

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre

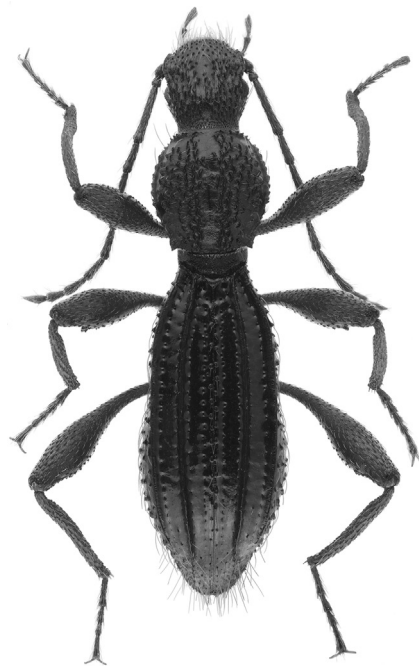


Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 19. Вып. 2

Vol. 19. Iss. 2



Ростов-на-Дону
2023

Review of the genus *Cassidibracon* Quicke, 1987 and related taxa of the *Plesiobracon* group of genera (Hymenoptera: Braconidae: Braconinae)

© K.G. Samartsev

Zoological Institute of the Russian Academy of Sciences, Universitetskaya emb., 1, St Petersburg 199034 Russia. E-mail: k.samartsev@gmail.com

Abstract. Members of several genera of the *Plesiobracon* genus-group are reclassified. A new species, *Cassidibracon vannoorti* sp. n. from South Africa, and two new genera, *Isomerosoma* gen. n. (type species *Bracon subacaudatus* Granger, 1949) and *Reticulotergus* gen. n. (type species *Cassidibracon indicus* Narendran et Rema, 1994), are described. *Pseudochivinia* Long et van Achterberg, 2023, stat. n. recently described as a subgenus of *Bracon* Fabricius, 1804 is considered a valid genus. The genus *Triaspidoagastra* Granger, 1949, syn. n. is synonymised with *Esenga* Cameron, 1906. The new replacement name *Bracon vitobiasi* Long et van Achterberg, nom. n. is proposed for the junior primary homonym *Bracon tobiasi* Long et van Achterberg, 2023 (nec Papp, 1965). The following new combinations are given: *Esenga lutea* (Granger, 1949), comb. n. (from *Triaspidoagastra*), *Esenga testacea* (Granger, 1949), comb. n. (from *Triaspidoagastra*), *Lyricibracon nigerianus* (Quicke, 1988), comb. n. (from *Rugosibracon* Quicke, 1988), *Pseudochivinia vitobiasi* (Long et van Achterberg, 2023), comb. n. (from *Bracon*), *Sculptolobus repens* (Gupta, 2014), comb. n. (from *Cassidibracon* Quicke, 1987), *Scutibracon gracillariae* (Quicke, 2012), comb. n. (from *Cassidibracon*), *Scutibracon malabaricus* (Narendran, 1994), comb. n. (from *Cassidibracon*), *Scutibracon sumodani* (Narendran et Madhavikutty, 1994), comb. n. (from *Cassidibracon*), and *Trigastrotheca notata* (Szépligeti, 1914), comb. n. (from *Habrobracon* Ashmead, 1895). Lectotypes are designated for *Bracon subacaudatus* Granger, 1949 and *Triaspidoagastra lutea* Granger, 1949.

Key words: Old World, *Plesiobracon* group, reclassification, new genera, new species, new combinations.

Обзор рода *Cassidibracon* Quicke, 1987 и близких к нему таксонов группы *Plesiobracon* (Hymenoptera: Braconidae: Braconinae)

© К.Г. Самарцев

Зоологический институт Российской академии наук, Университетская наб., 1, Санкт-Петербург 199034 Россия. E-mail: k.samartsev@gmail.com

Резюме. Реклассифицированы представители нескольких родов группы *Plesiobracon*. Описаны новый вид, *Cassidibracon vannoorti* sp. n. из ЮАР, и два новых рода, *Isomerosoma* gen. n. (типовой вид *Bracon subacaudatus* Granger, 1949) и *Reticulotergus* gen. n. (типовой вид *Cassidibracon indicus* Narendran et Rema, 1994). Таксон *Pseudochivinia* Long et van Achterberg, 2023, stat. n., описанный как подрод рода *Bracon* Fabricius, 1804, рассматривается в качестве валидного рода. Род *Triaspidoagastra* Granger, 1949, syn. n. синонимизирован с *Esenga* Cameron, 1906. Для младшего первичного омонима *Bracon tobiasi* Long et van Achterberg, 2023 (nec Papp, 1965) предлагается новое замещающее название *Bracon vitobiasi* Long et van Achterberg, nom. n. Предложены новые комбинации: *Esenga lutea* (Granger, 1949), comb. n. (из *Triaspidoagastra*), *Esenga testacea* (Granger, 1949), comb. n. (из *Triaspidoagastra*), *Lyricibracon nigerianus* (Quicke, 1988), comb. n. (из *Rugosibracon* Quicke, 1988), *Pseudochivinia vitobiasi* (Long et van Achterberg, 2023), comb. n. (из *Bracon*), *Sculptolobus repens* (Gupta, 2014), comb. n. (из *Cassidibracon* Quicke, 1987), *Scutibracon gracillariae* (Quicke, 2012), comb. n. (из *Cassidibracon*), *Scutibracon malabaricus* (Narendran, 1994), comb. n. (из *Cassidibracon*), *Scutibracon sumodani* (Narendran et Madhavikutty, 1994), comb. n. (из *Cassidibracon*) и *Trigastrotheca notata* (Szépligeti, 1914), comb. n. (из *Habrobracon* Ashmead, 1895). Для видов *Bracon subacaudatus* Granger, 1949 и *Triaspidoagastra lutea* Granger, 1949 обозначены лектотипы.

Ключевые слова: Старый Свет, группа *Plesiobracon*, реклассификация, новые роды, новый вид, новые комбинации.

Introduction

Comprising more than 3200 valid species and about 200 valid genera, Braconinae is the largest subfamily of the family Braconidae by the number of described taxa (Yu et al. [2016] and my own calculations based on later publications). At the same time, tribal classification and phylogenetic hypotheses of the subfamily remain very preliminary [Chen, van Achterberg, 2019; Quicke et al., 2023]. In addition to the large number of taxa that require consideration, the development of the supergeneric classification is further complicated by the presence of

massive “dustbin” genera with fuzzy diagnoses [Belshaw et al., 2001], i.e. *Bracon* Fabricius, 1804, *Iphiaulax* Förster, 1863, *Digonogastra* Viereck, 1912, *Cyanopterus* Haliday, 1835, and *Campyloneurus* Szépligeti, 1900 (comprising more than 950, 300, 250, almost 130, and 115 valid species, accordingly).

The most modern and complete key to the Old World genera of Braconinae was presented by Quicke [1987]. The primary difficulty of using this key is that since its publication, 45 new Old World genera of braconines have been described. Identification difficulties are the source of various errors, primarily in the generic attribution of newly

described species. When describing new genera, errors in identifying closely related genera lead to overestimation of the number and strength of diagnostic characters of the new taxa. Finally, the risk of describing new synonyms of already known genera is increased. One of the groups of genera complicated for diagnostic research is the *Plesiobracon* group. The taxa of this group are characterised by distinct morphological characters, but due to the large number of included genera and their morphological diversity, their identification is problematic.

The *Plesiobracon* group was established by van Achterberg [1983] and initially included three genera, *Plesiobracon* Cameron, 1903, *Carinibracon* van Achterberg, 1983, and *Kenema* van Achterberg, 1983 (junior synonym of *Trigastrotheca* Cameron, 1906). Currently it comprises at least 20 genera (Prof. C. van Achterberg, personal communication), i.e., in addition to above mentioned, *Acrocerilia* van Achterberg, 1989, *Ancilibracon* Quicke, 1989, *Cassidibracon* Quicke, 1987, *Crinibracon* Quicke, 1988, *Esenga* Cameron, 1906, *Esengoides* Quicke, 1989, *Gelasinibracon* Quicke, 1989, *Hemiglyptinus* Shenefelt, 1978, *Lyricibracon* Quicke, 1988, *Pappobracon* Tobias, 2000, *Piliferolobus* Yang et Chen, 2006, *Psilolobus* van Achterberg, 1985, *Rugosibracon* Quicke, 1988, *Sculptolobus* Yang, van Achterberg et Chen, 2008, *Scutibracon* Quicke et Walker, 1989, *Simplicibracon* Quicke, 1988, *Testudobracon* Quicke, 1986, and *Triaspidoagastra* Granger, 1949. In addition, the diagnosis of the group has expanded so much that the genera *Acgorium* Sharkey et Quicke, 2020, *Pseudochivinia* Long et van Achterberg, 2023, *Stephanobracon* Ranjith et Quicke, 2016, and *Uncobracon* Papp, 1996 also may be included there.

In fact, distinctive features of the members of the *Plesiobracon* group in its current composition are the presence of a well-defined, high mid-longitudinal keel on the propodeum, more or less strong sclerotisation of

the metasomal tergites and (or) other characters, which combination makes it possible to confidently separate these genera from the genus *Bracon*. Redefining the taxonomic concept and composition of this group of genera requires considerable work, of which an important stage should be clarification of diagnoses of the included taxa. Having studied the type material of a large part of the genera of this group, I discovered that the species included in the genus *Cassidibracon* require reclassification. This article is devoted to solving this small problem, which, however, affects a large part of the *Plesiobracon* group of genera.

Material and methods

Morphological nomenclature follows Quicke [1987] and van Achterberg [1993] with additions as described in Samartsev and van Achterberg [2021]. Terms used for carinae, impressions, and areas of the metasomal tergites are summarised in Figs 1, 2.

Morphological terms used in the text: OD – maximum diameter of lateral ocellus; OOL – ocular-ocellar distance; POL – postocellar distance; T1–T7 – 1st–7th metasomal tergites.

