as maximum width; basal carina about twice as long as fork of areola. Hind coxa distinctly transversely striate dorsally, rather densely and deeply punctate laterally. First and second tergites entirely, third and fourth in basal $\frac{2}{5}$ (but laterally almost entirely) almost linearly striate with fine ground sculpture, median striation of third and fourth tergites dense and fine, median area of second tergite densely rugose. Fifth tergite in basal half (but laterally in basal $\frac{3}{4}$) densely striate-punctate, sixth tergite very densely and distinctly rugulose-punctate in basal half. Mesoscutum densely and evenly pubescent. Third-fifth metasomal tergites sparsely setose in basal halves, their lateral parts with rather dense setae in basal $\frac{2}{3}$, bare in medioapical $\frac{1}{2}$ – $\frac{2}{5}$.

Colour. Head dark reddish brown to black, ventrally reddish brown. Mesosoma light brownish red, with small infuscate spots partly. Metasoma almost black, lateral furrows of second tergite, second suture and third tergites medially in basal $\frac{2}{5}$ brownish yellow or yellow. Antennae black, scapus and pedicel brownish yellow. Palpi pale yellow. Tegula yellow. Fore and middle legs yellow, pale yellow basally, tibiae medially and tarsi brownish; hind leg light reddish brown, trochanter and part of tibia yellow, tibia dorsomedially and tarsus distinctly infuscate; all tibiae basally pale yellow. Ovipositor sheath dark reddish brown, apex almost black. Wings faintly infuscate. Pterostigma dark brown.

Male. Unknown.

Diagnosis. This new species is similar to *H. rondo* sp. nov., but differs in having the vertex densely and distinctly punctate, the lateral lobes of mesoscutum densely and distinctly rugulose-striate with dense punctuation partly, and the hind tibia pale basally.

Distribution. Vietnam.

Hypodoryctes tango Belokobylskij et Chen sp. nov.
(Figs 86–96)

Type material. Holotype: female, China, Fujian prov., Sangang, 30.IX.1982 (Wang Jianshe), No 854227 (ZJUH).

Description. Female. Body length 10.4 mm; fore wing length 7.5 mm.

Head. Width 1.3 times its median length. Head behind eyes (dorsal view) roundly narrowed. Transverse diameter of eye 1.3 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.3 times its sides. POL almost equal to Od, 0.5 times OOL. Eye glabrous, 1.3 times as high as broad. Malar space height 0.2 times height of eye and 0.45 times basal width of mandible. Face width 0.8 times height of eye and 1.1 times height of face and clypeus combined. Malar suture absent. Hypoclypeal depression round, its width 1.2 times distance from edge of depression to eye, 0.5 times width of face. Occipital carina complete dorsally, not fused below with hypostomal carina and obliterated for a rather long distance above base of mandible.

Antennae weakly setiform, more than 57-segmented (apical segments missing). Scapus 1.5 times as long as maximum width. First flagellar segment 2.8 times as long as its apical width, 1.15 times as long as second segment. Subapical segments 2.5 times as long as wide.

Mesosoma. Length 2.3 times its height. Mesoscutum highly and almost perpendicularly raised above pronotum. Median lobe of mesoscutum distinctly protruding forward, with rather distinct median longitudinal furrow in posterior half only, regularly and distinctly rounded anteriorly and without distinct anterolateral shoulders (dorsal view). Notauli deep anteriorly, shallow in posterior half, complete, coarsely crenulate. Prescutellar depression deep, with 3 carinae, but lateral carinae not high, finely rugulose between carinae, 0.3 times as long as scutellum. Subalar depression rather deep, wide, striate-rugose. Sternauli deep, crenulate in anterior $\frac{2}{3}$ and smooth in posterior $\frac{2}{5}$, weakly oblique, running along anterior 0.7 of lower part of mesopleura. Metapleural flange wide, rather long, rounded apically.

