Revision of the tribe Cerambycini: redefinition of the genera *Trirachys* Hope, 1843, *Aeolesthes* Gahan, 1890 and *Pseudaeolesthes* Plavilstshikov, 1931 (Coleoptera, Cerambycidae)

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Abstract

The systematics of the Australasian genera *Trirachys* Hope, 1843, *Aeolesthes* Gahan, 1890 and *Pseudaeolesthes* Plavilstshikov, 1931 is revised through analysis of the types-species and analytic methods of statistical similarity. *Pseudaeolesthes* is restored as b. genus and includes the following taxa: *Pseudaeolesthes aureopilosa* (Gressitt & Rondon, 1970) n. comb., *Pseudaeolesthes chrysothrix* (Bates, 1873) rest. comb., *Pseudaeolesthes chrysothrix taiwanensis* (Hayashi, 1974) n. comb., *Pseudaeolesthes chrysothrix nakamurai* (Kusama & Takakuwa, 1984) n. comb., *Pseudaeolesthes chrysothrix kurosawai* Gressitt, 1965 rest. comb., *Pseudaeolesthes chrysothrix yonaguniensis* Ohbayashi & Ohbayashi, 1965 rest. comb., *Pseudaeolesthes chrysothrix tibetana* Gressitt, 1942 rest. comb., *Pseudaeolesthes malayana* (Hayashi, 1979) n. comb., *Pseudaeolesthes multistriata* (Hayashi, 1979) n. comb., *Pseudaeolesthes mutabiliaurea* Chiang, 1951 rest. comb., *Pseudaeolesthes psednothrix* (Gressitt & Rondon, 1970) n. comb. and *Pseudaeolesthes rufimembris* (Pic, 1923) n. comb. *Carinolesthes* n. gen. for *Carinolesthes pericalles* (Gressitt & Rondon, 1970) n. comb., *Carinolesthes aureosignata* (Pic, 1915) n. comb. and *Carinolesthes ningshanensis* (Chiang, 1981) n. comb. is proposed. *Massirachys* n. gen. for *Massirachys mariae* (Thomson, 1878) n. comb. is proposed. *Parolesthes* n. gen. for *Parolesthes laosensis* (Gressitt & Rondon, 1970) n. comb. and *Parolesthes curticornis* (Hüdepohl, 1988) n. comb. is proposed. *Aeolesthes* includes the following species: *Aeolesthes aurifaber* (White, 1853), *Aeolesthes gloriosa* (Aurivillius, 1924) n. comb., *Aeolesthes bilobulartus* (Gressitt & Rondon, 1970) n. comb. and *Aeolesthes vietnamensis* n. sp. from Vietnam. *Trirachys* Hope, 1843 includes the following species: *Trirachys acanthophorus* Vitali, 1999, *Trirachys achilles* (Thomson, 1865) n. comb., *Trirachys ampliatus* (Gahan, 1890) n. comb., *Trirachys atkinsoni* Gardner, 1939, *Trirachys basicornis* (Gahan, 1893) n. comb., *Trirachys externus* (Pascoe, 1869) n. comb., *Trirachys holosericeus* (Fabricius, 1787) n. comb., *Trirachys inexpectatus* Holzshuh, 1982, *Trirachys indicolus* (Bates, 1891) n. comb., *Trirachys*

indutus (Newman, 1842) n. comb., *Trirachys inhirsutus* (Matsushita, 1932) n. comb., *Trirachys orientalis* Hope, 1843, *Trirachys perplexus* (Gahan, 1890) n. comb., *Trirachys sartus* (Solsky, 1871) n. comb., *Trirachys sinensis* (Gahan, 1890) n. comb., *Trirachys sphaericothorax* Gressitt & Rondon, 1970, and *Trirachys textor* (Pascoe, 1869) n. comb. *Aeolesthes (Pseudaeolesthes) chrysophanes* Gressitt & Rondon, 1970 is transferred to the genus *Elydnus* Pascoe, 1869, as follows: *Elydnus chrysophanes* (Gressitt & Rondon, 1970) n. comb. *Aeolesthes sticheri* Hüdepohl, 1989 and *Aeolesthes fulgens* Schwarzer, 1926 are transferred to the genus *Dymasius (s. str.)* Thomson, 1864, as follows: *Dymasius sticheri* (Hüdepohl, 1989) n. comb. and *Dymasius fulgens* (Schwarzer, 1926) n. comb. *Derolus* Gahan, 1891 = *Mimoderolus* Pic, 1933 n. syn. and *Derolus uniformis* (Pic, 1933) n. comb. = *Pachydissus xyliae* Fisher, 1940 n. syn. are proposed.

Key-words

Coleoptera, Cerambycidae, Cerambycidae, Cerambycini, systematics.

Introduction

During the description of *Trirachys acanthophorus* (Vitali, 1999), the generic attribution was doubtful because the general habitus exactly fitted *Aeolesthes induta* (Newman, 1842) while the antennal structure corresponded to the genus *Trirachys* Hope, 1843.

According to the original description, *Trirachys* included only one species (*T. orientalis* Hope, 1843) characterised by prothorax spined at the sides antennae and endoapically spined from the 3rd article. On the contrary, *Aeolesthes* Gahan, 1890 (type-species: *Hammaticherus aurifaber* White, 1853) was characterised by mutic prothorax and antennae endoapically spined from the 5th article. Finally, *Pseudaeolesthes* Plavilstshikov, 1931 included only one species (*Neocerambyx chrysothrix* Bates, 1873) characterised by spined prothorax and mutic antennae. All also shared interantennal ridge and rounded procoxal cavities.

The status of these genera became more and more confusing in the subsequent years. Aurivillius (1924) described *Trirachys gloriosus* since it showed a spined prothorax. But it also showed antennae spined from 5th article and a habitus extremely similar to the type-species of *Aeolesthes*. Gressitt & Rondon (1970) provided erroneous and misleading differential characters, which drove to key *Aeolesthes* twice, to downgrade *Pseudaeolesthes* to subgenus level, and to confuse the taxonomy of many species. They even provided differential diagnoses confronting species of different genera and described *bilobulartus* as *Trirachys*, though it showed typical *Aeolesthes*-characters. Holzschuh (1982) described a *Trirachys*-species with antennae spined from the 3rd article but with a mutic prothorax as well. Actually, *Trirachys acanthophorus* shared analogous characters. Finally, Nakamura *et al.* (1992) transferred *Hemadius oenochrous* Fairmaire, 1889 to *Aeolesthes*, though it showed none of the characters of this genus.

In conclusion, several species currently classified as *Trirachys* or *Aeolesthes* often show only a superficial likeness with their type-species. They were inserted in the respective genera only according to one or another particular character, sometimes the antennal or the prothoracic spines, sometimes the general habitus.

The aim of this paper is to re-establish the natural systematic relations among *Trirachys* and closely related genera through the compared analysis of morphological and genital characters. The use of statistical methods supported this task.

Materials and methods

Species belonging to the following collections have been examined. The types belonging to the Bishop Museum have been examined through hi-definition pictures.

AMNH: American Museum of Natural History, New York (USA).

BMNH: British Museum of Natural History, London (Great Britain).

BPBM: Bernice Pauahi Bishop Museum, Honolulu (USA).

CFV: Francesco Vitali private collection (Luxembourg).

CGC: Gérard Chemin private collection, Champigny-sur-Marne (France).

CPH: Pierre Haller private collection (Switzerland).

CXG: Xavier Gouverneur private collection, Rennes (France).

EIHU: Collection of Systematic Entomology, Hokkaido University (Japan).

MCSNG: Museo Civico di Storia Naturale, Genoa (Italy).

MNHNL: Musée national d'histoire naturelle, Luxembourg (Luxembourg).

MNHNP: Muséum national d'histoire naturelle, Paris (France).

MW: U. S. National Museum of Natural History, Washington (USA).

SMF: Natur-Museum und Forschungs-Institut Senckenberg, Frankfurt am Main (Germany).

ZSM: Zoologische Staatssammlung München (Germany).

For each available species, the presence/absence (1/0) of the following 26 characters was examined: interantennal ridge, bifurcated inteantennal ridge, furrowed interantennal ridge, femoral teeth, neck, straight/bowed intergenal furrow, pronotal lateral spines, pronotal discal tubercles, strong pronotal wrinkles, regular pronotal wrinkles, pronotal longitudinal furrows, pronotal smooth field, rugosity of the scape in male, rugosity of the scape in female, antennal spines in male, antennal spines in female, antennomeres III-IV, and/or V, and/or VI spined, rapport elytra length/width, truncated elytral apex, toothed elytral apex, spined elytral apex, elytral ridges, elytral pubescence.

The characters of all known species were summarised in a table (Tab. 1) and subject to statistical analyses of similarity. Some species of the genus *Neocerambyx* Thomson, 1860 were added for a comparison. *Hemadius oenochrous* Fairmaire, 1889 was also tested. Cladistic parsimony analyses with Euristic algorithms NN, SPN, TBR as well as multivariable cluster analyses with Jaccard and Dice similarity coefficients were calculated with the paired group algorithm using Past (Hammer *et al.*, 2006) (Fig. 24–25).

Results

According to the keyed characters (Tab. 1), the following statements can be inferred:

1. *Aeolesthes* Gahan, 1890

Original description. – Head with a central plaque in front, with a median, more or less distinct carina occupying interantennary solcus in front, and extending behind almost to a level with the posterior border of the upper lobes of the eyes. At the termination of this carina the vertex bear a shallow foveolate impression. Antennae in the male much longer than the body, with the third to fifth joints thickened at the apex, with the joints from about the fifth to the eighth usually furnished with a minute spine at their outer apical termination. The same joints in the female more distinctly spined externally, and each also spinosely or denticulately produced at its inner apical termination. Prothorax strongly rugose above, rounded or subangulate and unarmed at the sides in the middle. Elytra clothed with a rich silky pubescence giving moiré reflexions; apices truncate, with the angles spinose or dentate. Anterior cotyloid cavities very feebly or not at all angulate on the outside. Prosternal process usually subtruncate behind.

Type-species. – Hammaticherus aurifaber White, 1853 (Gahan's des., 1906).

Diagnosis. – Body flattened, fairly stout. Head with an interantennal ridge completely separated from the eyes by a furrow. Scape slightly convex externally, smooth dorsally; antennae ectoapically toothed from the 5th or 6th article and endoapically spined from the 5th article; prothorax as long as wide, with or without lateral spines, dorsally with more or less regular transversal wrinkles. Pronotum regularly transversely wrinkled and with a pair of furrows on the disc delimiting a rather smooth field; procoxal cavities rounded. Elytra almost parallel-sided in both sexes, toothed at apex; elytral pubescence giving changing pattern. Femoral apex toothed.

Species. – *Aeolesthes aurifaber* (White, 1853) (Fig. 1); *Aeolesthes gloriosa* (Aurivillius, 1924) n. comb. (Fig. 2); *Aeolesthes bilobulartus* (Gressitt & Rondon, 1970) n. comb. (Fig. 3); *Aeolesthes vietnamensis* n. sp. (Fig. 4).