Museum acronyms:

AEI – American Entomological Institute, Utah State University (Logan, USA);

BMNH – Natural History Museum (London, UK);

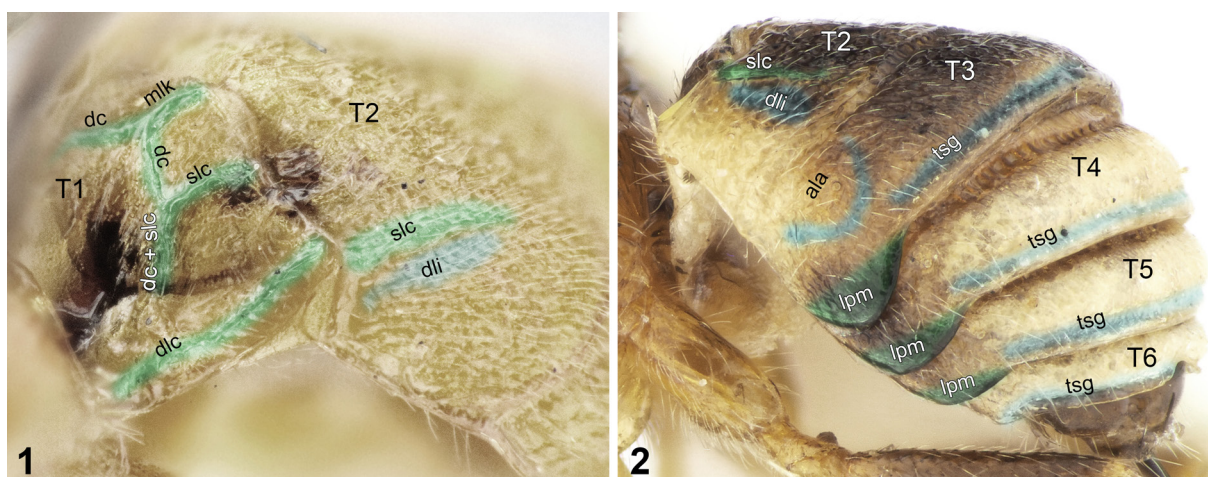
HNHM – Hungarian Natural History Museum (Budapest, Hungary);

MCZ – Museum of Comparative Zoology, Harvard University (Cambridge, USA);

MIIZ – Museum and Institute of Zoology, Polish Academy of Sciences (Warszawa, Poland);

MNB – Natural History Museum (Berlin, Germany);

MNHN – National Museum of Natural History (Paris, France);



Figs 1–2. Features of the metasomal structure of Braconinae.

1 – *Cassidibracon vanmoorti* sp. n., female, holotype; 2 – *Testudobracon longicaudis*, female. ala – anterolateral area; dc – dorsal carina; dlc – dorsolateral carina; dli – dorsolateral impression; lpm – laterally protruding posterior margin of tergite; mlk – mid-longitudinal keel; slc – sublateral carina; T1–T6 – 1st–6th metasomal tergites; tsg – transverse subapical groove.

Рис. 1–2. Детали строения метасомы Braconinae.

1 – *Cassidibracon vanmoorti* sp. n., самка, голотип; 2 – *Testudobracon longicaudis*, самка. ala – антеролатеральное поле; dc – дорсальный гребень; dlc – дорсолатеральный гребень; dli – дорсолатеральное вдавление; lpm – латерально выступающий задний край тергита; mlk – продольный срединный киль; slc – sublateralный гребень; T1–T6 – 1–6-й тергиты метасомы; tsg – предвершинная поперечная бороздка.

RMNH – Naturalis Biodiversity Center (Leiden, the Netherlands);

SAMC – South African Museum, Iziko Museums of South Africa (Cape Town, South Africa);

USNM – National Museum of Natural History, Smithsonian Institution (Washington DC, USA);

ZISP – Zoological Institute of the Russian Academy of Sciences (Saint Petersburg, Russia).

Images of the following species were provided upon requests: *Esenga ovata* Cameron, 1906 – by S. van Noort (SAMC) [van Noort, 2023]; *Esengoides crenulatus* Quicke, 1989 – by Ch.W. Farnum (MCZ; © President and Fellows of Harvard College); *Trigastrotheca tridentata* (Enderlein, 1920) – by S.A. Belokobylskij (ZISP).

Distribution of species is listed mainly according to Yu et al. [2016].

Group diagnosis and composition of considered species

In order to determine the generic affiliations of species of *Cassidibracon* and related genera, it was necessary to consider all genera of the *Plesiobracon* group, with only a few exceptions. Several genera were not included in the consideration, i.e. *Psilolobus*, *Stephanobracon*, and *Syntomernus* Enderlein, 1920 (recently revised by Samartsev and Ku [2020]) which are well-separated by the presence of large anterolateral areas on T3, and also the variable, but distinct genus *Sculptolobus*. The latter genus is separated by the combination of the developed malar suture, the straight fore wing vein 1-SR + M, rounded anterolateral areas on T2, and the entirely granulate body [Samartsev, van Achterberg, 2021]. Finally, the genus *Hemiglyptinus* was not included in the analysis, because its type was not studied. The latter genus is distinguished by the absence of a mid-longitudinal carina on the propodeum anteriorly, a short and relatively strongly transverse T2, the face prominent around toruli and the toruli with two (ledge-like) carinae (Prof. C. van Achterberg, personal communication).

Apart from the characters common to the Braconini, the taxa included in the analysis possess the following common character states: notauli deeply impressed (at least) anteriorly; mid-longitudinal keel on propodeum very high (developed only apically or complete); vein r-m shorter than vein 2-SR (except *Trigastrotheca*); dorsolateral carinae of T1 developed (except *Reticulotergus* **gen. n.**); anterolateral areas absent on T3–T6 or very weakly developed only on T3 (except *Trigastrotheca*); apical margins of T3 and posterior tergites thick.

Key to the selected genera of the *Plesiobracon* group

1. Mesoscutum medially reticulate-granulate, foveate-granulate, or finely rugose (Figs 195, 279). Hypostomal carina strongly protruding, lamelliform (Figs 192, 276). – Mesoscutum evenly setose. Median area of metanotum with complete median carina. Apical visible tergite (T5 or T6) of female posteriorly with large protuberances. Ovipositor sheath much shorter than metasoma (0.2–0.25 times as long as fore wing) 2
- Mesoscutum medially smooth or weakly granulate posteriorly or along notauli (if weakly reticulate-granulate, then T1 without dorsal carinae; *Reticulotergus* **gen. n.**, Figs 220, 221). Hypostomal carina slightly protruding; if forming thick hook-like tooth, then ovipositor sheath about as long as metasoma or longer (*Uncobracon*, some *Testudobracon*) 3
2. Face medially granulate. Malar suture deep (Fig. 192). Vertex granulate, weakly longitudinally impressed (Fig. 188). Fore wing vein r-m shorter than 2-SR (Fig. 190). Metasoma with 6 dorsally visible tergites (Fig. 194). Anterolateral areas on T3–T5 absent. T6 with large submedioposterior and lateroposterior protuberances (Fig. 199) *Lyricibracon*
- Face medially transversely rugose, granulate-rugose, or rugulose (Fig. 278). Malar suture weakly impressed or deep only below eye (Fig. 276). Vertex rugose or granulate-rugose, without mid-longitudinal impression. Fore wing vein r-m longer than 2-SR. Metasoma with 5 dorsally visible tergites (Fig. 283). Anterolateral areas on T3–T5 large, with inner sides separated by crenulate furrows. T5 with large median and lateroposterior protuberances separated by submedial emarginations (Fig. 284); in male, evenly rounded posteriorly (Fig. 285) *Trigastrotheca*
3. Malar suture absent or weakly impressed, sometimes deep below eye, but shallow near mandible (Figs 45, 54, 113, 206, 252, 265). – Malar space granulate or granulate-rugulose. Toruli not anteriorly protruding in dorsal view (somewhat protruding in some *Uncobracon*) 4
- Malar suture deep and complete (Figs 68, 79, 158, 218). – T3 without wide anterolateral areas. Hind tibia without transverse subapical row of thick setae. Ovipositor sheath less than 0.7 times as long as hind tibia and less than 0.26 times as long as fore wing 10
4. T4–T7 concealed and less sclerotised than T3 (Figs 119, 121). Apical margins of T3–T5 without transverse subapical grooves. T2 with complete sublateral weakly converging carinae extending on T3 (Figs 100, 109, 121). – T1 with deep mid-longitudinal impression, its dorsal carinae medially absent; sublateral carinae of T1 absent or strongly developed and reaching its posterior margin *Esenga* (= *Triaspidoagastra* **syn. n.**)
- At least T4 or T4–T6 as strongly sclerotised as T3 and not concealed (Fig. 47). Apical margins of T3–T5 with deep and crenulate transverse subapical grooves. T2 with incomplete sublateral carinae not extending on T3 5
5. Face with wide and projecting dorsally above level of toruli mid-longitudinal carina (Figs 41, 45, 53). Tarsal claws with rounded basal lobe (Fig. 59). Sublateral converging carinae of T1 strongly developed, going from dorsal carinae to posterior margin of T1 (Figs 1, 46, 62). – Middle flagellomeres 0.95–1.2 times as long as wide. Dorsal carinae of T1 complete, connected with hind margin of tergite by a mid-longitudinal ruga. Ovipositor sheath 0.35–0.85 times as long as hind tibia, 0.1–0.3 times as long as fore wing. Tarsi distinctly shortened *Cassidibracon*