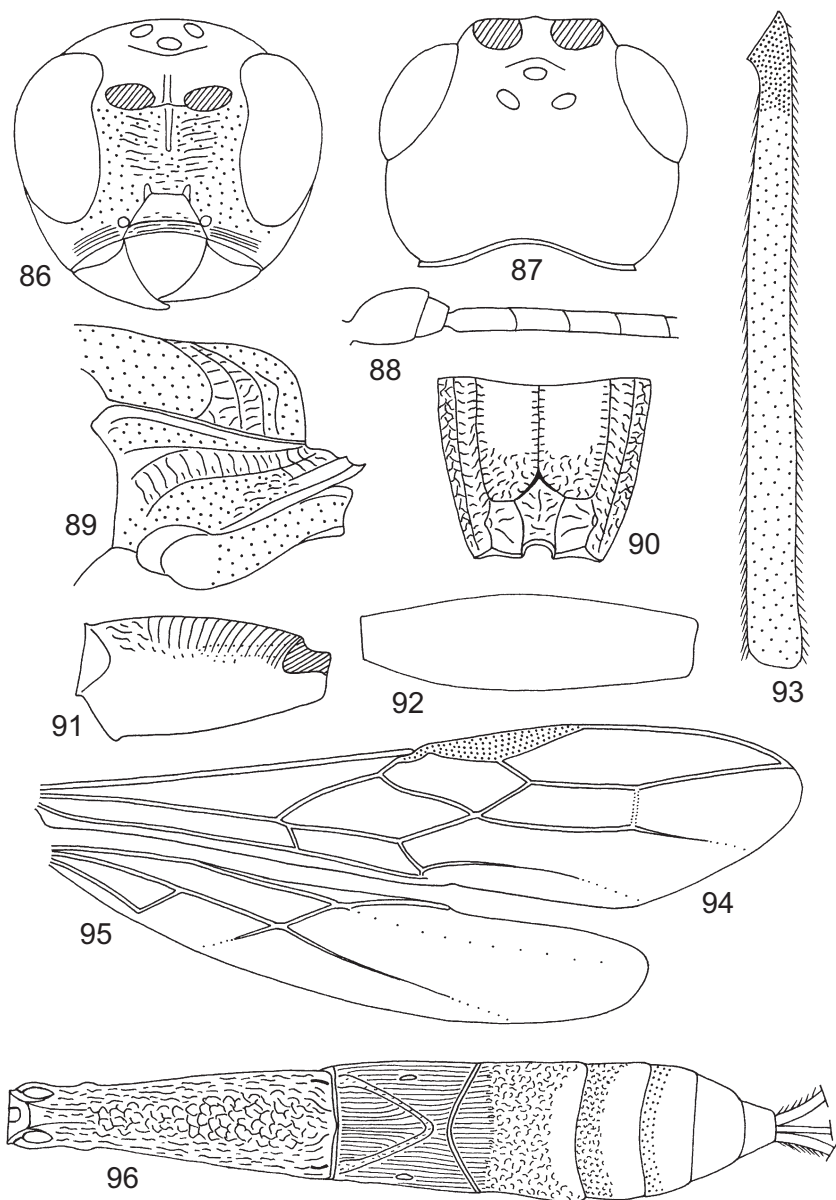
Wings. Fore wing 4.1 times as long as maximum width. Radial vein arising from the middle of pterostigma. Metacarpus 1.4 times as long as pterostigma. Second radial abscissa 3.0 times as long as first abscissa, 0.7 times as long as the straight third abscissa, almost twice as long as first radiomedial vein. Second radiomedial cell long, 3.6 times as long as maximum width, 1.2 times as long as brachial cell, 0.9 times as long as discoidal cell. Distance from nervulus to basal vein 0.4 times nervulus length. In hind wing, first abscissa of mediocubital vein 1.15 times as long as second abscissa. Recurrent vein straight, oblique, slightly antefurcal.

Legs. Tarsal segments of middle legs rather slender; first segment 5.5 times as long as its width, 0.7 times as long as second-fourth segments combined; second

segment about 3.0 times as long as wide. Hind coxa with small but distinct tooth, 1.9 times as long as wide. Hind femur 3.5 times as long as wide. Hind tarsus almost as long as hind tibia. Hind basitarsus as long as second-fifth segments combined; second tarsal segment 0.4 times as long as basitarsus, 1.7 times as long as fifth segment (without pretarsus); fourth segment about twice as long as wide, 0.5 times as long as third segment.