Remarks. – Aeolesthes aurifaber is the only species of the genus showing toothed apices of meso- and metafemora. Just for such character, Gahan (1890) inserted it at the first step of the key and as first species of the list. Later, he selected *aurifaber* – unfortunately, the most peculiar species of the genus – as type-species of *Aeolesthes* (Gahan, 1906).

This unusual character is shared only by *Trirachys gloriosus*, which also shares antennae spined from the 5th article. Both species are very similar between them under other examined characters, except for the pronotal spines.

The toothed femora are a peculiar autoapomorphic character, while the smooth scape is a primitive character. The contemporaneous presence of primitive and specialised characters implies to consider *Aeolesthes* as a genus paraphyletic with respect to *Trirachys*, as all similarity analyses show (Fig. 24–25).

The holotype of *Trirachys bilobulartus* (BPBM 8291) was originally mentioned as a female coming from Pakkading, Borikhane Prov., 18.IV.1864. Actually, it is a male collected in 1964. According to the description, the allotype is another female, but the figured specimen is another male different from the holotype. Finally, Pakkading and Borikhane are both districts of the Bolikhamsai Province. Makihara *et al.* (2008) recorded this species from Vietnam and quoted *Rhizophora apiculata* Blume as its host, but the provided pictures prove that these data must be referred to *Trirachys sinensis* (Gahan, 1890).

Distribution. – This genus has a Philippine-Malayan-Indochinese distribution. *Aeolesthes aurifaber* was recorded from Laos by Brongniart (1891) and Gressitt & Rondon (1970), but its real occurrence remains questionable. The specimen figured by Gressitt & Rondon (1970: fig. 12i) does not evidently belong to this species, lacking of antennal and femoral spines. Moreover, the specimen showed in fig. 13e and identified as *Trirachys orientalis* seems to be the male of *Aeolesthes vietnamensis* n. sp.

Examined materials. – Aeolesthes aurifaber: 1♀, Malaysia, Borneo, Sabah, Crocker Range, 19-IV-1995, *in* CFV; 1♂, 1♀, Mt. Trus Madi, 1200 m, 7/11-IV-1994, N. Kanie lgt., *in* CFV; 1♂, ditto, 2-V-1995, *in* CFV; 1♂, ditto, 20-IV-2006, *in* CXG; 1♂, 3♀♀, ditto, III/IV-2014, ex coll. Y. Morimura, *in* CFV; 1♂, Tawau, 8-V-1996, *in* CFV; Sarawak, 1865-66, coll. G. Doria, *in* MCSNG; 2♂♂, 1♀, Indonesia, Borneo, Kalimantan Timur, Kalimantan, V-2001, *in* CGC; 1♀, ditto, V-2001, ex coll. W. Heinkel, *in* CFV, 1♂, ditto, V-2004, coll. W. Heinkel, *in* CFV; 2♀♀, ditto, Balikpapan, XI-2002, ex coll. W. Heinkel, *in* CFV; Sumatra, Siboga [= Sibolga], IV-1886, E. Modigliani *leg*., *in* MCSNG.

Aeolesthes gloriosa: 1♂, Philippines, Luzon, Aurora, Sierra Madre, V-2013, *in* CGC; 1♂, 1♀, Leyte, Mt. Lobi, V-2010, coll. T. Richter, *in* CFV; 1♀, Leyte, Mt. Balacaue, VIII-2011, I. Lumawig *leg*., *in* CFV; 1♀, Mindanao, Surigao del Sur, VI-2012, I. Lumawig *leg*., *in* CFV.

Aeolesthes bilobulartus: Holotype ♂, Laos, Pakkading, Borikhane, 156 m, 18-IV-1964, Trirachys bilobulartus Gressitt & Rondon, Holotype, *in* BPBM (8291).

***Aeolesthes vietnamensis* n. sp.** (Fig. 4)

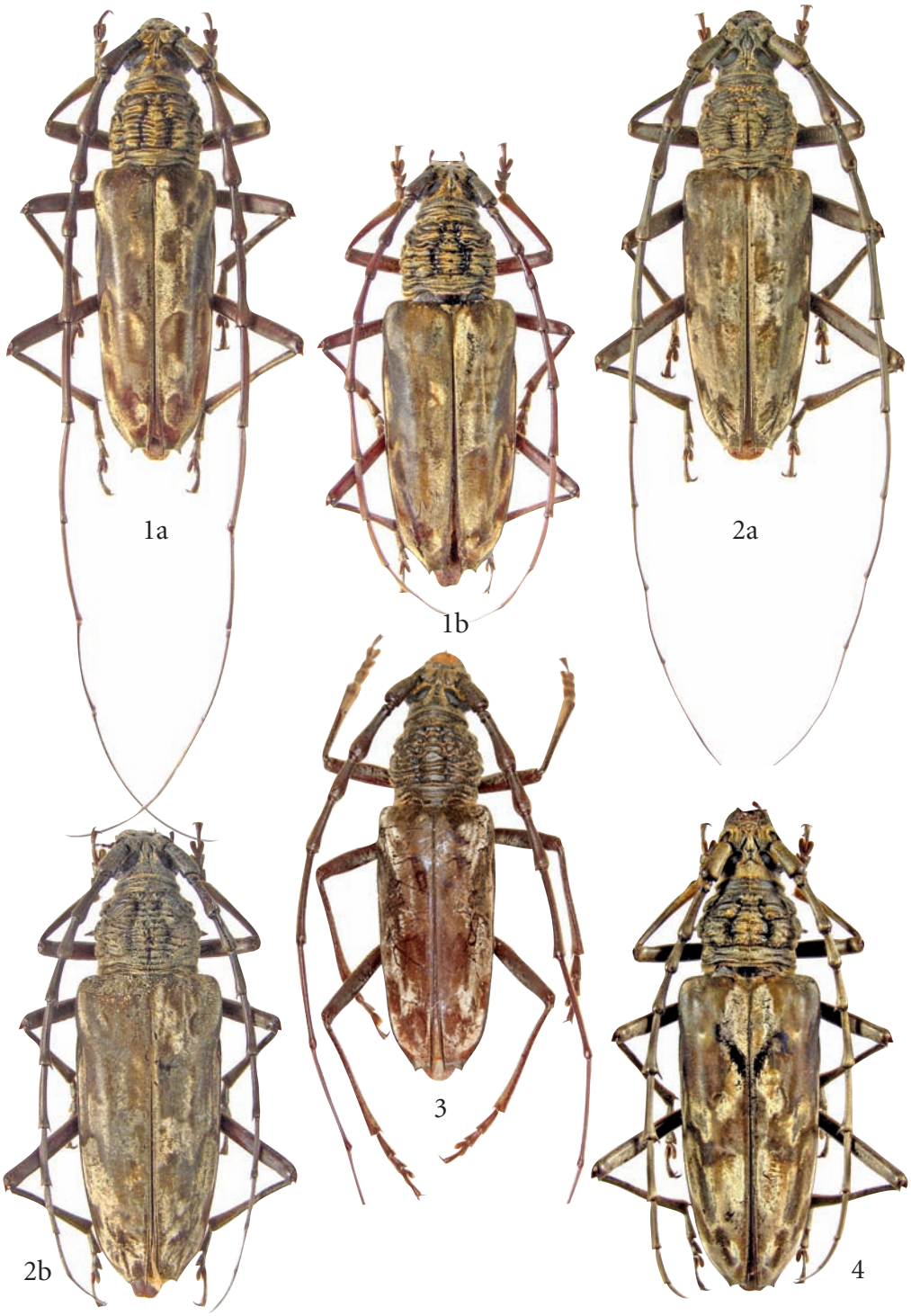
Examined materials. – Holotype ♀, Vietnam, Nam Trung Bo, Quang Ngai, Mt. Bato, 950 m, IV-2014, *in* CFV.

Diagnosis. – Female, 47 mm. Body flattened, fairly stout. Head with an interantennal ridge completely separated from the eyes by a furrow. Scape slightly convex externally, smooth dorsally; antennae ectoapically toothed from the 6th article and endoapically spined from the 5th article; prothorax as long as wide, with lateral spines. Pronotum regularly transversely wrinkled and with a pairs of furrows on the disc delimiting a nearly smooth field; procoxal cavities rounded. Elytra almost parallel-sided, toothed at apex; elytral pubescence giving changing pattern. Femoral apex toothed.

Differential diagnosis. – The new species differs from the Philippine *A. gloriosa* (Fig. 2), in the antennomere V lacking the external tooth, the large and posteriorly truncate interantennal carina (elongated and posteriorly acute in *A. gloriosa*), the pronotal spines (obtusely tuberculate in *A. vietnamensis,* acute in *A. gloriosa*), the coarser pronotal sculpture, and the elytral pubescence, forming more uniform larger pattern.

Moreover, it differs from the Bornean *A. aurifaber* (Fig. 1) in the larger size (less than 40 mm in *A. aurifaber*), the pronotal spines, the large and posteriorly truncate interantennal carina (elongated and posteriorly acute in *A. aurifaber*), and the broader prothorax.

Finally, it differs from the Laotian *A. bilobulartus* (Fig. 3) in the pronotal spines, the large and posteriorly truncate interantennal carina (elongated and posteriorly acute in *A. bilobulartus*) and the nearly smooth pronotal field.



1. *Aeolesthes aurifaber* (White, 1853): 1a, ♂; 1b, ♀ (CFV). 2. *Aeolesthes gloriosa* (Aurivillius, 1924): 2a, ♂; 2b, ♀ (CFV). 3. *Aeolesthes bilobulartus* (Gressitt & Rondon, 1970) Holotype ♂ (BPBM, Photo J. Yamasako). 4. *Aeolesthes vietnamensis* n. sp. Holotype ♀ (CFV).

2. *Trirachys* Hope, 1843

Original description. – Genus novum Hamatichero affine. Caput porrectum, fronte rugosa. Antennae 11-articulatae, articulo 1mo crasso, valde rugoso; 2do minimo; 3tio, 4to, et 5to spinis armatis; quinque sequentibus gradatim longioribus et inermibus, extimo longissimo ternis praecedentibus haud aequali. Thorax utrinque armatus rugisque transversis impressus. Elytra apicibus 2-spinosis, marginibus elevatis. Pedes femoribus tibiisque compressis. Tarsi articulis cordiformibus, duobus primis simplicibus, ultimo subbilobato auricomato.

Diagnosis. – Body flattened, fairly stout (2.1–2.45 as long as wide). Head with an interantennal ridge completely separated from the eyes by a furrow. Scape slightly convex externally, mostly wrinkled dorsally; antennae ectoapically toothed and endoapically spined from the 3rd, 5th or even 6th article (almost one antennomere). Prothorax as long as wide, with or without lateral spines, dorsally with irregular transversal wrinkles; procoxal cavities rounded. Elytra almost parallel-sided in both sexes, angulated or toothed at apex; elytral pubescence giving changing pattern. Femoral apex mutic.

Type-species. – *Trirachys orientalis* Hope, 1843 (monotypic).