- Face with shallow and not projecting dorsally mid-longitudinal carina (Figs 205, 264, 265; except *Pseudochivinia* **stat. n.**). Tarsal claws with angularly protruding basal lobe (Figs 212, 271). Sublateral converging carinae of T1 absent 6
6. Median area of T2 very narrow, sharply elevated, and extending into incomplete mid-longitudinal keel (Figs 208, 213). – Fifth segment of hind tarsus about 0.8 times as long as second segment. T2 with long, more or less strongly converging sublateral carinae. Posterior margins of T3 and T4 laterally more or less roundly protruding. T6 not emarginated posteriorly. Ovipositor sheath 3.5–8 times as long as hind tibia, 1–1.3 times as long as fore wing *Plesiobracon*
- Median area of T2, if presented, relatively wide and not strongly elevated or with smoothed margins; mid-longitudinal keel of T2 absent (Fig. 267). – Hind tibia without subapical row of thick setae or at most with 1 thick seta apicoposteriorly 7
7. Posterior margins of T3–T5 or T3–T6 laterally roundly protruding (Figs 2, 269). T6 medially more or less deeply emarginated, with submedioposteriorly protruding lamella (Figs 272, 273). Median lobe of mesoscutum very strongly protruding (dorsal view in Fig. 268). – T1 without or with weak mid-longitudinal impression. Spiracle located in middle or behind middle of T2. Suture between T2 and T3 more or less curved medially. T2 with long sublateral carinae, medially 0.95–1.15 times as long as T3. Ovipositor sheath 0.3–0.9 times as long as fore wing *Testudobracon*
- Posterior margins of T3–T6 laterally (almost) straight (Fig. 254). T6 medially at most very weakly emarginated. Median lobe of mesoscutum not or weakly protruding (dorsal view in Fig. 58). – Ovipositor sheath 0.1–0.6 times as long as fore wing 8
8. Hypostomal carina forming thick hook-like tooth near base of mandible. Dorsal area of clypeus prominent. Frons smooth or weakly granulate only in lower part. – Dorsal carinae of T1 incomplete or complete. T2 medially 0.8–1.25 times as long as T3. Ovipositor sheath 0.4–0.6 times as long as fore wing *Uncobracon*
- Hypostomal carina not forming thick hook-like tooth near base of mandible (Fig. 252). Dorsal area of clypeus flattened. Frons entirely (weakly) granulate. – T1 with distinct mid-longitudinal impression. Median area of T2 absent. T2 medially 1.3–1.7 times as long as T3. Suture between T2 and T3 almost straight. Ovipositor sheath 0.1–0.4 times as long as fore wing 9
9. Fore wing vein r-m absent. Frons strongly impressed submedially (behind antennae). Face projecting upwards between toruli, widened and flattened, in upper part with mid-longitudinal carina. Mesoscutum widely setose only along notauli. Vein 1-SR + M straight. Dorsal carinae of T1 absent *Pseudochivinia* **stat. n.**
- Fore wing vein r-m developed (Fig. 250). Frons shallowly impressed submedially (behind antennae). Face with not projecting upwards mid-longitudinal carina (Fig. 251). Mesoscutum entirely evenly setose (Fig. 258). Vein 1-SR + M weakly curved anteriorly (Fig. 250). Dorsal carinae of T1 high and almost complete (Fig. 259) *Simplicibracon*
- 10(3). Metasoma with 6 dorsally visible tergites (Figs 75, 87). T1 with long mid-longitudinal keel connecting complete dorsal carinae with posterior margin of T1 (Figs 74, 86). Apex of ovipositor modified (Figs 66, 83), with wide blunt or dorsally roundly protruding nodus (in *Crinibracon striatus*, also lower valve ventrally roundly protruding). – Basal lobe of claws not angularly protruding anteriorly (Fig. 82). T2 with strong complete mid-longitudinal keel *Crinibracon*
- Metasoma with at most 5 dorsally visible tergites, T4 and T5 more or less retracted and concealed under T3. T1 without mid-longitudinal keel (dorsal carinae of T1 absent or complete). Apex of ovipositor acute, not roundly protruding dorsally and ventrally 11
11. T2 with relatively wide (half as wide to about as wide as median area of T1) longitudinal median area separated by deep furrows (Figs 151, 173). – Median impression on mesopleuron absent or deep and pit-like. Sublateral converging carinae of T1 strongly developed and reaching its posterior margin or absent (but in this case median area of tergite laterally compressed); dorsal carinae absent. Metasoma mostly smooth, with strongly developed T2 and T3. T2 with long and weakly s-shaped sublateral carinae, medially 1.4–2.6 times as long as T3. Basal width of T2 0.8–1.3 times its median length. Apical margins of T3–T6 without transverse subapical grooves. Vein 3-SR 0.8–1.2 times vein 2-SR .. *Gelasinibracon*
- Median area of T2, if developed, small and elongate-triangular, much less than 0.5 times as wide as median area of T1 12
12. T2 with strong complete mid-longitudinal keel (Fig. 185). Mesoscutum anteromedially widely glabrous (Fig. 181). – Vertex with deep mid-longitudinal sulcus. Sublateral converging carinae of T1 absent, but median area of T1 laterally compressed (Fig. 186); dorsal carinae of T1 absent. T2 without sublateral carinae *Isomerosoma* **gen. n.**
- T2 without complete mid-longitudinal keel (Figs 11, 26, 232). Mesoscutum entirely evenly setose (Fig. 233) 13
13. Sublateral carinae of T1 strongly developed, complete (Figs 36, 126, 138). Mesopleuron medially with deep pit-like impression (Fig. 34) or with shallow, but anteriorly foveate precoxal sulcus (Fig. 148). – Vertex with shallow mid-longitudinal impression or deep sulcus. Propodeum with a tubercle above spiracle. T2 often with weakly developed incomplete mid-longitudinal carina 14
- Sublateral carinae of T1 absent (Figs 11, 220, 234). Median impression on mesopleuron indistinct 15
14. Notauli deep posteriorly (Figs 19, 33). Mesopleuron with deep pit medially and without precoxal sulcus (Fig. 34). Dorsal carinae of T1 distinct (Fig. 36). Posterior margin of T5 without protruding lamella (Fig. 27). Apex of ovipositor with weak dorsal nodus (Fig. 28) *Ancilibracon*

- Notauli shallow posteriorly (Figs 123, 135). Mesopleuron without pit medially and with weakly impressed precoxal sulcus (Fig. 136). Dorsal carinae of T1 absent (Figs 126, 138). Posterior margin of T5 with protruding lamella, medially weakly emarginated (Figs 128, 137). Apex of ovipositor without dorsal nodus (Figs 128, 141) *Esengoides* 15(13). Basal width of T2 1.7–2 times its median length (Fig. 222). Dorsolateral carinae of T1 absent or weakly differentiated 16
- Basal width of T2 1.1–1.4 times its median length. Dorsolateral carinae of T1 well developed. – Vein 1-SR + M weakly curved anteriorly. T2 medially 1.3–1.6 times as long as T3 17
16. Mesoscutum medially reticulate-granulate (Fig. 221), propleuron and mesopleuron with weak coriaceous sculpture (Fig. 223), metasoma reticulate-rugose (Fig. 222). Vein 1-SR + M weakly curved anteriorly (Fig. 217). T2 medially about 0.8 times as long as T3. Vertex medially weakly longitudinally impressed (Fig. 215) *Reticulotergus* **gen. n.**
- Mesosoma entirely smooth, metasoma rugulose-punctate or coriaceous. Vein 1-SR + M straight. T2 medially 1.1–1.4 times as long as T3. Vertex medially not impressed *Scutibracon* sec Quicke et Walker, 1989 17(15). Males. Scape sub-globose (Figs 5, 9). Propodeum with a tubercle above spiracle. T2 with short sublateral carinae (Figs 11, 13). Vein 1-SR + M very long, 4 times vein m-cu (Fig. 4) *Acrocerilia*
- Scape not globose (Figs 226, 237). Propodeum without a tubercle above spiracle (Fig. 241). T2 with long sublateral carinae (Figs 231, 244). Vein 1-SR + M shorter, about 2.5 times vein m-cu (Figs 227, 238)
..... *Scutibracon*

Taxonomic treatments

This section provides information about the sources of taxonomic concepts (including literature and examined specimens, if available) on which the key to genera presented above is based. Species not listed below were not included in the analysis. In order to provide terminologically unified, consistent information on all diagnostic characters discussed in this article, descriptions or redescriptions are given for all considered genera and a large part of species which type material was available for examination (despite the fact that the descriptions of many of these taxa are quite complete for accurate identification). Redescriptions are not provided for species of the easily distinguishable genera *Testudobracon*, *Trigastrotheca*, and *Uncobracon*, for which recent and more complete literature is available, and for the genus *Plesiobracon*, which deserves a special study.

Genus *Acrocerilia* van Achterberg, 1989

Acrocerilia van Achterberg, 1989: 79 (type species *Acrocerilia pachynervis* van Achterberg, 1989). Quicke, Ingram, 1993: 304.

Composition and distribution. *Acrocerilia pachynervis* van Achterberg, 1989 (Philippines), *A. tricolor* Quicke et Ingram, 1993 (Australia).

Redescription. Male (female unknown). Head. Toruli somewhat protruding in dorsal view. Vertex without mid-longitudinal sulcus, weakly longitudinally impressed. Face evenly convex, medially without triangular area above clypeus, with complete, but weak mid-longitudinal carina. Malar suture deep and smooth. Clypeus flattened, with weakly protruding ventral rim; separated from face by weak dorsal carina; clypeal sulcus absent, dorsal clypeal margin sharp.

Antenna. Scape sub-globose.

Mesosoma. Median lobe of mesoscutum not protruding (dorsal view). Notauli very deep anteriorly, impressed posteriorly, smooth. Mesoscutum evenly, but sparsely setose. Median impression on mesopleuron vague. Metanotum with medially elevated median area and with incomplete, but shortly going on median area median carina. Propodeum with a tubercle above spiracle.

Wings. Angle between veins C + SC + R and 1-SR 60–70°. Vein r-m shorter than 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing.

Legs. Hind tibia without subapical row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 5 dorsally visible tergites. T1 with weak mid-longitudinal impression, developed dorsolateral carinae, complete dorsal carinae, and without sublateral carinae. T2 without both median area and mid-longitudinal keel; with deep crenulated dorsolateral impressions, and with short parallel sublateral carinae; spiracle located in middle of T2. Suture between T2 and T3 weakly curved. Anterolateral areas small and hardly developed only on T3. Posterior margins of T3 and T4 laterally weakly roundly protruding, T5 with transverse crenulate subapical groove.

Sculpture. Head and mesosoma mostly smooth, metasomal tergites rugose or areolate-rugose.

Acrocerilia pachynervis van Achterberg, 1989 (Figs 3–13)

Acrocerilia pachynervis van Achterberg, 1989: 81.