Metasoma 1.3 times as long as mesosoma and head combined. First tergite with large dorsope, with small spiracular tubercles in basal 0.25, rather weakly and almost linearly widened from base to apex. Maximum width of first tergite 1.5 times its minimum width; length 2.7 times its maximum width, about twice length of propodeum. Second tergite with deep convergent furrows fusing in its posterior 0.8; length of tergite almost equal to its basal width, equal to length of third tergite. Second suture deep, rather narrow, without lateral bends. Third tergite without transverse furrow. Ovipositor sheath 1.1 times as long as body, twice as long as metasoma, 3.3 times as long as mesosoma, 1.6 times as long as fore wing.

Sculpture and pubescence. Vertex and temple smooth; frons very finely rugulose in anterior $\frac{2}{3}$; face distinctly and widely striate in median part, distinctly punctate laterally. Mesoscutum densely and very finely punctate, without granulation, rugulose-areolate in narrow medioposterior half. Scutellum distinctly and densely punctate. Mesopleura smooth for the most part. Propodeum with distinctly marginate areas, basolateral areas smooth in anterior half, coarsely rugose in posterior half and along carinae; areola short and rather wide, 1.5 times as long as maximum width; basal carina 2.8 times as long as fork of areola. Hind coxa transversely striate dorsally, distinctly rugose-punctate laterally, almost smooth ventrally. First tergite densely and coarsely rugose-reticulate. Second tergite densely coarsely striate with rugulosity between striae, its striation wide medially and narrow laterally. Third tergite in basal $\frac{2}{3}$ (but laterally in basal $\frac{3}{4}$) and fourth in basal $\frac{1}{3}$ very densely and small rugulose-reticulate. Fifth and sixth tergites finely punctate basally. Remaining parts of tergites smooth. Mesoscutum entirely densely and evenly pubescent, without especially



Figures 86–96. *Hypodoryctes tango* sp. nov. (86) Head, frontal view, (87) head, dorsal view, (88) six basal segments of antenna, (89) anterior part of mesosoma, (90) propodeum, (91) hind coxa, (92) hind femur, (93) hind tibia, (94) fore wing, (95) hind wing, (96) metasoma, dorsal view.

dense pubescence anterolaterally. Third-fifth metasomal tergites densely setose in basal halves, dense setose almost entirely laterally, bare in medioapical $\frac{1}{2}$ – $\frac{1}{3}$.

Colour. Body black, propodeum and metasoma dark reddish brown. Antennae dark reddish brown to black. Palpi pale yellow. Tegula brownish yellow. Legs reddish brown; trochanters yellow; fore coxae, fore and middle tibiae in apical $\frac{1}{3}$ – $\frac{1}{2}$ and fore and middle tarsi light reddish brown; hind tarsus reddish brown; all tibiae dark basally. Ovipositor sheath almost black. Wings faintly infuscate. Pterostigma dark brown.

Male. Unknown.

Diagnosis. This new species is similar to *H. torridus* Papp, but differs in having the first tergite longer, the third tergite without transverse furrow, the base of hind tibia dark, and the hind basitarsus longer. *H. tango* sp. nov. is also similar to *H. serenada* sp. nov., but differs in having the first tergite longer, the third tergite without transverse furrow, the second radiomedial cell long, and the ovipositor sheath entirely dark apically.

Distribution. China (Fujian).

Hypodoryctes torridus Papp, 1987

(Figs 97–107)

Hypodoryctes torridus Papp, 1987: 161; Belokobylskij 1990: 36; 1998b: 58.