Species. – *Trirachys acanthophorus* Vitali, 1999 (Fig. 6); *Trirachys achilles* (Thomson, 1865) n. comb. (Fig. 7); *Trirachys ampliatus* (Gahan, 1890) n. comb.; *Trirachys atkinsoni* Gardner, 1939; *Trirachys basicornis* (Gahan, 1893) n. comb.; *Trirachys externus* (Pascoe, 1869) n. comb.; *Trirachys holosericeus* (Fabricius, 1787) n. comb.; *Trirachys inexpectatus* Holzschuh, 1982; *Trirachys indicolus* (Bates, 1891) n. comb.; *Trirachys indutus* (Newman, 1842) n. comb. (Fig. 8); *Trirachys inhirsutus* (Matsushita, 1932) n. comb. (Fig. 9); *Trirachys orientalis* Hope, 1843 (Fig. 5); *Trirachys perplexus* (Gahan, 1890) n. comb.; *Trirachys sartus* (Solsky, 1871) n. comb. (Fig. 10); *Trirachys sinensis* (Gahan, 1890) n. comb.; *Trirachys sphaericothorax* Gressitt & Rondon, 1970; *Trirachys textor* (Pascoe, 1869) n. comb.

Remarks. – *Trirachys* and *Aeolesthes*-species with spined antennae show no other character that can differentiate them. Antennae are spined from the 3rd or 5th (or even 6th) article without any relation with other characters. Actually, antennal spines are a fairly unstable character in some species since large males (e.g. *T. sartus*) usually tend to lose them. The pronotal spines are another instable character that can not be considered as discriminatory being variable inside the same species, or even tending to disappear, such as in *Trirachys formosana* Schwarzer, 1925 (= *T. orientalis*). Consequently, all *Aeolesthes*-species with spined antennae and without spined femurs are merged into the genus *Trirachys*.

The specific validity of *T. externus* and *T. textor*, as well the systematic position of *T. inhirsutus*, was already treated in Vitali (2007).

Trirachys acanthophorus was originally mentioned as coming from "Panay, Mt. Tinagung, Dagat Lake", as written in the label. Actually, the correct spelling of this locality is Tinagong Dagat, a mountain lake located in Negros. The species is, however, present in Panay as well, where the first male has been collected.

Examined materials. – *Trirachys acanthophorus*: Holotype ♀, Philippines, Negros, Tinagong Dagat, V-1994, M. Mohagan *leg.*, ex CFV, *in* ZSM; 1♀, Negros oriental, IV-2013, I. Lumawig *leg.*, *in* CFV; 1♂, Panay, Iloilo, Leon, V-2016, I. Lumawig *leg.*, *in* CFV.

Trirachys achilles: Holotype ♂, Borneo / ex Musaeo James Thomson / *Achilles* Thomson Type S. C. ap. Born. / Th. Type / C. J. Gahan vidit 1890 / Museum Paris coll. J. Thomson Paris 1952 / Holotype, *in* MNHNP.

Trirachys externus: Holotype ♂, Irian Jaya, Dorey, *in* BMNH; Moluccas, Halmahera I., *in* MNHNP, 1♀, *ditto*, coll. G. Goussey, *in* CFV; 1 ♀, ditto, XI-2010, *in* CGC; Little Kay [= Kai Kecil I.], Kühn *leg*., *in* MNHNP; Key [= Kai Is.], 1873, O. Beccari *leg*., *in* MCSNG; Aru Is., C. Oberthür Coll., *in* MNHNP; *ditto*, Wokan [= Tanahbesar I.], 1873, O. Beccari *leg*., *in* MCSNG; Moluccas, 1875, O. Beccari *leg*., *in* MCSNG; West Irian Jaya, Manokwari, Mansinam I., 1875, Coll. Bruyn, *in* MCSNG; 1♂, Papua, Jayapura, Mamberano River, Dabra, 30-III-2008, coll. C. A. Casadio, *in* CFV; Papua New Guinea, Moroka [Mts.], 3500 ft., X-1895, Antony *leg*., *in* MNHNP; Fly River, 1876/77, L. M. D'Albertis *leg*., *in* MCSNG; Kapakapa, VI/VII-1891, L. Loria *leg*., *in* MCSNG; Upuli, X-1890, L. Loria *leg*., *in* MCSNG; Rigo, VII-1889, L. Loria *leg*., *in* MCSNG; Ighibirei, VII/VIII.1890, L. Loria *leg*., *in* MCSNG; Yule I., VI-1875, L. M. D'Albertis *leg*., *in* MCSNG; 1♂, [Papua, Solomon] Bougainville, P. Hastert don. 1912, *in* MNHNL.

Trirachys holosericeus: 1♀, India, Kerala, V-1994, A. Maier *leg*., *in* CFV; 1♀, N[orth] Thailand, Chiang Rai, Doi Chang env., 640–750 m, 11/15-V-2013, O. Mosalov *leg*., *in* CFV; 2♀♀, Vietnam, Da Nang, Nuichua, Ba Na, V-2013, *in* CXG; Malaysia: Sarawak, 1865-66, G. Doria coll., *in* MCSNG; 1♂, Indonesia, Moluccas, Buru, X-1875, O. Beccari *leg*., *in* MCSNG, Ceram, Oberthür coll., in MNHNP, ditto, Wallace *leg*., *in* MNHNP.

Trirachys indutus: 1♂, Sri Lanka, Southern, Tissamaharama, 17-XI-2010, *in* CXG; 1♂, Vietnam, Quang Nam, IV-2014, N. Y. Son *leg*., *in* CFV; Taiwan, Takamuka *leg*., *in* EIHU; Rebun, Uraru [= Heng-Chun, Wu-lai], 6-IV-1938, M. Matsushita *leg*., *in* EIHU; Koshun, IV-1908, H. Sauter *leg*., *in* MCSNG; Ohtsubo [= Chia-i-hsien, Tai-ping], *in* EIHU; 1♀, Malaysia, Pahang, Cameron Highlands, V-1991, C. C. Hua *leg*., *in* CFV; Sabah, Banguey island, Standinger *leg*., *in* MNHNP; Indonesia, Kariman Is., 1913, G. Gaggino *leg*., *in* MCSNG; I. Nias, 1897-98, U. Raap lgt., *in* MCSNG; Mentawei, Si Oban, IV/VIII-1894, E. Modigliani *leg*., *in* MCSNG; Enggano, Whitehead *leg*., *in* MNHNP; ditto, Bua-Bua, V/VI-1891, E. Modigliani *leg*., *in* MCSNG; ditto, Kifa Jac., V-1891, E. Modigliani *leg*., *in* MCSNG; 1♂, Java, coll. G. Goussey, *in* CFV; 1♀, ditto, 1996, *in* CGC; *ditto*, Sinaron, *in* MNHNP; 1♂, Sumatra, Lampung, Mt. Pesagi, VIII-2004, ex coll. W. Heinkel, *in* CFV; Philippines, Luzon, 1894, Whitehead *leg*., *in* MNHNP; ditto, Montalban, 1914, G. Boettcher *leg*., *in* MNHNL; ditto, Manila, coll. Pic, *in* MNHNP; 1♂, Laguna, Los Baños, 2015, I. Lumawig *leg*., *in* CFV; 1♀, ditto, Cagayan, S.ta Ana, IX-2014, I. Lumawig lgt., *in* CFV; Samar, VI/VII-1896, Whitehead *leg*., *in* MNHNP; South Palawan, coll. Oberthür, *in* MNHNP; Palawan, Standinger *leg*., *in* MNHNP; ditto, Puerto Princesa, Paragua, coll. Oberthür, in MNHNP; 1♂, 1♀, Nord Palawan, 1997, *in* CXG; Mindanao, coll. Oberthür, *in* MNHNP; ditto, Dumalon, Zimboanga, 1876, L. Laglaize *leg*., *in* MNHNP; 1♂, Mindanao, Bukidnon, V-2014, I. Lumawig *leg*., *in* CGC; 1♀, ditto, Kabanglasan, IX-2014, I. Lumawig *leg*., *in* CFV; 1♂, Sibuyan, IV-1982, *in* CFV.

Trirachys inhirsutus: Holotype ♂, Caroline Is, Palau I., Korol, 24-VI-1924, S. Uchiyama *leg*., ex coll. M. Matsushita, *in* EIHU; Caroline Is., Palau I., Korol, 3-XII-1922, S. Uchiyama *leg*. *in* EIHU; 1♀, Caroline Is., Palau I., Korol, 15-I-1994, C. A. Casadio *leg*., *in* CFV; 1♀, Caroline Is., Palau I., Peleliu, *Hoplocerambyx brevispinis* Holotype Gressitt, 1951, *in* MW.

Trirachys orientalis: 1♂, China, Shanghai, Mt. Tianma, 2-VII-2011, *in* CGC; 1♂, Zhejiang, Mt. Tianmushan, 2-VII-2012, *in* CXG; 1♀, *ditto*, 3-VII-2012, *in* CXG; 1♂, 1♀, *ditto*, Henan, Mt. Baotianman, VI-2016, L. X. Chong, *in* CFV; 1♂, 1♀, Taiwan, Nantou, 29-VI-2005, coll. D. Duda, *in* CFV; 1♀, *ditto*, 1-VII-2006, coll D. Duda, *in* CFV.

Trirachys sartus: 1♀, Iran, Ljutfabad, in CFV; 1♂, 1♀, Afghanistan, Kaboul, Darulaman, 17-V-2011, *in* CGC; 2♂♂, 1♀, *ditto*, VI-2011, *in* CXG; 1♂, 1♀, Turkmenistan, Askhabad, 9-IV-1996, Matlenski *leg.*, *in* CFV; 6♂♂, Kara Kum, Anau, 25-IV-1988, M. Kafka *leg.*, *in* CFV; Uzbekistan, Buchara, Repetek, 1923, *in* MNHNL; Buchara, 3/5-V-1977, J. Lorenc *leg.*, *in* MCSNG; 1♂, 1♀, ditto, 30-IV-1997, *in* CFV.

Trirachys sinensis: 1♂, China, Shaanxi, Lueang, 18/24-VI.1997, E. Kucera *leg.*, *in* CFV; 1♀, Yunnan, Xinping, Mt. Ailaoshan, 1900 m, VI-2015, L. X. Chong *leg.*, *in* CFV; Birma, Carin, Asciuii Chebà (Kareen Hills), 1200-1300 m, XII-1887, L. Fea *leg.*, *in* MCSNG; *ditto*, 900-1100 m, 1889, L. Fea *leg.*, *in* MCSNG; M. Cariani [= Kareen Hills], 1898, D. Tornatore *leg.*, *in* MCSNG; Catcin Cauri, VIII/IX-1886, L. Fea *leg.*, *in* MCSNG; 1♀, N[orth] Thailand, Chiang Rai, Doi Chang env., 640-750 m, 11/15-V-2013, O. Mosalov *leg.*, *in* CFV; 1♂, Mt. Doi Inthanon, 2/3-V-1989, H. Hirasawa *leg.*, *in* CFV; 1♂, 1♀, Umphang. XI-1993, *in* CGC; 1♂, 1♀, Laos, Houa Phan, Ban Saleui, 1-V-2012, X. Gouverneur *leg.*, *in* CFV; 1♂, 1♀, Laos, Houaphan, Mt. Phu Phan, 1-VI-2011, loc. collector, *in* CXG; 1♂, 1♀, *ditto*, 1-V-2012, *in* CXG; 1♀, Luang Prabang, Nong Khiaw, 22-IV-2015, X. Gouverneur *leg.*, *in* CXG; 1♀, Taiwan, Tainan, 21-III-1909, S. Matsumura *leg.*, *in* EIHU.