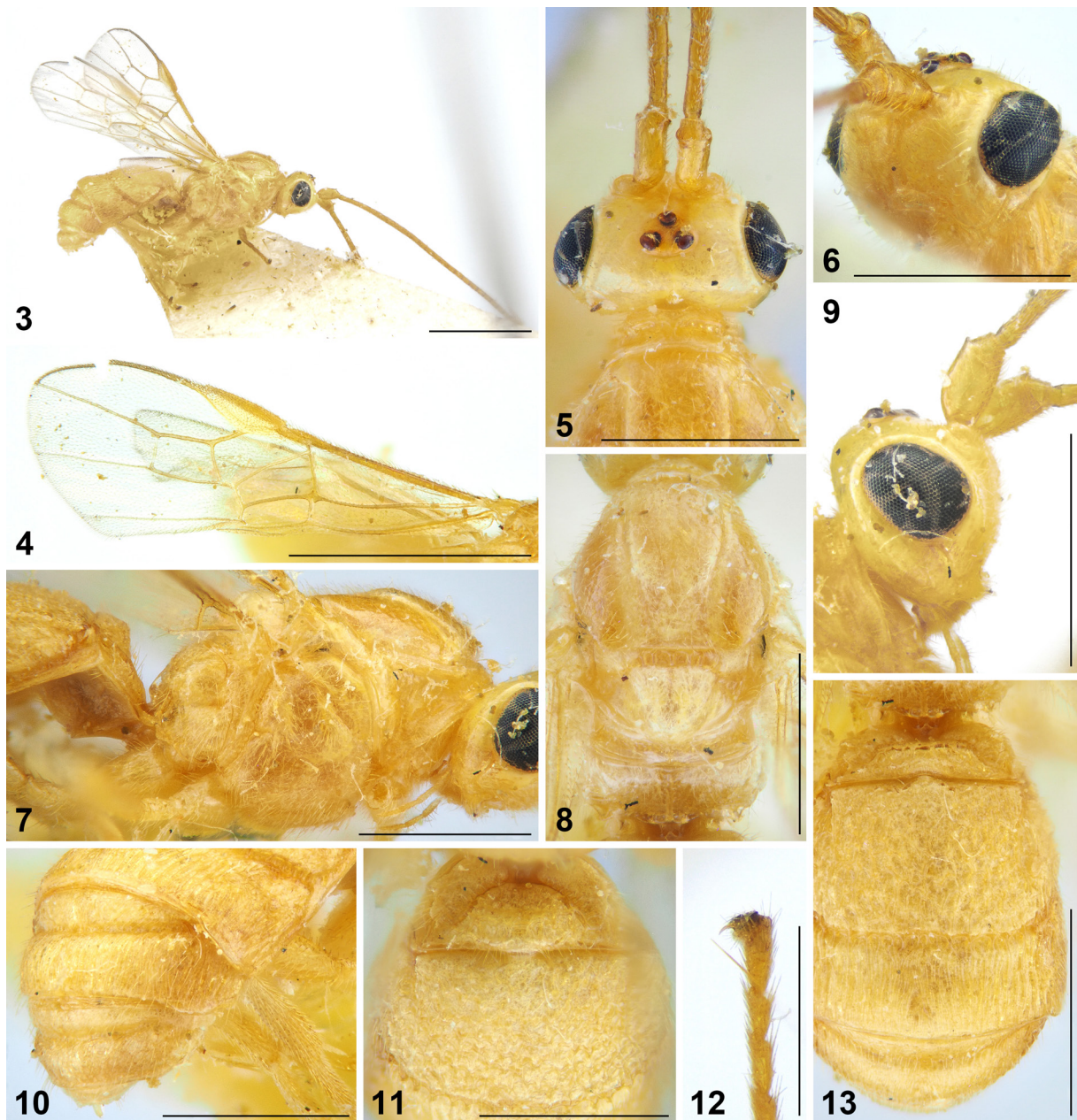
Material. 1♂, holotype, (RMNH, INS.108893), "Philippines, Kidapawan, VIII. 1983, No. 3", "ex prepupa of *Acrocercops cramerella* on rambutan", "ex prepupa of *Acrocercops cramerella* on rambutan, C.I.E.A 16554", "Kidapawan, August 1983", "CI 1, Hagonay, Qanao delfur", "♀ *Acrocerilia* gen. nov. *pachynervis* sp. nov., C. van Achterberg, 1987 Holotype".

Redescription. Male. Body length 3.5 mm; fore wing length 2.8 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.7 times as long as temple. OOL 3× OD; POL 1.3× OD; OOL 2.2× POL. Frons with deep mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 2.5 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.8 times combined height of face and clypeus. Maxillary palp longer than eye, but shorter than head.

Antenna with 32 antennomeres. First flagellomere 2.9 times as long as its apical width, middle and penultimate flagellomeres 1.9–2 times as long as wide.

Mesosoma 1.5 times as long as its maximum height. Transverse pronotal sulcus shallow, but complete, weakly crenulate. Mesoscutum 1.2 times its median length (dorsal view). Notauli united posteriorly. Scutellar sulcus 0.25 times as long as scutellum. Mesepimeral sulcus crenulate, mesopleural pit deep, furrow-like. Metapleural sulcus smooth. Propodeal spiracle vertical, located behind middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae. Mid-longitudinal impression on propodeum deep, complete, and smooth.



Figs 3–13. *Acrocerilia pachynervis*, male, holotype.

3 – habitus, lateral view; 4 – fore wing; 5–6, 9 – head: 5 – dorsal view, 6 – anterolateral view, 9 – lateral view; 7–8 – mesosoma: 7 – lateral view, 8 – dorsal view; 10 – T4 and T5, dorsolateral view; 11 – T1 and T2, dorsal view; 12 – apex of middle tarsus; 13 – metasoma, dorsal view. Scale bars: 3–4 – 1 mm; 5–11, 13 – 0.5 mm; 12 – 0.25 mm.

Рис. 3–13. *Acrocerilia pachynervis*, самец, голотип.

3 – общий вид сбоку; 4 – переднее крыло; 5–6, 9 – голова: 5 – вид сверху, 6 – вид спереди/сбоку, 9 – вид сбоку; 7–8 – мезосома: 7 – вид сбоку, 8 – вид сверху; 10 – T4 и T5, вид сверху/сбоку; 11 – T1 и T2, вид сверху; 12 – вершина средней лапки; 13 – метасома, вид сверху. Масштабные линейки: 3–4 – 1 мм; 5–11, 13 – 0.5 мм; 12 – 0.25 мм.

Wings. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.6 times as long as pterostigma. Marginal cell reaching apex of wing. Vein 3-SR 1.9× vein r, 0.4× vein SR1, 1.4× vein 2-SR. Vein 1-M 0.5× vein 1-SR + M, 2.1× vein m-cu, 1.8 times as long as vein cu-a. Vein 2-SR + M 0.35× vein 2-SR, 0.65× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a interstitial. Hind wing vein r-m interstitial.

Legs. Hind femur 3.3 times as long as wide. Hind tibia 1.5 times as long as hind femur, its inner spur 0.35 times as long

as hind basitarsus. Hind tarsus as long as hind tibia. Fifth segment of hind tarsus 0.4 times as long as hind basitarsus and 0.8 times as long as second segment.

Metasoma. Median length of T1 0.45 times its apical width. T2 medially 1.5 times as long as T3; basal width of T2 1.3 times its median length.

Sculpture. Head and mesosoma mostly smooth; face granulate; mesoscutum medioposteriorly weakly granulate to smooth; propodeum hardly coriaceous to smooth. T1 weakly

rugulose laterally; its median area posteriorly rugose; T2 areolate-rugose to striate; T3 and T4 striate with vague granulosity; T5 rugulose to granulate-rugulose.

Colouration. Body pale ochre yellow. Antenna reddish yellow, but apical flagellomeres lighter coloured; maxillary palp yellow; mesoscutal lobes with brownish yellow patches; tegulae pale yellow. Wing membrane yellowish hyaline proximally, weakly darkened distally; pterostigma brownish yellow, veins yellowish brown.

Genus *Ancilbracon* Quicke, 1989

Ancilbracon Quicke, 1989: 295 (type species *Ancilbracon townesi* Quicke, 1989).

Composition and distribution. *Ancilbracon bakeri* Quicke, 1989 (Malaysia), *A. townesi* Quicke, 1989 (Malaysia).

Redescription. Female. Head. Toruli somewhat protruding (dorsal view). Vertex with deep mid-longitudinal sulcus. Face medially evenly convex, without triangular area above clypeus, with weak mid-longitudinal carina. Clypeus flattened, with weakly protruding ventral rim; dorsal clypeal margin sharp, dorsal carina absent; clypeal sulcus absent. Malar suture deep and smooth. Hypostomal carina not or slightly protruding.

Mesosoma. Median lobe of mesoscutum not protruding. Notauli very deep (but medially shallow in *A. bakeri*), crenulate. Mesoscutum evenly setose. Mesopleuron medially with deep pit. Metanotum with incomplete or complete median carina. Propodeum with a tubercle above spiracle.

Wings. Angle between veins C + SC + R and 1-SR 60–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose in base of hind wing. Hind wing vein r-m antefurcal.

Legs. Hind tibia without subapical row of thick setae, sometimes with one thick seta apicoposteriorly. Claws with acute angularly protruding basal lobe.

Metasoma with strongly developed T2 and T3, but T4 and T5 thick and projecting outside T3. T1 with weak or deep mid-longitudinal impression, strong dorsolateral carinae, complete dorsal carinae, and strongly developed, complete sublateral carinae. Median area of T2 absent or weakly elevated, small, elongate-triangular, and extending into short and weak mid-longitudinal keel. Dorsolateral impressions of T2 more or less developed, sublateral carinae short and parallel. Spiracle located in anterior part of T2. Suture between T2 and T3 almost straight, medially weakly curved anteriorly or posteriorly. T3–T5 without anterolateral areas. Posterior margins of T3–T6 laterally straight, in *A. bakeri* with deep and crenulate transverse subapical grooves on T3–T6. Apical tergite without projections or incisure. Ovipositor sheath 0.1–0.15 times as long as fore wing. Apex of ovipositor acute, with weak nodus and ventral serration.

Sculpture. Head and mesosoma smooth, metasoma areolate to foveate or areolate-rugose.