Material examined. Russia: Amurskaya Province (3 females), Evreyskaya Autonomous Province (1 female), Khabarovsk Territory (3 females, 1 male), Primorskiy Territory (10 females, 1 male). China: Fujian (1 female), Zhejiang (1 male), Shanxi (1 female). Korea: 1 female (holotype), "Korea, prov. North Pyongan, Mt. Myohyang-san", "18.VIII.1982, leg. Beron et Popov, No 3", "Holotypus *Hypodoryctes torridus* sp. n., Papp 1987", "Hym. Typ. No. 7073, Mus. Budapest" (HNHM). Japan: Hokkaido (2 females), Honshu (16 females, 17 males), Shikoku (10 females, 5 males), Kyushu (4 females, 4 males), Tsushima (1 female), Vietnam (1 male).

Description. Female. Body length 5.5–11.5 mm; fore wing length 4.5–8.0 mm.

Head. Width 1.25–1.40 times its median length. Head behind eyes (dorsal view) roundly narrowed. Transverse diameter of eye 1.2–1.4 times as long as temple (dorsal view). Ocelli medium-sized, in triangle with base 1.3–1.4 times its sides. POL 0.9–1.0 times Od, 0.5–0.6 times OOL. Eye very shortly and sparsely setose, 1.3–1.4 times as high as broad. Malar space height 0.20–0.25 times height of eye, 0.40–0.55 times basal width of mandible. Face width 0.8–0.9 times height of eye and 1.2–1.3 times height of face and clypeus combined. Malar suture more or less distinct. Hypoclypeal depression round, its width 1.1–1.3 times distance from edge of depression to eye, 0.45–0.50 times face width. Occipital carina complete dorsally (but sometimes fine), fused below with hypostomal carina above base of mandible at least by additional carina, or sometimes obliterated for a short distance.

Antennae almost filiform, 58–74-segmented, 1.1–1.2 times as long as body. Scapus 1.4–1.5 times as long as its maximum width. First flagellar segment 2.5–3.2 times as long as its apical width, 1.1–1.2 times as long as second segment. Penultimate segment 2.0–2.5 times as long as wide, 0.5–0.6 times as long as first flagellar segment, 0.7–0.8 times as long as apical segment; the latter with distinct pointed apical spine.

Mesosoma. Length 2.0–2.1 times its height. Mesoscutum highly and almost perpendicularly raised

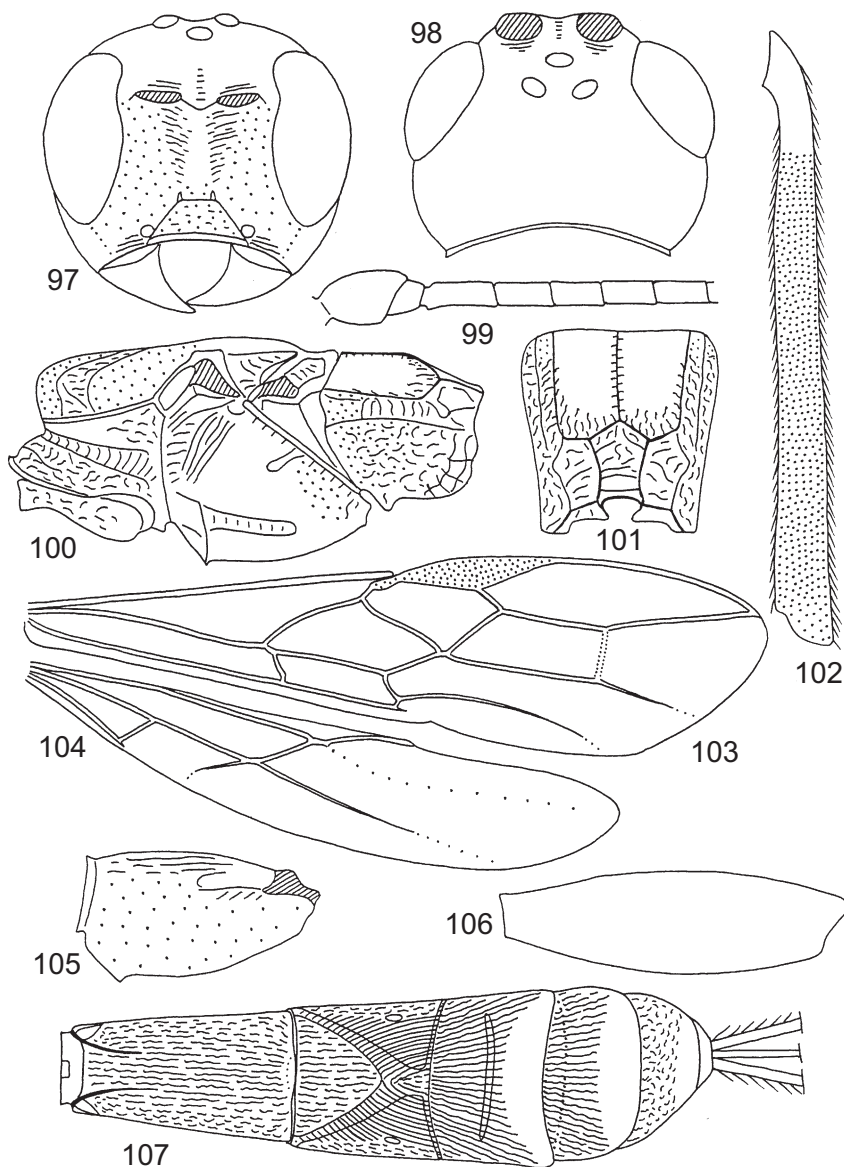
above pronotum. Median lobe of mesoscutum distinctly protruding forward, weakly rounded anteriorly and with more or less distinct anterolateral shoulders (dorsal view), with distinct median longitudinal furrow at least in posterior $\frac{2}{3}$. Notauli deep and wide in anterior $\frac{2}{3}$, shallow and narrow in posterior $\frac{1}{3}$, densely crenulate. Prescutellar depression deep and rather short, with 3–5 carinae, finely rugulose or almost smooth between carinae, 0.25–0.30 times as long as scutellum. Subalar depression rather deep, wide, rugose-striate. Sternauli rather deep and narrow, crenulate, weakly oblique, running along anterior 0.7 of lower part of mesopleura. Metapleural flange wide, rather short, rounded apically.