Trirachys sphaericothorax: HOLOTYPE, Laos, Houa Khong, Houay Say, 1200 m, 1.VI.1965 *Trirachys sphaericothorax* Gressitt & Rondon, J. A. Rondon coll., *in* BPBM (8292).

Trirachys textor: HOLOTYPE, Moluccas, Ternate I., *in* MNHNP; *ditto*, C. Oberthür Coll., *in* MNHNP; *ditto*, Ançoy Coll., *in* MNHNP; ditto, 1861, E. Deyrolle Coll., *in* MNHNP; *ditto*, 1875, A. A. Bruijn Coll., *in* MCSNG; 1♂, *ditto*, *in* CFV; *ditto*, 1877, *in* MNHNP; *ditto*, 1931, A. A. Argod-Vallon Coll., *in* MNHNP; *ditto*, 1903, J. Waterstradt *leg.*, *in* MNHNP; ♂, *ditto*, II-2013, coll. G. Aji, *in* CFV; *ditto*, La Glaize, *in* MNHNP; Gilolo [= Halmahera, 1858], A. R. Wallace Coll., *in* MNHNP; Batchian [= Bacan] 1902, J. Waterstradt *leg.*, *in* MNHNP; Obi Major [= Obi, Obira], 1902, J. Waterstradt *leg.*, *in* MNHNP; 1♂, Kelang, IX-2010, *in* CGC; Moluccas [without further indications], 1878, A. Raffray & R. Maindron *leg.*, *in* MNHNP. New Guinea, West Irian Jaya, Ramoi [= Sorong], II-1875, O. Beccari *leg.*, *in* MCSNG; 2♂♂, Schouten Is., Biak I., Korem, 3-XII-1993, C. A. Casadio *leg.*, *in* CFV.

3. *Dymasius sticheri* (Hüdepohl, 1989) n. comb. (Fig. 11)

= *Aeolesthes sticheri* Hüdepohl, 1989.

Remarks. – Due to the elongated prothorax and the mutic antennae, this species is transferred to the genus *Dymasius (s. str.)* Thomson, 1864.

Examined materials. – HOLOTYPE ♂, Borneo, Sabah, Mt. Rinagsian, IV-1986, *in* ZSM; PARATYPES: ditto, IV-1986, *in* ZSM; *ditto*, VI-1986 (ZSM); ditto, VII-1986, *in* ZSM; *ditto*, Kimanis Road, 7th mile, VI-1986, *in* ZSM; *ditto*, 18th mile, IV-1986, K. E. Hüdepohl coll., *in* ZSM; 1♀, Kalimantan, Balikpapan, IX-2007, ex. coll. W. Heinkel, *in* CFV.

4. *Dymasius fulgens* (Schwarzer, 1926) n. comb. (Fig. 12)

Aeolesthes fulgens Schwarzer, 1926: 7 (Philippines, Mindanao: Surigao, SMF)

Remarks. – *Aeolesthes fulgens* is characterised by mutic antennae, interantennal carina posteriorly bifurcated, pronotum evidently longer than wide and strongly convergent elytra. This set of characters fits the genus *Dymasius* Thomson, 1864, to which the species is consequently transferred.

Actually, *Dymasius fulgens* (Schwarzer, 1926) n. comb. is closely related to the Bornean *D. cuneatulus* Holszchuh 2005, which might be a subspecies or even a synonym of the Philippine species.

Examined material. – Holotype ♂, Philippinen, Mindanao, Surigao, *Aeolesthes fulgens* Holotypus, coll. B. Schwarzer, *in* SMF.

5. *Pseudaeolesthes* Plavilstshikov, 1931 rest. gen.

Original description – Generi Aeolesthes Gah. simillimus, sed pronoto lateraliter spinoso. Antennis corpore longioribus (♂) vel parum brevioribus (♀); articulo 5° ceteris longiore, articulo 3° quarto longiore et 6° fere aequali; articulis 3°-5° vel 6° apice incrassatis sed non dentatis. Pronoto trasverso, vel subtrasverso, antice fortiter angustato ante basim et post apicem constricto et satis profunde transverse sulcato; lateribus rotundato-dilatato, dente spiniformi, satis longe producto acuteque armato; disco irregulariter fortiter ruguloso. Elytris satis longis, apice truncatis angulo suturali in spinam longam producto.

Type-species. – Neocerambyx chrysothrix Bates, 1873.

Diagnosis. – Body convex, elongated. Head with an interantennal ridge posteriorly bifurcate and delimiting a triangular interocular space. Scape slightly concave externally, smooth dorsally; antennae endoapically mutic and ectoapically toothed from the 5th or 6tharticle. Prothorax as long as wide, often toothed at the sides, dorsally with strong longitudinal wrinkles and 6 raised tubercles forming a hexagon; prosternal intercoxal process not tuberculate; procoxal cavities rounded. Elytra considerably elongated, apically narrowed in males, parallel-sided in females; elytral pubescence giving changing pattern, more or less condensed along longitudinal stripes. Femoral apex mutic.

Species and subspecies. – Pseudaeolesthes aureopilosa (Gressitt & Rondon, 1970) n. comb. (Fig. 15); *Pseudaeolesthes chrysothrix* (Bates, 1873) rest. comb. (Fig. 13); *Pseudaeolesthes chrysothrix taiwanensis* (Hayashi, 1974) n. comb.; *Pseudaeolesthes chrysothrix nakamurai* (Kusama & Takakuwa, 1984) n. comb.; *Pseudaeolesthes chrysothrix kurosawai* Gressitt, 1965 rest. comb.; *Pseudaeolesthes chrysothrix yonaguniensis* Ohbayashi & Ohbayashi, 1965 rest. comb.; *Pseudaeolesthes chrysothrix tibetana* Gressitt, 1942 rest. comb.; *Pseudaeolesthes malayana* (Hayashi, 1979) n. comb.; *Pseudaeolesthes multistriata* (Hayashi, 1979) n. comb.; *Pseudaeolesthes mutabiliaurea* Chiang, 1951 rest. comb.; *Pseudaeolesthes rufimembris* (Pic, 1923) rest. comb. (Fig. 14).

Remarks. – Pseudaeolesthes appears as a split group using all statistical methods (Fig. 24–25).

In order to separate this taxon (downgraded to subgenus of *Aeolesthes*), Gressitt & Rondon (1970) keyed the shape of the prosternal process at apex, "somewhat projecting" (*Pseudaeolesthes*), or "horizontal, more or less vertical" (*Aeolesthes*). The body shape, not completely fitting the previous schema, was mentioned as an additional character. Nonetheless, the prosternal shape is ambiguous and completely illusory character.

Actually, *Pseudaeolesthes* is well characterised by mutic antennae, scape slightly concave, externally smooth dorsally, elytra elongated (2.45–3 as long as wide) and apically narrowed in males. Moreover, the interantennal ridge is posteriorly bifurcate, connecting the upper eyes lobes and delimiting a triangular interocular space, while it is a simple carina in *Aeolesthes* and *Trirachys*. All these characters are also present in *Aeolesthes psednothrix* Gressitt & Rondon, 1970, which must be transferred to *Pseudaeolesthes*.

This clade includes more primitive species showing prothoracic spines, irregularly wrinkled pronotum, mutic elytral apex and pubescence forming changing pattern *(chrysothrix, rufimembris*), and more specialised ones showing mutic prothorax, elytral spines, and shorter antennae (*mutabiliaurea, aureopilosa*). Some characters are also shared by *Aeolesthes* or *Trirachys*; however, elytral shape and interantennal ridge remain constant, while the pronotal hexagonal granulation is peculiar of this genus.

According to the description, *Pseudaeolesthes mutabiliaurea* might be the senior synonym of *Pseudaeolesthes aureopilosa*. The species was described on a female (Chiang, 1951), but the author was possibly confused by the short antennae of this species.

Examined materials. – *Pseudaeolesthes aureopilosa*: Holotype ♀, Laos, Xieng Khouang, Plaine des Jarres, 1000 m, 28-III-1964, *Aeolesthes (Pseudaeolesthes) aureopilosa* Gressitt & Rondon, J. A. Rondon coll., *in* BPBM (8287); 1♀, *ditto*, Houaphan, Mt. Phu Phan, III-2016, loc. coll., *in* CGC; 1♀, ditto IV. 2016, *in* CGC; 1♂, Vietnam, Mt. Fan-si-Pan, Cha-pa, 2400 m, 8/29-V-1993, Sinjaev & Simonov *leg*., ex coll. A. Schintlmeister, *in* CFV; 1♀, ditto, Lam Dong, IV-2013, L. X. Xun *leg*., *in* CFV; 1♂, ditto, Thua Thien Hue, Mt. Bach Ma, 1400 m, III-2016, *in* CGC.

Pseudaeolesthes c. chrysothrix: 1♂, Japan, Honshu, Saitama, Iida, Ogawa-Maki, 16-VII-1987, Izumiyama *leg*., *in* CFV; 1♀, Niigata, Toyosoka-shi, Takamori-no-oka, 19-VII-1996, *in* CFV; 1♀, Osaka, Baba Ibaragi, 17-VI-1982, T. Ochi *leg*., *in* CFV; 1♂, *ditto*, 10-VI-1983, *in* CFV; 1♂, Ibarachi, Mito, Mt. Mito-yama, 2-VII-1991, M. Hasegawa *leg*., *in* CFV; 1♂, Kanagawa, Yokohama, Toshuka, 16-VII-1985, O. Furuta *leg*., *in* CFV; 1♀, Kyushu, Nagasaki, Higashisonagi-machi, 15-VII-1989, M. Furukawa *leg*., *in* CFV; 1♀, Kagoshima, Yamura, 14-VII-1999, M. Furukawa *leg*., *in* CFV; 2♂♂, Tsushima I., Izuhara, Mt. Taitera-san, 21/25-VII-1991, M. Hasegawa *leg*., *in* CFV; 1♂, K**ō**chi, K**ō**chi, Kaganoi. 14-VI-2013, *in* CGC.