A key to species of the genus *Ancilbracon*

1. Median area of T2 very short and narrow, extending into short mid-longitudinal keel. Apical margin of T3 with deep and crenulate transverse subapical groove. Longitudinal diameter of eye 2.3 times as long as malar space (front view) *A. bakeri*
– Median area and mid-longitudinal keel of T2 absent. Apical margin of T3 without transverse subapical groove. Longitudinal diameter of eye 2.8 times as long as malar space (front view). – Flagellum brown, but apical flagellomeres lighter coloured *A. townesi*

Ancilbracon bakeri Quicke, 1989 (Figs 14–26)

Ancilbracon bakeri Quicke, 1989: 296.

Material. 1♀, paratype (USNM), Malaysia, "Sandakan Borneo Baker", "Paratype *Ancilbracon bakeri* Quicke 1989".

Redescription. Female. Body length 2.5 mm; fore wing length 2.4 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.4 times as long as temple. OOL 2.2× OD; POL 1× OD; OOL 2.2× POL. Frons with very deep mid-longitudinal groove and shallow impressions behind antennae. Longitudinal diameter of eye in lateral view 1.5 times its transverse diameter; transverse diameter of eye 3 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.2 times combined height of face and clypeus; 2.7 times width of hypoclypeal depression. Width of hypoclypeal depression 0.8 times distance from depression to eye. Height of clypeus 0.4 times width of hypoclypeal depression. Longitudinal diameter of eye 2.3 times as long as malar space (front view). Maxillary palp shorter than eye.

Antenna with 22 antennomeres. First flagellomere 1.6 times as long as its apical width, middle flagellomeres 1.4 times as long as wide.

Mesosoma 1.2 times as long as its maximum height. Transverse pronotal sulcus deep, wide, and crenulate. Mesoscutum width 1.3 times its median length (dorsal view). Notauli very deep anteriorly and posteriorly, shallow medially, not united posteriorly. Scutellar sulcus 0.3 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit deep. Metanotum with complete median carina. Metapleural sulcus crenulate. Propodeal spiracle vertical, located behind middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae; mid-longitudinal impression weak and complete.

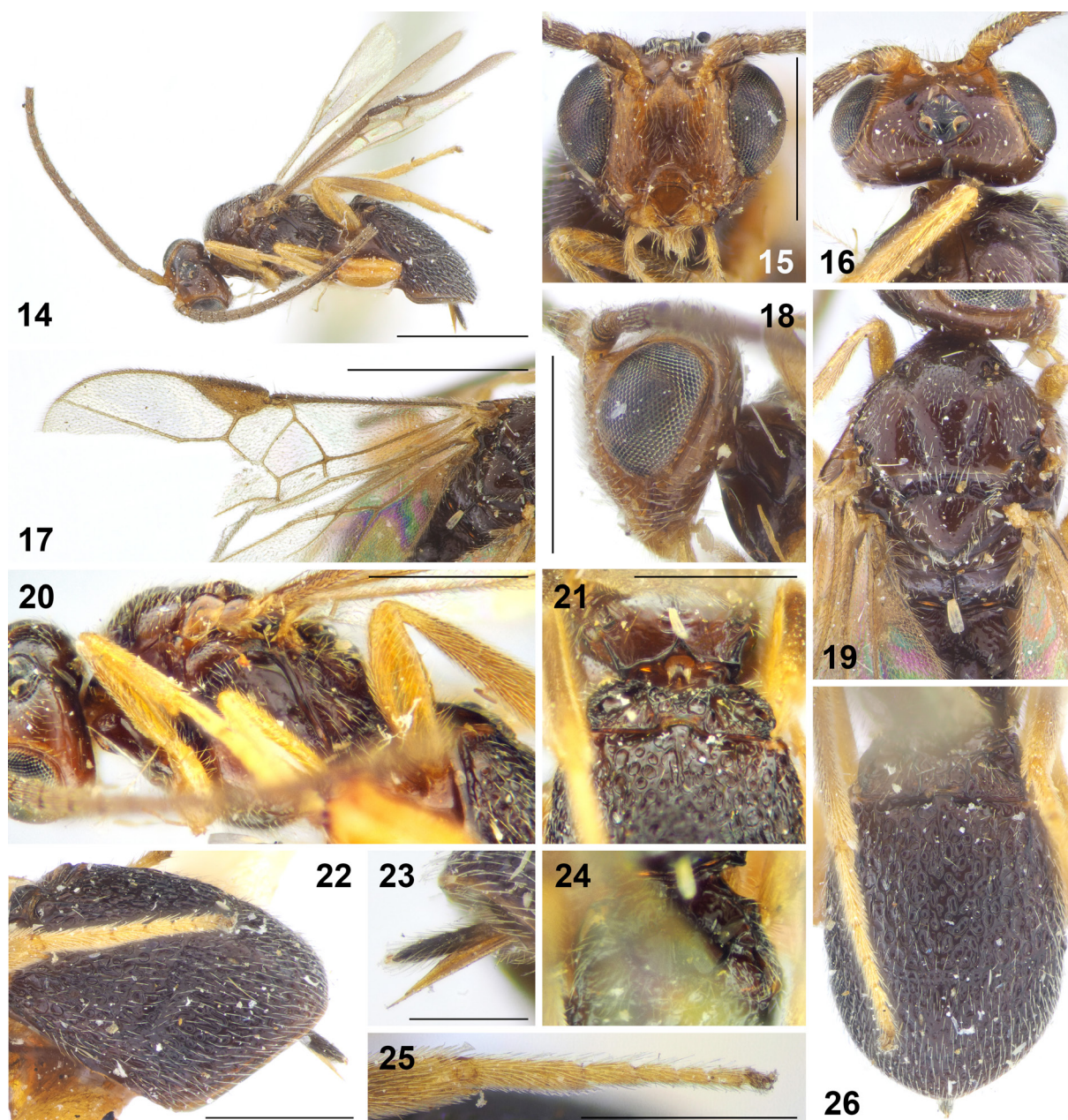
Wings. Angle between veins C + SC + R and 1-SR 65–70°. Vein r arising from basal 0.35 of pterostigma. Vein 1-R1 1.5 times as long as pterostigma. Marginal cell 3.4 times as long as distance from its apex to apex of wing. Vein 3-SR 1.9× vein r, 0.35× vein SR1, 1.5× vein 2-SR. Vein 1-M 0.9× vein 1-SR + M, 2.3× vein m-cu, 2.4 times as long as vein cu-a. Vein 2-SR + M 0.3× vein 2-SR, 0.4× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a weakly postfurcal.

Legs. Fore tibia without thick spines. Hind femur 2.9 times as long as wide. Hind tibia 6.4 times as long as wide, 1.5 times as long as hind femur, its inner spur 0.4 times as long as hind basitarsus. Hind tarsus 0.9 times as long as hind tibia. Fifth segment of hind tarsus 0.4 times as long as hind basitarsus and 0.95 times as long as second segment.

Metasoma. Median length of T1 0.6 times its apical width. T1 with deep mid-longitudinal impression, complete dorsal carinae, and strongly developed sublateral carinae. T2 medially 1.2 times as long as T3; basal width of T2 1.1 times its median length. Median area of T2 small, elongate-triangular, weakly elevated, extending into weak incomplete mid-longitudinal keel. Suture between T2 and T3 weakly curved. Posterior margin of T3 with deep and crenulate transverse subapical groove. Ovipositor sheath 0.45 times as long as hind tibia and 0.13 times as long as fore wing. Apex of ovipositor acute, with dorsal side weakly subapically protruding and with weak ventral serration.

Sculpture. Head and mesosoma smooth. T1 weakly rugulose laterally, its median area posteriorly rugose; T2 and T3 areolate-rugose.

Colouration. Body mainly dark brown. Head frontally and around eyes yellowish brown. Antenna brown, scape dorsally yellowish brown. Maxillary palp brownish yellow. Legs brownish yellow; hind tibia medially brown. Wing membrane weakly darkened, pterostigma and veins brown.



Figs 14–26. *Ancilbracon bakeri*, female, paratype.

14 – habitus, lateral view; 15–16, 18 – head: 15 – front view, 16 – dorsal view, 18 – lateral view; 17 – fore wing; 19–20 – mesosoma: 19 – dorsal view, 20 – lateral view; 21, 24 – T1, dorsal view; 22 – T2 and T3, dorsolateral view; 23 – apex of ovipositor; 25 – hind tarsus; 26 – metasoma, dorsal view. Scale bars: 14, 17 – 1 mm; 15–16, 18–22, 25–26 – 0.5 mm; 23 – 0.25 mm.

Рис. 14–26. *Ancilbracon bakeri*, самка, паратип.

14 – общий вид сбоку; 15–16, 18 – голова: 15 – вид спереди, 16 – голова, вид сверху, 18 – вид сбоку; 17 – переднее крыло; 19–20 – мезосома: 19 – вид сверху, 20 – вид сбоку; 21, 24 – T1, вид сверху; 22 – T2 и T3, вид сверху/сбоку; 23 – вершина яйцеклада; 25 – задняя лапка; 26 – метасома, вид сверху. Масштабные линейки: 14, 17 – 1 мм; 15–16, 18–22, 25–26 – 0.5 мм; 23 – 0.25 мм.