Wings. Fore wing 3.5–3.8 times as long as maximum width. Radial vein arising slightly before middle of pterostigma. Metacarpus 1.2–1.3 times as long as pterostigma. Second radial abscissa 4.0–4.5 times as long as first abscissa, 0.7–0.8 times as long as the straight third abscissa, 1.6–1.8 times as long as first radiomedial vein. Second radiomedial cell rather long, 2.8–3.5 times as long as its maximum width, 1.1–1.2 times as long as wide brachial cell, 0.8–0.9 times as long as discoidal cell. Distance from nervulus to basal vein 0.3–0.4 times nervulus length. In hind wing, first abscissa of mediocubital vein 1.2–1.4 times as long as second abscissa. Recurrent vein more or less straight, antefurcal or interstitial.

Legs. Tarsal segments of middle legs rather slender; first segment 5.0–6.0 times as long as its width, 0.80–0.85 times as long as second–fourth segments combined; second segment 3.0–3.5 times as long as wide. Hind coxa with rather distinct tooth, 1.6–1.8 times as long as wide. Hind femur 3.0–3.3 times as long as wide. Hind tarsus about 0.9 times as long as hind tibia. Hind basitarsus 0.6 times as long as second–fifth segments combined; second tarsal segment 0.55–0.60 times as long as basitarsus, 1.8–2.0 times as long as fifth segment (without pretarsus); fourth segment 1.8–2.2 times as long as wide, 0.45–0.50 times as long as third segment.

Metasoma 1.2–1.3 times as long as head and mesosoma combined. First tergite with large dorsope, with small (sometimes indistinct) spiracular tubercles in basal $\frac{1}{4}$, rather weakly and almost linearly widened from base to subapex, but weakly narrowed apically. Maximum width of first tergite 1.6–1.7 times its minimum width; length 1.7–2.0 times its maximum width, 1.5–1.8 times length of propodeum. Second tergite with distinct convergent furrows fusing just before second suture; length of tergite 0.9–1.1 (rarely 0.85) times its basal width, 1.1–1.2 times length of third tergite. Second suture deep, wide, weakly curved laterally. Third tergite with more or less shallow, incomplete, weakly curved transverse submedian furrow. Ovipositor sheath 1.1–1.2 times as long as body, 1.9–2.1 times as long as metasoma, 3.4–3.7 times as long as mesosoma, 1.4–1.7 times as long as fore wing.