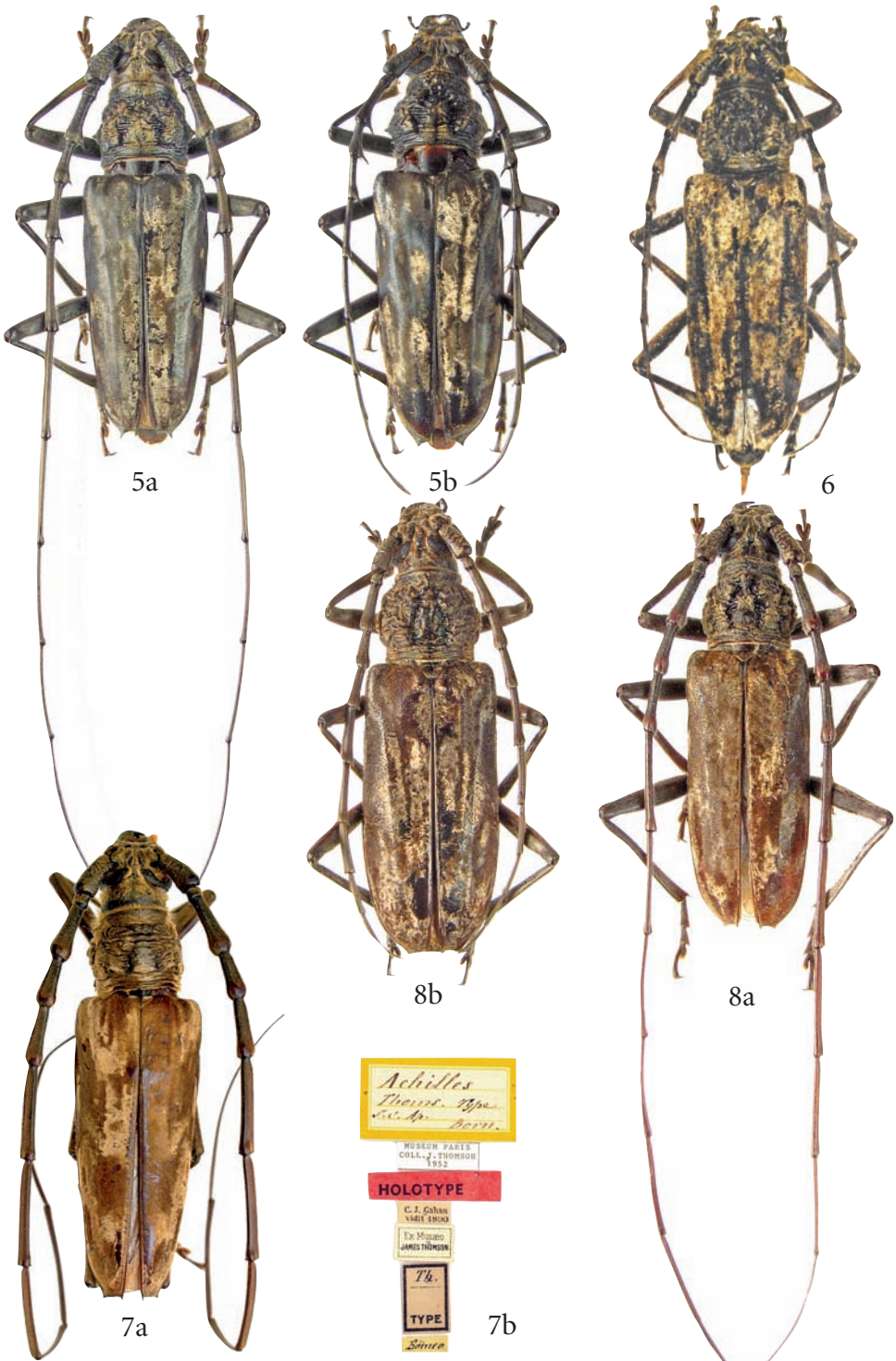
Pseudaeolesthes c. nakamurai: 1♂, 1♀, Japan, Okinawa, Ishigaki-Jima I., Mt. Omoto-dake, 13-II-2015, T. Nakata *leg*., *in* CFV

Pseudaeolesthes c. taiwanensis: 1♂, 1♀, Taiwan, Nan-To, 7-III-2007, *in* CGC.

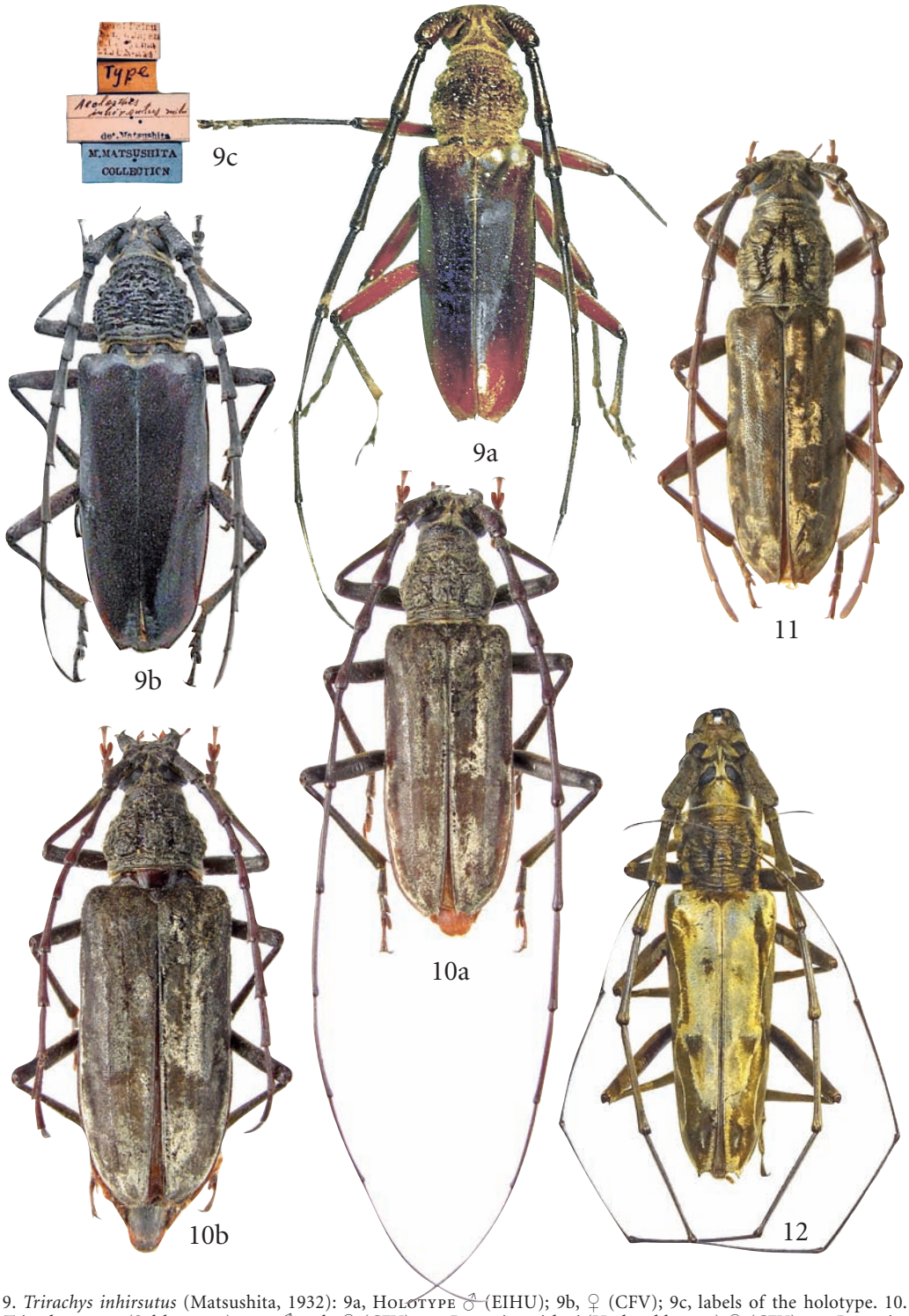
Pseudaeolesthes c. tibetana: Holotype ♀, Tibet Prov. / China / F. 4722 /Pseudaeolesthes chrysothrix tibetanus Holotype, *in* AMNH; 1♂, 1♀, China, Guangxi, Dayao-Shan, Jinxiu, 100 km SE Liuzhou, 1200 m, IV-2005, V. Siniaev's team *leg*., *in* CFV.

Pseudaeolesthes psednothrix: Holotype ♀ Laos, Phou Khao Khoay, 1040 m, N of Vientiane, 9-IV-1964, *Aeolesthes (Pseudaeolesthes) psednothrix* Gressitt & Rondon, J. A. Rondon coll., *in* BPBM (8290).

Pseudaeolesthes rufimembris: Holotype ♀ / Tonkin, Mt. Manson IV-V, 2-3000 (ft), H. Frühstorfer / *Pseudaeolesthes* Plav. [handwritten by M. Pic] / *Aolesthes rufimembris* Pic [handwritten by M. Pic] / type [handwritten by M. Pic] / Museum Paris, coll. M. Pic, *in* MNHNP; 1♀, Vietnam, Vinh Phu, Tam Dao, loc. coll., *in* CFV; 1♂, 1♀, *ditto*, V-1995, *in* CGC; 1♀, *ditto*, 15/25-VI-1996, *in* CFV; 1♂, ditto, 1000 m, 27-VII-2013, M. Pejcha lgt., *in* CFV; 2♀♀, Yenbai, Mucang Chai, 1700 m, V-2016, T. Luong *leg*., *in* CFV; 1♂, Laos, Houaphan, Ban Salaui, 1-V-2014, *in* CGC; 1♂, 2♀♀, Houaphan, Mt. Phu Phan, 1-V-2012, *in* CXG.



5. *Trirachys orientalis* Hope, 1843: 5a, ♂; 5b; ♀ (CFV). 6. *Trirachys acanthophorus* Vitali, 1999 H[illegible]OTYPE ♀ (ZSM). 7. *Trirachys achilles* (Thomson, 1865): 7a, HOLOTYPE ♂ (MNHNP); 7b, labels of the holotype;. 8. *Trirachys indutus* (Newman, 1842): 8a, ♂; 8b; ♀ (CFV).



9. *Trirachys inhirsutus* (Matsushita, 1932): 9a, Holotype ♂ (EIHU); 9b, ♀ (CFV); 9c, labels of the holotype. 10. *Trirachys sartus* (Solsky, 1871): 10a, ♂; 10b, ♀ (CFV). 11. *Dymasius sticheri* (Hüdepohl, 1989) ♀ (CFV). 12. *Dymasius fulgens* (Schwarzer, 1926) Holotype ♂ (SMF, Photo A. Skale).

6. *Carinolesthes* n. gen.

Type species. – Aeolesthes (Pseudaeolesthes) pericalles Gressitt & Rondon, 1970.

Diagnosis. – Body convex, elongated. Head with an interantennal ridge posteriorly bifurcate but disappearing, delimiting a hardly guessable triangular interocular space. Scape slightly concave externally, smooth dorsally; antennae endoapically mutic and ectoapically compressed (♂) or toothed (♀) from the 7th article, antennomeres III to V or VI strongly inflated and pubescent, especially in females. Prothorax as long as wide, with or without lateral spines, dorsally transversely wrinkled; prosternal intercoxal process not tuberculate; procoxal cavities rounded. Elytra elongated, apically narrowed in males, parallel-sided in females, with longitudinal smooth ridges on the disc; elytral pubescence giving changing pattern condensed along longitudinal stripes. Femoral apex mutic.