Ancilbracon townesi Quicke, 1989
(Figs 27–38)

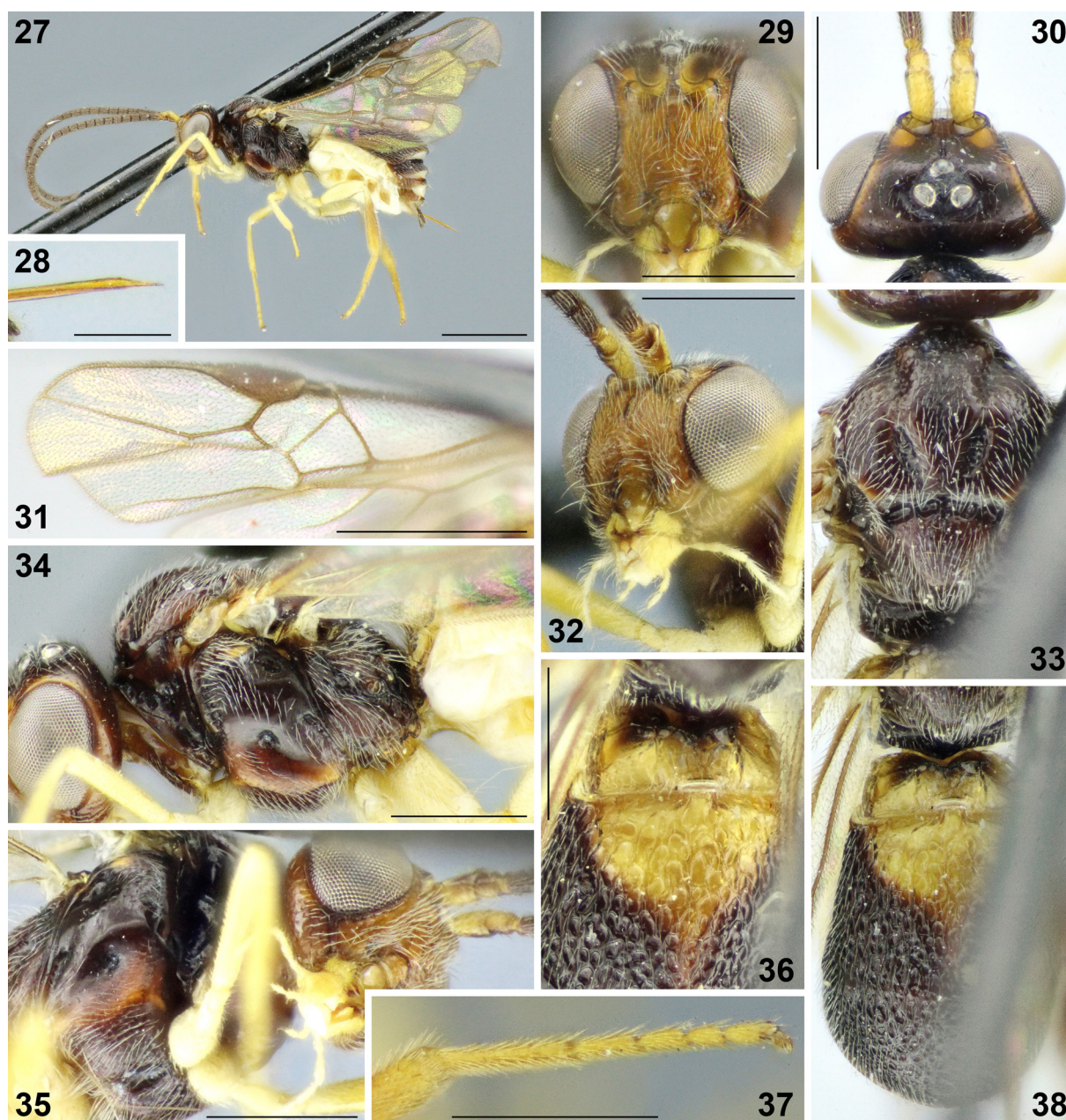
Ancilbracon townesi Quicke, 1989: 296.

Material. 1♀, holotype (AEL), "Pasoh Forest Res., Negri S., Malaysia, 1.10.80 forest, P. & M. Becker", "Holotype *Ancilbracon townesi* Quicke 1980".

Redescription. Female. Body length 3.1 mm; fore wing length 2.8–3 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.2 times as

long as temple. OOL 2.1× OD; POL 0.6× OD; OOL 3–3.3× POL. Frons with deep mid-longitudinal groove, not impressed behind antennae. Longitudinal diameter of eye in lateral view 1.5 times its transverse diameter; transverse diameter of eye 3.2 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.1 times combined height of face and clypeus; 2.3 times width of hypoclypeal depression. Width of hypoclypeal depression 0.9 times distance from depression to eye. Height of clypeus 0.55 times width of hypoclypeal depression. Longitudinal diameter of eye



Figs 27–38. *Ancilibracon townesi*, female, holotype.

27 – habitus, lateral view; 28 – apex of ovipositor; 29–30, 32 – head: 29 – front view, 30 – dorsal view, 32 – anterolateral view; 31 – fore wing; 33–34 – mesosoma: 33 – dorsal view, 34 – lateral view; 35 – head and mesosoma, ventrolateral view; 36 – T1 and T2, dorsal view; 37 – hind tarsus; 38 – metasoma, dorsal view. Scale bars: 27, 31 – 1 mm; 28 – 0.25 mm; 29–30, 32–38 – 0.5 mm.

Рис. 27–38. *Ancilibracon townesi*, самка, голотип.

27 – общий вид сбоку; 28 – вершина яйцеклада; 29–30, 32 – голова: 29 – вид спереди, 30 – вид сверху, 32 – вид спереди/сбоку; 31 – переднее крыло; 33–34 – мезосома: 33 – вид сверху, 34 – вид сбоку; 35 – голова и мезосома, вид снизу/сбоку; 36 – T1 и T2, вид сверху; 37 – задняя лапка; 38 – метасома, вид сверху. Масштабные линейки: 27, 31 – 1 мм; 28 – 0.25 мм; 29–30, 32–38 – 0.5 мм.

2.8 times as long as malar space (front view). Maxillary palp shorter than eye.

Antenna with 26–28 antennomeres. First flagellomere 1.7 times as long as its apical width, middle and penultimate flagellomeres 1.5 and 1.4–1.6 times as long as wide, respectively.

Mesosoma 1.2–1.3 times as long as its maximum height. Transverse pronotal sulcus deep, wide, and crenulate. Mesoscutum width 1.3 times its median length (dorsal view). Notauli deep anteriorly, very deep and (almost) united posteriorly. Scutellar sulcus 0.3 times as long as scutellum. Mesepimeral sulcus crenulate,

mesopleural pit deep, furrow-like. Metanotum with incomplete median carina. Metapleural sulcus crenulate. Propodeal spiracle vertical, located behind middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae; mid-longitudinal impression weak and complete.

Wings. Angle between veins C + SC + R and 1-SR 60–70°. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.7 times as long as pterostigma. Marginal cell 9.7 times as long as distance from its apex to apex of wing. Vein 3-SR 2.1–2.2× vein r, 0.35–0.4× vein SR1, 1.4–1.6× vein 2-SR. Vein 1-M

0.8× vein 1-SR + M, 2.5× vein m-cu, 2.6 times as long as vein cu-a. Vein 2-SR + M 0.3× vein 2-SR, 0.5× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a weakly postfurcal.

Legs. Fore tibia with thick spines apically. Hind femur 2.9 times as long as wide. Hind tibia 1.4 times as long as hind femur, with 1 thick seta apicoposteriorly, its inner spur 0.35 times as long as hind basitarsus. Hind tarsus 0.97 times as long as hind basitarsus and 0.9 times as long as second segment.

Metasoma. Median length of T1 0.6 times its apical width. T1 with weak mid-longitudinal impression, complete dorsal carinae, and strongly developed sublateral carinae. T2 medially 1.3 times as long as T3, basal width of T2 1.1 times its median length. Median area and mid-longitudinal keel of T2 absent. Suture between T2 and T3 medially curved backward. Posterior margins of T3–T5 without transverse subapical grooves. Ovipositor sheath 0.4 times as long as hind tibia and 0.11–0.14 times as long as fore wing. Apex of ovipositor acute, with dorsal side weakly subapically protruding and with weak ventral serration.

Sculpture. Head and mesosoma smooth, face medially punctate to smooth. T1 laterally smooth, its median area posteriorly areolate-rugose; T2 and T3 areolate to foveate, T4 and T5 weakly rugose.

Colouration. Head dorsally, mesosoma, and metasomal tergites dark brown. Scape yellow, ventrally brown; flagellum brown, apical flagellomeres lighter-coloured. Head mostly brown; maxillary palp pale yellow. Tegulae yellowish brown. Legs yellow, hind tibia medially brown. Wing membrane weakly darkened; pterostigma and wing veins brown. T1 laterally and posteriorly and basal triangle patch on T2 yellow; pleural parts of metasoma pale yellow.

Genus *Cassidibracon* Quicke, 1987

Cassidibracon Quicke, 1987: 142 (type species *Cassidibracon castus* Quicke, 1987).

Composition and distribution. *Cassidibracon castus* Quicke, 1987 (Sierra Leone), *C. vanmoorti* sp. n. (South Africa).

Five species described in the genus *Cassidibracon* are transferred to other genera. *Cassidibracon gracillariae* Quicke, 2012, *C. malabaricus* Narendran, 1994, and *C. sumodani* Narendran et Madhavikutty, 1994 are assigned to the genus *Scutibracon* while the new genus *Reticulotergus* gen. n. is established for *C. indicus* Narendran et Rema, 1994. Their position and morphology are discussed in the corresponding genera below. The fifth species, *Sculptolobus repens* (Gupta, 2014), **comb. n.**, is reclassified to the genus *Sculptolobus*, because of the developed mid-longitudinal elevation on the face, the straight fore wing vein 1-SR + M, strongly developed, rounded anterolateral areas on T2, and the widely sculptured mesosoma [Gupta, Naveen, 2014].

Redescription. Female. Head. Toruli not protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face weakly mid-longitudinally elevated, with wide mid-longitudinal carina projecting on frons between toruli. Clypeus flattened or prominent, with protruding ventral rim; dorsal clypeal margin sharp, with more or less developed dorsal carina, clypeal sulcus absent. Malar suture weakly impressed or more deep below eye and shallow near mandible, smooth. Hypostomal carina not protruding below mandible.

Mesosoma. Median lobe of mesoscutum strongly protruding (dorsal view). Notauli very deep anteriorly, impressed posteriorly. Mesoscutum evenly setose. Median impression on mesopleuron absent. Metanotum with incomplete or complete median carina. Mid-longitudinal impression on propodeum absent.

Wings. Angle between veins C + SC + R and 1-SR 55–75°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M curved anteriorly. Vein cu-a interstitial. Wing membrane evenly setose at base of hind wing. Hind wing vein r-m interstitial.

Legs. Hind tibia with subapical transverse row of spiny setae or with just few thick setae subapically. Claws with moderately large and rounded basal lobe.