Sculpture and pubescence. Head mostly smooth; frons smooth, sometimes sculptured near antennal



Figures 97–107. *Hypodoryctes torridus* Papp, 1987. (97) Head, frontal view, (98) head, dorsal view, (99) seven basal segments of antenna, (100) mesosoma, (101) propodeum, (102) hind tibia, (103) fore wing, (104) hind wing, (105) hind coxa, (106) hind femur, (107) metasoma, dorsal view.

sockets; face densely punctate, below shortly striate medially, rugulose upper, rarely only finely and sparsely punctate. Mesoscutum rather densely and finely punctate, widely rugose in medioposterior half. Scutellum finely and densely punctate. Mesopleura smooth. Propodeum with distinctly marginate areas, basolateral areas large, smooth anteriorly, punctate-rugulose or rugose in posterior $\frac{1}{5}$ – $\frac{1}{2}$; areola short and rather wide, 1.1–1.6 times as long as wide; basal carina 2.7–3.0 times as long as fork of areola. Hind coxae transversely striate with punctuation dorsally, distinctly and rather sparsely punctate laterally. First tergite entirely and median area of second tergite very densely and coarsely rugose-

reticulate, rest part of second tergite, third and fourth tergites in basal $\frac{1}{5}$ – $\frac{1}{2}$ (medially) – $\frac{4}{5}$ – $\frac{5}{6}$ (laterally) densely longitudinally striate with dense fine reticulation between striae; fifth tergite densely rugulose-punctate in basal $\frac{1}{2}$ (medially) – $\frac{4}{5}$ (laterally) and basally with transverse fine striation; sculpture finer toward metasomal apex; following parts of tergites smooth. Vertex almost entirely and rather densely setose. Mesoscutum with dense whitish pubescence in anterolateral corners. Third-fifth metasomal tergites densely setose in basal $\frac{1}{2}$ – $\frac{3}{5}$, dense setose almost entirely laterally, bare in medioapical $\frac{1}{2}$ – $\frac{2}{5}$.

Colour. Body black or dark reddish brown, mesosoma sometimes reddish laterally; furrows of second tergite and second suture reddish or light reddish brown. Antennae entirely black or dark reddish brown. Palpi yellow. Legs light reddish brown or (rarely) brownish yellow, bases of fore and middle legs yellowish; tarsi darker; hind tibia shortly yellow or light brown basally, almost black or dark reddish brown (rarely almost light reddish brown) for the most part, but ventral side of hind tibia sometimes reddish brown or light reddish brown in basal $\frac{1}{5}$; hind tarsi dark reddish brown. Wings faintly infuscate. Pterostigma dark brown.

Male. Body length 3.3–5.8 mm; fore wing length 2.4–3.9 mm. Antennae 40–55-segmented. Sometimes second radiomedial cell shorter, 2.6 times as long as wide; second radial abscissa 0.6 times as long as third abscissa, 1.5 times as long as first radiomedial vein. In small specimens basoventral tubercle on hind coxa very small. Third tergite submedially with rather deep transverse and strongly curved furrow. Fourth and fifth tergites basally with deep transverse furrows. Hind coxa almost entirely smooth. Sculpture of third-sixth metasomal tergites in large specimens coarse and wider distributed. Small specimens sometimes paler and with finely sculptured propodeum. Otherwise similar to female.

Host. *Ovalisia virgata* Motschulsky 1859 (Buprestidae). [2 females, Japan, “Amagi, Shizuoka Pref, 5.VI.1985, N. Enda leg.”, “Host: *Ovalisia virgata* Lewis (sic!)”]

Diagnosis. This species is similar to *H. bilobus* (Shestakov), and their differences are indicated in the redescription of *H. bilobus*.

Distribution. Russia (Far East), China (Zhejiang, Shanxi, Fujian), Korea, Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima), Vietnam.

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