Etymology. – From "*carina*" and *Aeolesthes* (gender feminine).

Species. – Carinolesthes aureosignata (Pic, 1915) n. comb. (Fig. 17); *Carinolesthes ningshanensis* (Chiang, 1981) n. comb.; *Carinolesthes pericalles* (Gressitt & Rondon, 1970) n. comb. (Fig. 18)

Examined materials. – Carinolesthes pericalles: Holotype ♂ and Allotype ♀, Laos, Xieng Khouang, Plaine des Jarres, 1000 m, 28-III-1964, J. A. Rondon coll., *Aeolesthes (Pseudaeolesthes) pericalles* Gressitt & Rondon, Holotype, Allotype, *in* BPBM (8286); 3♂♂, 3♀♀, Vietnam, Lào Cai, Mt. Sapa, 1600 m, IV-2015, N. Son *leg*., *in* CFV; 1♀, *ditto* IX-2015, *in* CFV; 1♂, 1♀, Laos, Houaphan, Ban Saleui, 1-V-2014, loc. collector, *in* CGC; 1♂, 1♀, *ditto*, *in* CXG; 1♀, *ditto*, *in* CFV.

Carinolesthes aureosignata: Holotype ♀, Aeolesthes/ A. aureosignatus / Pic / type [China] Ht Yunnan, Museum Paris / Yunnan / P. Guerry, 1924, Muséum Paris, Holotype (*in* MNHNP).

Remarks. – Carinolesthes n. gen. is related to *Pseudaeolesthes*, from which it differs in the pronotal sculpture (with fine transverse rather than strong longitudinal wrinkles), the elytra peculiarly sculptured by longitudinal smooth ridges and the inflated basal antennomeres.

The Vietnamese *Carinolesthes aureosignata* differs from *C. pericalles*, in primitive characters linking it to *Pseudaeolesthes: pronotum* spined at sides, antennomeres III-V feebly inflated and antennomere VI nearly normal. In contrast, the posteriorly bifurcate interantennal ridge (linear in *Pseudaeolesthes*) and the ridged elytra belong patently to *Carinolesthes* n. gen.

According to the original descriptions (Chiang, 1981), the Chinese *Aeolesthes ningshanensis* differs from *aureosignata* in the golden pubescence, the transverse pronotum and the rounded elytral apices. The inflated antennomeres III-V and the ridged elytra belong to *Carinolesthes* n. gen.

7. *Elydnus chrysophanes* (Gressitt & Rondon, 1970) n. comb. (Fig. 20)

= *Aeolesthes (Pseudaeolesthes) chrysophanes* Gressitt & Rondon, 1970: 64, Fig. 12g. (Cambodia, Koh Rong Sanlem I., Saracens Bay, *in* BPBM).

Examined material. – Holotype ♀, Laos, Baie de Khompong Som, Iles des Saracems, 5-XII-1963, at light, *Aeolesthes (Pseudaeolesthes) chrysophanes* Gressitt & Rondon, J. A. Rondon coll., *in* BPBM (8288).

Remarks. – This species is characterised by mutic antennae and interantennal furrow. The pronotum shows a single median furrow, while the elytral pubescence is longitudinally striped and obscured along the suture. All these characters belong to *Elydnus* Pascoe, 1869; actually, this species is extremely similar to the type-species *E. amictus* Pascoe 1869.

Distribution. – The holotype is mentioned as collected in both Laos and Cambodia from the "Iles des Saracems, Baie de Khompong Som" [sic!]. Actually, Saracens is a bay located on the isle Koh Rong Sanlem, in front of the Kampong Som Bay, in Cambodia. Thus, the correct locality is: Cambodia, Koh Rong Sanlem I., Saracens Bay. The species does not belong to the Laotian fauna, but to the Cambodian one.

8. *Massirachys* n. gen.

Type-species. – *Pachydissus mariae* Thomson, 1878 (monotypic).

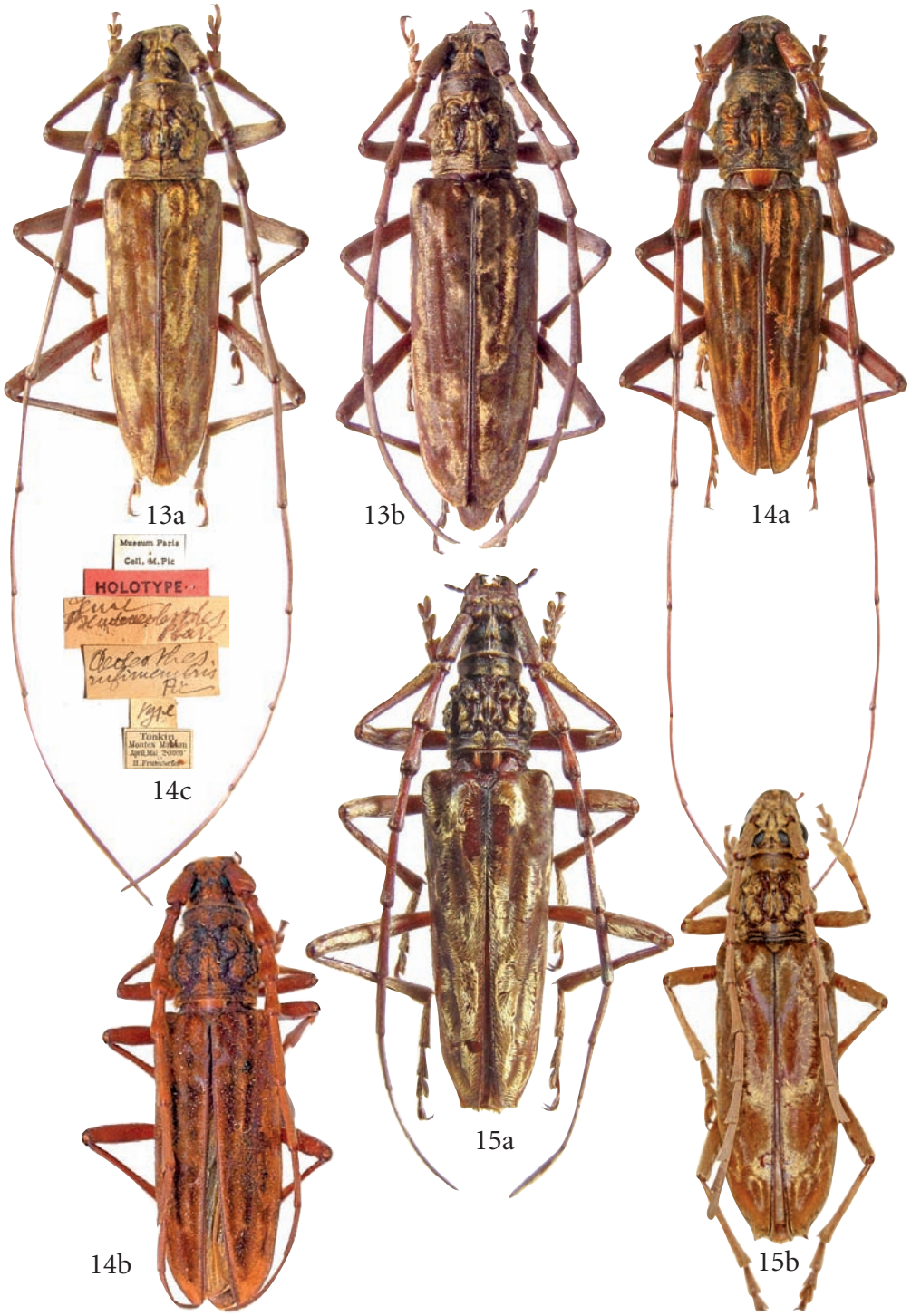
Diagnosis. – Body size large. Head elongated, temples with feebly convergent sides, distinctly longer than hind upper lobes of eyes and not distinguished from the neck; interantennal ridge feebly furrowed. Scape slightly convex externally, smooth dorsally; antennae ectoapically toothed from the 6th article, endoapically mutic and pubescent at the inner side in males, endoapically spined from the 5th article in females. Prothorax as long as wide, apically restricted, mutic at sides, thinly and almost regularly transversely wrinkled on the disk; procoxal cavities rounded. Elytra convex-sided, apex narrow, each armed with two minute spines, elytral pubescence giving changing pattern. Femoral apex mutic.

Species. – *Massirachys mariae* (Thomson, 1878) n. comb. (Fig. 19)

Etymology. – From the genera *Massicus* and *Trirachys* (gender masculine).

Remarks. – The Bornean *Aeolesthes mariae* (Thomson, 1878) evolved some peculiar characters making its habitus analogous to that of the genus *Massicus* Pascoe, 1867: large body size, elongated head and temples without a distinct neck, elytra more elongated and convex-sided, elytral apex narrower than it occurs to other related genera. The interantennal ridge is less developed and feebly furrowed but always present. Males have antennomeres without endoapical spines, bowed and inner pubescent, while females have spined antennae. Such peculiar characters justify the institution of a new genus.

Examined materials. – Holotype ♂, Borneo / ex Musaeo James Thomson / Mariae Thomson Type T. C. 34 30 Borneo / Th[omson]. Type / C. J. Gahan vidit 1890 / Museum Paris coll. J. Thomson Paris 1952 / Holotype, *in* MNHNP; 1♂, Malaysia, Borneo, Sabah, Crocker Range, 25-I-1989, *in* CFV.

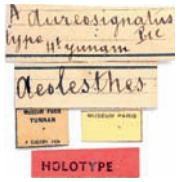


13. *Pseudaeolesthes chrysothrix* (Bates, 1873): 13a, ♂; 13b, ♀ (CFV). 14. *Pseudaeolesthes rufimembris* (Pic, 1923): 14a, ♂ (CFV); 14b, Holotype ♀ (MNHNP); 14c, labels of the holotype. 15. *Pseudaeolesthes aureopilosa* (Gressitt & Rondon, 1970): 15a, ♂ (CFV); 15b Holotype ♀ (BPBM, Photo J. Yamasako).

16

17a

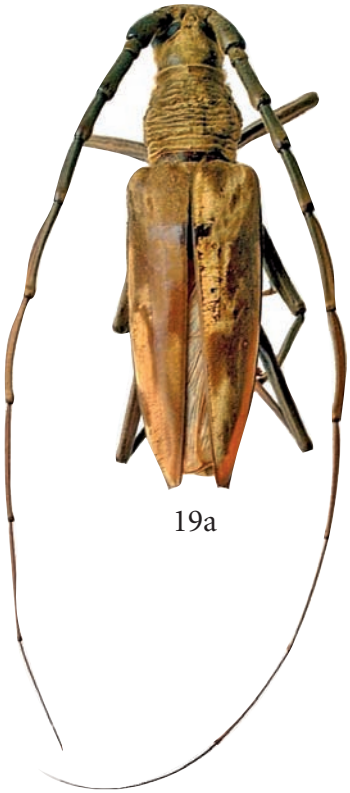
18a



17b

18b

19b



19a

16. *Pseudaeolesthes psednothrix* (Gressitt & Rondon, 1970) Holotype ♀ (BPBM, Photo J. Yamasako); 17. *Carinolesthes aureosignata* (Pic, 1915): 17a, Holotype ♀ (MNHNP); 17b, labels of the holotype. 18. *Carinolesthes pericalles* (Gressitt & Rondon, 1970): 18a, Holotype ♂; 18b, Allotype ♀ (BPBM, Photo J. Yamasako). 19. *Massirachys mariae* (Thomson, 1878): 19a, Holotype ♂ (MNHNP); 19b, labels of the holotype.