Metasoma with at least 5 dorsally visible tergites. T1 with distinct mid-longitudinal impression, developed dorsolateral carinae, and with complete dorsal carinae connected with hind margin of tergite by a short mid-longitudinal keel and strongly developed sublateral carinae. Median area of T2 absent or weakly defined, small, and elongate-triangular; mid-longitudinal keel absent or weak and incomplete; sublateral carinae of T2 long; dorsolateral impressions not or weakly impressed; anterolateral areas absent. Spiracle located in anterior part of T2, in its dorsum. Suture between T2 and T3 almost straight or weakly curved. Anterolateral areas of T3–T5 absent. Posterior margins of T3–T5 with deep, crenulate transverse subapical grooves; laterally (almost) straight. Apical tergite of normal shape. Ovipositor sheath 0.1–0.3 times as long as fore wing. Apex of ovipositor with weak nodus and developed ventral serration.

Sculpture. Head and mesosoma mainly smooth with weak coriaceous sculpture. Metasomal tergites longitudinally rugose to rugulose.

Cassidibracon castus Quicke, 1987 (Figs 39–50)

Cassidibracon castus Quicke, 1987: 143.

Material. 1♀, paratype (BMNH), Sierra Leone, "Paratype", Lumley, Freetown, Sierra Leone, Sept. 1981, D. Quicke, "*Cassidibracon* sp., Braconinae, Det. D. Quicke 1983", "Paratype *Cassidibracon castus* Quicke, Braconinae, Det. D. Quicke 1987".

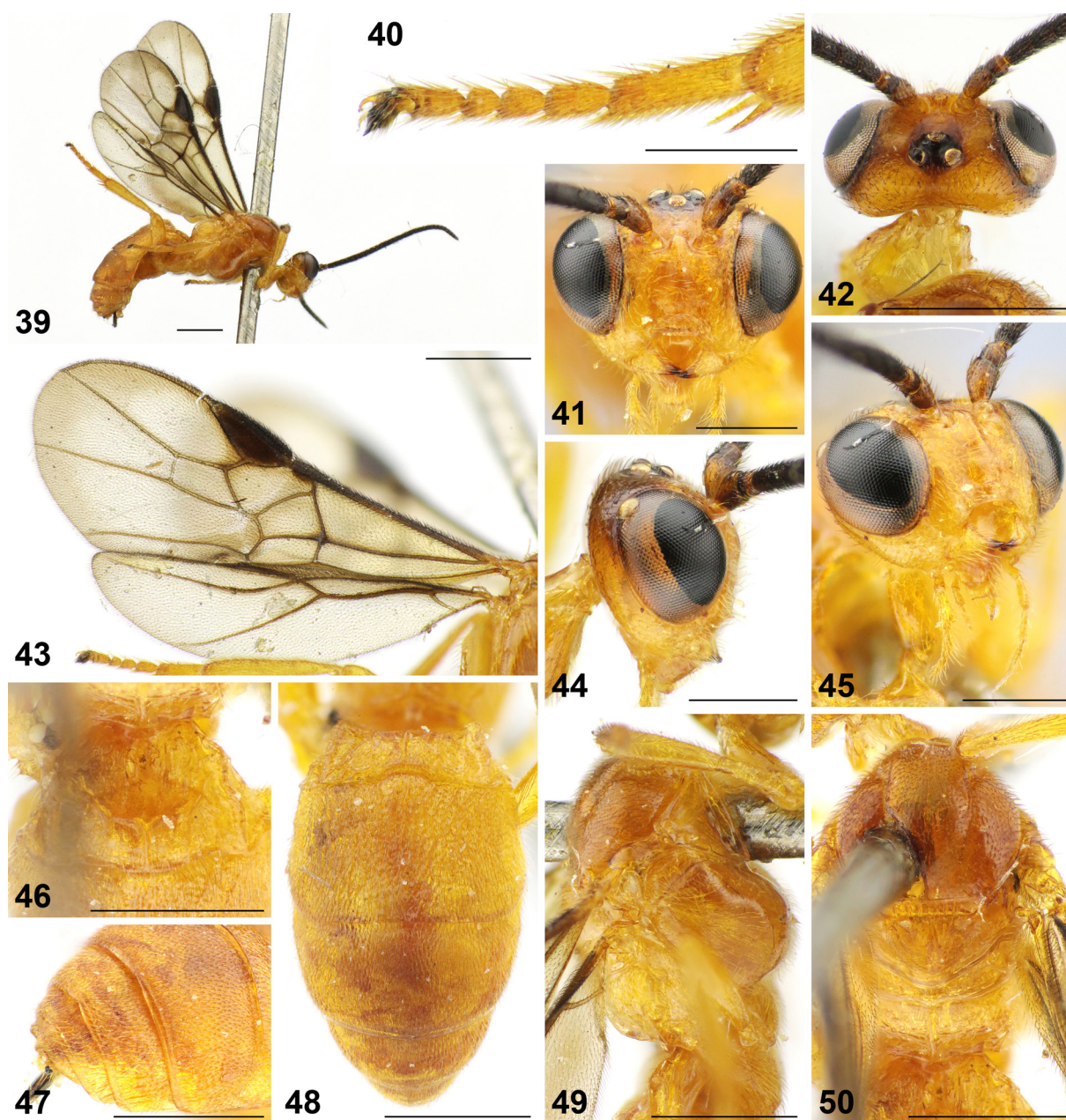
Redescription. Female. Body length 5.7 mm; fore wing length 5 mm.

Head. Width of head (dorsal view) 2 times its median length. Transverse diameter of eye (dorsal view) 2.7 times as long as temple. OOL 2.2× OD; POL 1.2× OD; OOL 1.9× POL. Frons not impressed behind antennae, with weak, psi-like mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 3.5 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face medially with almost indistinctly elevated smoothed triangle area above clypeus; with projecting upwards, wide, medially impressed mid-longitudinal carina. Face width 1.3 times combined height of face and clypeus; 2 times width of hypoclypeal depression. Width of hypoclypeal depression 1.3 times distance from depression to eye. Clypeus flattened, with weakly protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin sharp, height of clypeus 0.4 times width of hypoclypeal depression. Longitudinal diameter of eye 3.4 times as long as malar space (front view). Malar suture weakly impressed. Maxillary palp shorter than eye.

Antenna with 32 antennomeres. First flagellomere 1.6 times as long as its apical width, middle and penultimate flagellomeres 1.2 and 1.6 times as long as wide, respectively.

Mesosoma 1.4 times as long as its maximum height. Transverse pronotal sulcus deep and wide, crenulate anteriorly. Mesoscutum evenly setose, its width 1.1 times median length (dorsal view). Notauli very deep anteriorly, impressed and not united posteriorly. Scutellar sulcus 0.2 times as long as scutellum. Mesepimeral sulcus crenulate, mesopleural pit deep, furrow-like. Median area of metanotum with complete median carina. Metapleural sulcus crenulate. Propodeal spiracle vertical, located in middle of propodeum, weakly protruding. Mid-longitudinal keel on propodeum complete, branching.

Wings. Angle between veins C + SC + R and 1-SR 55–60°. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.4 times as long as pterostigma. Marginal cell about 9 times as long as distance



Figs 39–50. *Cassidibracon castus*, female, paratype.

39 – habitus, lateral view; 40 – hind tarsus; 41–42, 44–45 – head: 41 – front view, 42 – dorsal view, 44 – lateral view, 45 – anterolateral view; 43 – wings; 46 – T1, dorsal view; 47 – T3–T6, dorsolateral view; 48 – metasoma, dorsal view; 49–50 – mesosoma: 49 – lateral view, 50 – dorsal view. Scale bars: 39, 42–43, 46–50 – 1 mm; 40–41, 44–45 – 0.5 mm.

Рис. 39–50. *Cassidibracon castus*, самка, паратип.

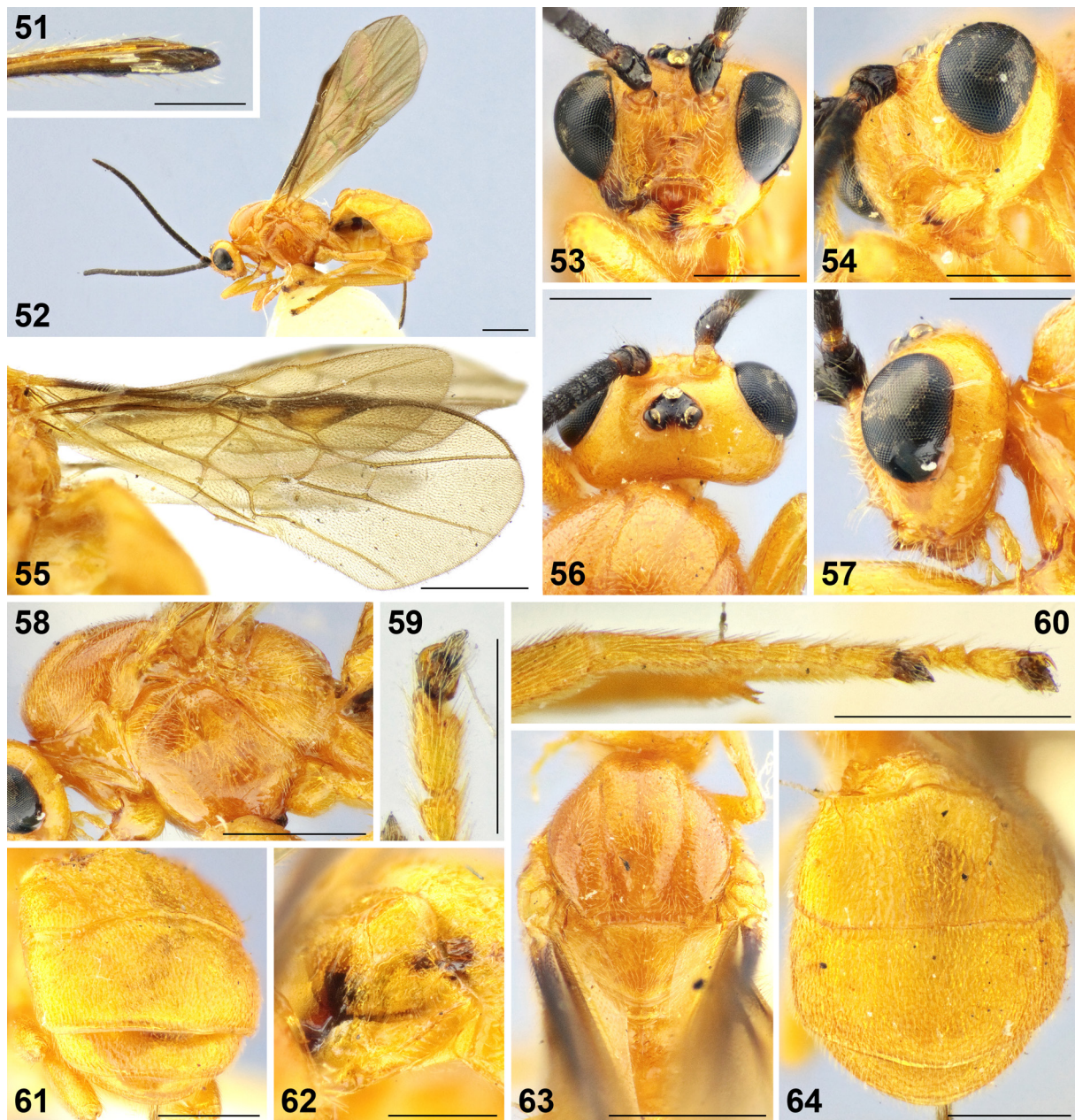
39 – общий вид сбоку; 40 – задняя лапка; 41–42, 44–45 – голова: 41 – вид спереди, 42 – вид сверху, 44 – вид сбоку, 45 – вид спереди/сбоку; 43 – крылья; 46 – T1, вид сверху; 47 – T3–T6, вид сверху/сбоку; 48 – метасома, вид сверху; 49–50 – мезосома: 49 – вид сбоку, 50 – вид сверху. Масштабные линейки: 39, 42–43, 46–50 – 1 мм; 40–41, 44–45 – 0.5 мм.