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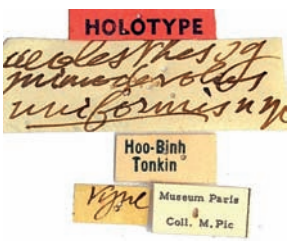
21

22a

23a

22b



23b

23c

20. *Elydnus chrysophanes* (Gressitt & Rondon, 1970) Holotype ♀ (BPBM, Photo J. Yamasako). 21. *Parolesthes laosensis* (Gressitt & Rondon, 1970) Holotype ♂ (BPBM, Photo J. Yamasako); 22. *Pachydissus langsonius* Fairmaire, 1895 *incertae sedis*: 22a, claimed Holotype ♂ (MNHNP); 22b, labels of the holotype. 23. *Derolus uniformis* (Pic, 1933): 23a, Holotype ♂ (MNHNP); 23b, labels of the holotype; 23c, ♀ (CFV).

9. *Parolesthes* n. gen.

Type species. – *Aeolesthes laosensis* Gressitt & Rondon, 1970.

Description. – Body convex, flattened, fairly stout. Head with an interantennal ridge posteriorly bifurcate and delimiting a triangular interocular space. Scape slightly convex externally, wrinkled dorsally; antennae ectoapically toothed and endoapically mutic in both sexes. Prothorax mutic or with a minuscule tubercle at sides, with two longitudinal furrows on the disc delimiting a squared field; prosternal intercoxal process not tuberculate; procoxae rounded. Elytra parallel-sided in both sexes, toothed at apex; elytral pubescence giving changing pattern. Femoral apex mutic.

Etymology. – From the ancient Greek "para" (near) and *Aeolesthes* (gender feminine).

Species. – *Parolesthes curticornis* (Hüdepohl, 1988) n. comb.; *Parolesthes laosensis* (Gressitt & Rondon, 1970) n. comb. (Fig. 21).

Remarks. – The *Aeolesthes*-species with mutic antennae form a small group that can be inserted into none of the previous taxa due to the occurrence of opposite characters.

In fact, this clade shares with *Pseudaeolesthes* divided interantennal ridge and mutic antennae and with *Trirachys* globular pronotum, dorsally flat elytra and wrinkled scape in males. Hence, it seems to be as a link between such genera, but many specialised characters (elytral spines, pronotum with longitudinal furrows and smooth area) make doubtful to consider it as a primitive branch of *Trirachys*. In other words, the contemporaneous presence of primitive and specialised characters implies to consider this taxon as a paraphyletic genus. However, we are conscious that the genus is possibly polyphyletic and deserves further analyses.

Though mentioned as a female in the original description, the holotype of *Aeolesthes laosensis* (BPBM 8289), as well the figured specimen, is a male (Fig. 21). It was also mentioned as coming from Muong Khong, Sithandone Prov. [sic!], but the correct spelling is Muang Khong (Khong distr., Champasak prov.). Siphandone is a surrounding locality corresponding to the Khone Phapheng Falls.

Examined materials. – *Parolesthes curticornis*: Holotype ♂, Malaysia, Borneo, Sabah, Kimanis Road 18th mile, V-1986, K. E. Hüdepohl coll., *Aeolesthes curticornis* Holotypus (*in* ZSM).

Parolesthes laosensis: Holotype ♂, Laos, Siphandone, Muang Khong, 87 m, 27-XII-1965, *Aeolesthes laosensis* Gressitt & Rondon, Holotype, *in* BPBM (8289); 2♂♂, 4♀♀, Vietnam, Nam Trung Bo, Quang Ngai, Mt. Bato, 950 m, IV-2014, *in* CFV; 5♀♀, Vietnam, Tam Dao, 1000 m, VII-2010, *in* CFV; 1♂, China, Yunnan, Jinghong, Mengwavy, V-2012, coll. P. Demez, *in* CFV.

10. *Pachydissus langsonius* Fairmaire, 1895 *incertae sedis* (Fig. 22)

Pachydissus langsonius Fairmaire, 1895: 176 (Vietnam: Lang Son, *in* MNHNP).

Aeolesthes langsonius Aurivillius, 1912: 47; Plavilstshikov, 1931: 77.

Original description. – Oblongus sat convexus, subaenescenti- fuscus, brunneo et lutoso cinereo nitide sericans et mutans; fronte bisulcata, medio carinula nigra nitida signata, oculis supra sat approximatis, antennis 5 corpore longioribus, articulis intermedibus inermibus, 1° crasso, irregulariter rugoso plicato; prothorace transverso, lateribus rotundato, basi constricto, dorso grosse ac irregulariter plicato, spatio medio fere laevi et sulcis 2 obliquo arcuatis antice approximatis limitato; elytris minus latis, postice attenuatis, apice utrinque sinuatis, angulo suturali spinoso, dorso obsoletissime longitudinaliter, impresso; prosterno antice fortiter transversim plicato, abdomine parcius pubescente, medio denudato. Long. 27 mm.

Remarks. – The examination of the holotype *Pachydissus langsonius* Fairmaire, 1895 revealed that it does not differ substantially from *Cerambyx holosericeus* Fabricius, 1787. This "holotype" is strangely characterised by spined antennae (Fig. 22), whereas the author highlighted "*articulis intermedibus inermibus*", also insisting in the differential diagnosis: "les 5e, 6e et 7e articles des antennes ne sont pas épineux à l'extrémité".

However, though some specimens with mutic antennae identified by Fairmaire as "*Pachydissus langsonius*" are preserved in the IRSNB, the holotype does not match the description. In our opinion, the presumed "holotype" is a false and, waiting for further analyses, this species is provisionally considered as *incertae sedis.*

Examined material. – Holotype ♂, Vietnam, Langson, coll. L. Fairmaire, *in* MNHNP.

11. *Mimoderolus* Pic, 1933

Original description. – Grandis, parum elongatus, nitidus, griseo–holosericeo, in elytris uniformiter, pubescens, nigro–piceus, pedibus rufis; antennis, in mare, elytris valde longioribus, articulis 3–8 intus longe ciliatis, 6–8 diverse arcuatis, 9 inciliatis et corpore brevioribus; thorace parum elongato, lateraliter sinuato, diverse et pro parte reducte plicato, ante medium supra minute bituberculato; elytris thorace latioribus, parum elongatis, postice attenuatis, apice truncatis et dentatis, minutissime punctatis et uniformiter sericeo pubescentibus, lateraliter distincte carinulatis; femoribus infra minute carinatis. Long. 30–32 mill. Tonkin.

On peut établir pour cette espèce un sous-genre nouveau (s.-g. *Mimoderolus*) qui sera caractérisé par la structure des antennes du ♂ et le revêtement pubescent fin et uniforme des élytres.

Type species. – Aeolesthes (Mimoderolus) uniformis Pic, 1933 (Fig. 23)

Remarks. – Pic (1933) described *Mimoderolus* as a monotypic subgenus of *Aeolesthes*. The taxon, 3 cm long, is characterised by inferiorly pubescent, mutic antennae and ridged ventral side of the femora. The interantennal space is finely furrowed.

This set of characters does not evidently belong to *Aeolesthes* or closely related genera, but to *Derolus* Gahan, 1891, for which the author did not provide any difference. The type also corresponds to the Burmese *Pachydissus xyliae* Fisher, 1940, which Gressitt & Rondon (1970) transferred to the genus *Derolus*. Consequently, the following taxonomic changes are introduced:

Derolus Gahan, 1891 = *Mimoderolus* Pic, 1933, **n. syn.**

Derolus uniformis (Pic, 1933) n. comb. = *Pachydissus xyliae* Fisher, 1940, **n. syn.**

Distribution. – The species is widespread in the mountains from Myanmar to Laos and Vietnam.

Examined materials. – Holotype ♂ [Vietnam], Tonkin, Hoo-Binh, coll. M. Pic, Museum Paris, *Aeolesthes* sg. *Mimoderolus uniformis* n. sp. [handwritten by M. Pic], type [handwritten by M. Pic], *in* MNHNP; 1♂, 1♀, Vietnam, Lang Dong, VI-2014, *in* CFV; 3♀♀, Vietnam, Lao Cai, Mt. Sapa, 1600 m, IX-2015, N. Son *leg.*, *in* CFV; 1♂, Vietnam, Con Dao island, IV-2012, *in* CPH; 1♀, Laos, Luang Prabang, Kiew Mak Nao, VI-2016, loc. coll., *in* CXG; 1♀, Laos, Mt. Phu Phan, *in* CGC.

12. *Hemadius oenochrous* Fairmaire, 1889

Remarks. – On the basis of a superficial likeness, Nakamura *et al.* (1992) transferred *Hemadius oenochrous* Fairmaire, 1889 to *Aeolesthes*. Though Yu *et al.* (2002) re-transferred it to *Neocerambyx*, Hua (2002) and Hua *et al.* (2009) keep consider this species as a member of the genus *Aeolesthes*. Löbl & Smetana (2010) revalidated again this species in the genus *Hemadius*, though misspelling it as *Hemadius oenochroa* (*sic*!).

This species has no interantennal ridge but a simple furrow, a fact that excludes any belonging to *Aeolesthes*. Moreover, it shares with *Neocerambyx* perfectly mutic antennae, inflated basal antennomeres, and large body size. Nonetheless, the typical deep interantennal fovea of *Neocerambyx* is nearly lacking and the species shows a peculiar pronotal tooth at each side of the prothorax.

For these reasons, the restoration of *Hemadius* Fairmaire, 1889 and of its original combination *Hemadius oenochrous* Fairmaire, 1889 are deemed as correct.

Examined materials. – 1♂ Laos, Houaphan, Ban Saleui, 1-V-2014, *in* CGC; 2♀♀, 1-V-2014, Houaphanh, Mt. Phu Phan, loc. coll., *in* CXG; 1♂, 1♀, Taiwan, Nan-To, V-2007, *in* CGC; 1♂, 1♀, *ditto*, Liu-she, VIII-2007, ex. coll. W. Duda, *in* CFV; 1♂, 1♀, *ditto*, Puli, IV-2014, D. Wang, *in* CFV; 4♂♂, 3♀♀, *ditto*, Ren'ai Wu-she, V-2015, *in* CFV.

The taxonomic status of several Oriental Cerambycini needs further revisions, but a key is hereafter proposed in order to facility the identification of the genera previously treated.

1. Body size larger (66–70 mm); temples distinctly longer than the hind upper lobes of eyes; antennae endoapically mutic in male, spined in female ..... ***Massirachys* n. gen.**

-. Body size smaller (less than 54 mm); temples distinctly shorter than the hind upper lobes of eyes; antennae mutic or spined in both sexes **2**

2. Prothorax as long as broad or transverse **3**

-. Prothorax evidently longer than broad **8**

3. Head with a posteriorly bifurcate interantennal ridge; antennae endoapically smooth ... **4**

-. Head with a simple interantennal ridge; antennae endoapically spined **7**

4. Body hairless ..... ***Pseudopachydissus* Pic, 1933**

-. Body covered with a dense pubescence **5**

5. Elytra with smooth longitudinal ridges; antennae ectoapically toothed from the 7th article; antennomeres III to V or VI strongly inflated and pubescent ..... ***Carinolesthes*** n. gen.

-. Elytra without smooth longitudinal ridges; antennae ectoapically toothed from the 5th or 6th article; antennomeres III-VI normal **6**

6. Body dorsally flat; pronotum globular, with irregular transversal wrinkles and two longitudinal furrows at base; scape convex above, wrinkled in male ..... ***Parolesthes*** **n. gen.**

-. Body dorsally convex; pronotum elongated, without transversal wrinkles and longitudinal basal furrows, with 6 raised tubercles forming a hexagon; scape slightly concave above, smooth in male ..... ***Pseudaeolesthes*** **Plavilstshikov, 1931**

7. Meso- and metafemora toothed at apex; scape smooth ..... ***Aeolesthes*** **Gahan, 1890**

-. Meso- and metafemora mutic at apex; scape mostly wrinkled ..... ***Trirachys Hope, 1843***

8. Apex of the antennomeres IV-V with pores; elytral pubescence more or less condensed forming longitudinal bands ..... ***Elydnus*** **Pascoe, 1869**

-. Apex of the antennomeres IV-V without pores ..... ***Dymasius*** **Thomson, 1864**

Le statut taxonomique de plusieurs Cerambycini orientaux nécessite d'autres révisions, mais une clé est proposée ci-dessous afin de faciliter l'identification des genres précédemment traités.

1. Corps de grande taille (66–70 mm); tempes distinctement plus longues que les lobes supérieurs des yeux; face endoapicale des antennes inerme chez le mâle, épineuse chez la femelle) ..... ***Massirachys*** n. gen.

-. Corps plus petit (moins de 54 mm); tempes distinctement plus courtes que les lobes supérieurs des yeux; antennes inermes ou épineuses chez les deux sexes **2**

2. Pronotum aussi long que large, ou transverse **3**

-. Pronotum visiblement plus long que large **8**

3. Tête dotée d'une carène postérieurement dédoublée entre les antennes; face endoapicale des antennes inerme **4**

-. Tête avec une carène interantennaire simple; face endoapicale des antennes épineuse ... **7**

4. Corps glabre ..... ***Pseudopachydissus*** **Pic, 1933**

-. Corps couvert d'une dense pubescence **5**

5. Élytres avec des carènes longitudinales lisses; face ectoapicale des antennes dentée à partir du 7e article; antennomères III à V ou VI fortement globuleux et pubescents .... ***Carinolesthes*** **n. gen.**

-. Élytres sans carènes longitudinales lisses; face ectoapicale des antennes dentée à partir du 5e ou du 6e antennomère; antennomères III-VI normaux **6**

6. Corps dorsalement aplati; pronotum globuleux, doté de crêtes transversales irrégulières et de deux sillons longitudinaux à la base du disque; scape dorsalement convexe, ridé chez le mâle ..... ***Parolesthes* n. gen.**

-. Corps dorsalement convexe, pronotum allongé, sans crêtes transversales et sillons longitudinaux basaux, avec six tubercules élevés disposés en hexagone; dessus du scape légèrement concave, lisse chez le mâle ..... ***Pseudaeolesthes* Plavilstshikov, 1931**

7. Méso- et métafémurs à l'apex épineux; scape lisse ..... ***Aeolesthes* Gahan, 1890**

-. Méso- et métafémurs à l'apex inerme; surface dorsale du scape principalement ridée .... ***Trirachys* Hope, 1843**

8. Apex des antennomères IV-V avec des pores; pubescence des élytres plus ou moins condensée, formant des bandes longitudinales ..... ***Elydnus* Pascoe, 1869**

-. Apex des antennomères IV-V sans pores ..... ***Dymasius* Thomson, 1864**

Acknowledgements

Many thanks to the Hokkaido University Systematic Entomology, Faculty of Agriculture, Sapporo (Japan), for the pictures of the type of *Aeolesthes inhirsuta* Matshushita, 1932, to Junsuke Yamasako, Ehime University, Tarumi, Matsuyama (Japan), for sharing the pictures of the types belonging to the Bernice Pauahi Bishop Museum, Honolulu (USA), to Andre Skale, Hof an der Saale (Germany), for sharing on the forum www.cerambycoidea.com the picture of the type of *Dymasius fulgens* Schwarzer, 1926, to Thierry Deuve and Azadeh Taghavian, Muséum national d'histoire naturelle, Paris (France), for their warm welcome and their high availability, to Kiyoshi Matsuda, Takarazuka (Japan) and Michiaki Hasegawa, Toyohashi Museum of Natural History (Japan), for sending of material, to Shulin Yang, Guizhou Normal University (China) for sending Chiang's (1951) paper, to Koji Mizota, Miyagi University of Education (Japan), for sending many Japanese papers, to Ira and Ernestina Repetto, Genoa (Italy) for the translation of Chiang's (1981) description.

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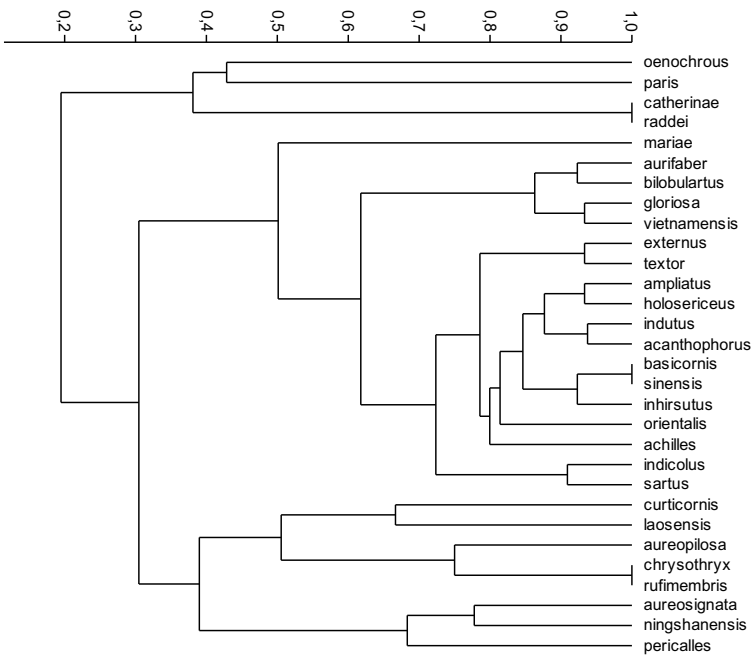
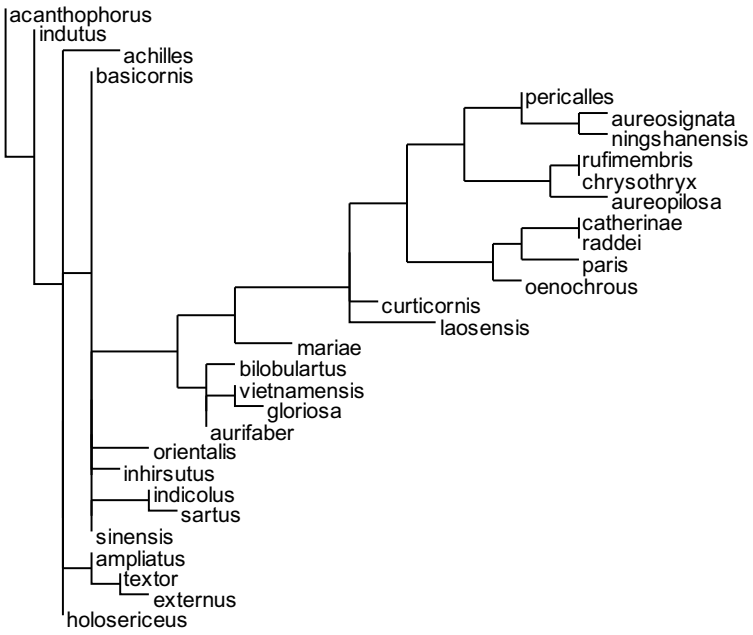


24. Diagram of the distances based on Jaccard's similarity coefficients.



25. Cladistic parsimony analyses with Euristic algorithm TBR.

Tab. 1. Keyed characters:

	Body large	femurs toothed	H interantennal ridge	H bifurcated ridge	H furrowed ridge	H neck	H bowed furrow	PT lateral spines	PT discal tubercles	PT regular wrinkles	PT wrinkles strong	PT long furrows	PT smooth field	A scape wrinkled M	A scape wrinkled F	A spined in M	A spined in F	A 3-4 spined	A 5 spined	A 6 spined	A globose	E apex truncate	E apex toothed	E apex spined	E pubescence	E ridges
acanthophorus	1	0	1	0	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0
achilles	1	0	1	0	1	1	0	0	0	1	0	1	1	1	1	1	1	0	1	1	0	1	1	0	1	0
ampliatus	1	0	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0
aureopilosa	0	0	1	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0
aureosignata	0	0	1	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
aurifaber	1	1	1	0	0	1	0	0	0	1	0	1	0	0	0	1	1	0	1	1	0	1	1	0	1	0
basicornis	1	0	1	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	1	1	0	1	1	0	1	0
bilobulartus	1	1	1	0	0	1	0	0	0	1	0	1	0	0	0	1	1	0	1	1	0	1	1	0	0	0
chrysothryx	0	0	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0
curticornis	1	0	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0
externus	1	0	1	0	0	1	1	0	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	1	0
gloriosa	1	1	1	0	0	1	0	1	0	1	0	1	1	0	0	1	1	0	1	1	0	1	1	0	1	0
holosericeus	1	0	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	0	1	0
indicolus	1	0	1	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	0	1	0	1	0	0	1	0
indutus	1	0	1	0	0	1	1	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	0	1	0
inhirsutus	1	0	1	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	1	1	0	1	1	0	0	0
laosensis	1	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0
mariae	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	1	1	0	1	0
ningshanensis	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
orientalis	1	0	1	0	0	1	0	1	0	0	0	1	0	1	1	1	1	1	1	1	0	1	1	0	1	0
pericalles	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1
rufimembris	0	0	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0
sartus	1	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	1	0	0	1	0	1	0	0	1	0
sinensis	1	0	1	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	1	1	0	1	1	0	1	0
textor	1	0	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	1	0
vietnamensis	1	1	1	0	0	1	0	1	0	1	0	1	0	0	0	1	1	0	1	1	0	1	1	0	1	0
oenochrous	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0
paris	1	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
catherinae	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
raddei	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0