from its apex to apex of wing. Vein 3-SR 2.5× vein r, 0.3× vein SR1, 1.2× vein 2-SR. Vein 1-M 0.7× vein 1-SR + M, 2.2× vein m-cu, 1.7 times as long as vein cu-a. Vein 2-SR + M 0.4× vein 2-SR, 0.75× vein m-cu.

Legs. Fore tibia with transverse apical row of thick setae. Hind femur 3.3 times as long as wide. Hind tibia 1.3 times as long as hind femur, with subapical transverse row of spiny setae, its inner spur 0.45 times as long as hind basitarsus. Hind tarsus 0.9 times as long as hind tibia. Fifth segment of hind tarsus 0.5 times as long as hind basitarsus and 1.2 times as long as second segment.

Metasoma. Median length of T1 0.6 times its apical width. T2 medially 1.3 times as long as T3; basal width of T2 1.4 times its median length. Median area and mid-longitudinal keel of T2 absent. Suture between T2 and T3 almost straight. Posterior margins of T3–T6 laterally straight. Ovipositor sheath 0.35 times as long as hind tibia and 0.1 times as long as fore wing. Apex of ovipositor without nodus and with ventral serration [Quicke, 1987].

Sculpture. Frons, face, and malar space granulate; genae weakly coriaceous; vertex hardly coriaceous to smooth. Mesosoma mostly smooth; mesoscutum medially weakly granulate; metanotum



Figs 51–64. *Cassidibracon vannoorti* sp. n., females.

51, 54–56, 59–60, 63–64 – paratype; 52–53, 57–58, 61–62 – holotype. 51 – apex of ovipositor; 52 – habitus, lateral view; 53–54, 56–57 – head: 53 – front view, 54 – anterolateral view, 56 – dorsal view, 57 – lateral view; 55 – wings; 58, 63 – mesosoma: 58 – lateral view, 63 – dorsal view; 59 – apex of hind tarsus; 60 – hind tarsus; 61 – T2–T5, dorsolateral view; 62 – T1, dorsolateral view; 64 – metasoma, dorsal view. Scale bars: 51 – 0.25 mm; 52, 55, 58, 60–61, 63–64 – 1 mm; 53–54, 56–57, 59, 62 – 0.5 mm.

Рис. 51–64. *Cassidibracon vannoorti* sp. n., самки.

51, 54–56, 59–60, 63–64 – паратип; 52–53, 57–58, 61–62 – голотип. 51 – вершина яйцеклада; 52 – общий вид сбоку; 53–54, 56–57 – голова: 53 – вид спереди, 54 – вид спереди/сбоку, 56 – вид сверху, 57 – вид сбоку; 55 – крылья; 58, 63 – мезосома: 58 – вид сбоку, 63 – вид сверху; 59 – вершина задней лапки; 60 – задняя лапка; 61 – T2–T5, вид сверху/сбоку; 62 – T1, вид сверху/сбоку; 64 – метасома, вид сверху. Масштабные линейки: 51 – 0.25 мм; 52, 55, 58, 60–61, 63–64 – 1 мм; 53–54, 56–57, 59, 62 – 0.5 мм.

crenulate; propodeum anteriorly weakly granulate, hardly coriaceous posteriorly, medially with tree-like rugosity. Coxae smooth. T1 laterally rugose, its median area rugulose; T2 longitudinally rugose to rugulose; T3–T6 rugulose.

Colouration. Body mostly orange; malar space, palps, propleuron, tegulae, propodeum, and legs with yellow tint. Antenna black. Wing membrane brownish darkened (darker distally), pterostigma and wing veins brown.

Cassidibracon vannoorti sp. n.

(Figs 51–64)

Material. Holotype, ♀ (BMNH, NHMUK015215293): South Africa, “E. Cape Prov. Catberg. 15–30.i.1933.”; “S. Africa. R.E. Turner. Brit. Mus. 1933-108.” Paratypes: 1♀ (BMNH, NHMUK015215294), same labels as in holotype; 1♀ (BMNH, NHMUK010634738), “E. Cape Prov. Catberg. 1–10.ii.1933.”; “S. Africa. R.E. Turner. Brit. Mus. 1933-139.”

Description. Female. Body length 5.2–5.3 mm; fore wing length 5.2–5.6 mm.

Head. Width of head (dorsal view) 1.9–2 times its median length. Transverse diameter of eye (dorsal view) 1.6–1.8 times as long as temple. OOL 1.9–2.3× OD; POL 1.1–1.2× OD; OOL 1.8× POL. Frons with deep mid-longitudinal groove and shallow impressions behind antennae. Longitudinal diameter of eye in lateral view 1.4 times its transverse diameter; transverse diameter of eye 1.7–1.8 times minimum width of temple, hind margins of eye and temple parallel or broadened ventrally. Face medially with almost indistinctly elevated smoothed triangle area above clypeus; with projecting upwards mid-longitudinal carina. Face width 1.5–1.7 times combined height of face and clypeus, 1.9–2.3 times width of hypoclypeal depression. Width of hypoclypeal depression 1.2–1.4 times distance from depression to eye. Clypeus prominent, dorsal clypeal margin with weak dorsal carina; height of clypeus 0.3–0.4 times width of hypoclypeal depression. Longitudinal diameter of eye 2.6–2.9 times as long as malar space (front view). Malar suture deep below eye, weak near mandible, smooth. Maxillary palp shorter than eye.

Antenna with 31–32 antennomeres. First flagellomere 1.4–1.5 times as long as its apical width, middle and penultimate flagellomeres 0.95–1.1 and 1.2–1.5 times as long as wide, respectively.

Mesosoma 1.3 times as long as its maximum height. Transverse pronotal sulcus deep and wide, crenulate anteriorly. Mesoscutum evenly setose, its width 1.1–1.2 times its median length. Notauli very deep anteriorly, impressed and almost united posteriorly. Scutellar sulcus 0.1–0.2 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit weak, furrow-like. Median area of metanotum with incomplete median carina. Metapleural sulcus crenulate. Propodeal spiracle vertical, located in middle of propodeum, weakly protruding. Mid-longitudinal keel on propodeum complete, branching.

Wings. Angle between veins C + SC + R and 1-SR 70–75°. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.4–1.5 times as long as pterostigma. Marginal cell 6.9–7.4 times as long as distance from its apex to apex of wing. Vein 3-SR 2.9–3× vein r, 0.3–0.35× vein SR1, 1.1–1.3× vein 2-SR. Vein 1-M about 0.75× vein 1-SR + M, 1.9–2.1× vein m-cu, 1.5–1.6 times as long as vein cu-a. Vein 2-SR + M 0.45–0.5× vein 2-SR, 0.75–1.05× vein m-cu.

Legs. Fore tibia with wide longitudinal row of long thick setae. Hind femur 3.2–3.8 times as long as wide. Hind tibia 1.3–1.5 times as long as hind femur, with 2 thick setae subapically. Hind tarsus 0.80–0.85 times as long as hind tibia, its inner spur 0.45 times as long as hind basitarsus. Fifth segment of hind tarsus 0.55–0.6 times as long as hind basitarsus, 1.1–1.2 times as long as second segment.

Metasoma. Median length of T1 0.5–0.6 times its apical width. T2 medially 1–1.1 times as long as T3; basal width of T2 about 1.3 times its median length. Median area of T2 small, weakly separated, elongate-triangular, extending into weak incomplete mid-longitudinal keel. Suture between T2 and T3 weakly curved. Only posterior margin of T3 laterally weakly roundly protruding. Ovipositor sheath 0.8–0.85 times as long as hind tibia and 0.23–0.27 times as long as fore wing. Apex of ovipositor with weak nodus and distinct ventral serration.

Sculpture. Face and genae weakly granulate, frons and malar space granulate, vertex hardly coriaceous to smooth; mesoscutum and scutellum smooth, metanotum crenulate, propodeum weakly coriaceous, with tree-like rugosity on apical half, with transverse rugae along mid-longitudinal keel in basal half; coxae smooth; T1 laterally rugose, its median area smooth, T2 longitudinally rugose to rugulose, T3 rugose to rugulose, T4 rugulose to granulate-rugulose, T5 granulate-rugulose.

Colouration. Body ochre yellow, but mesosoma darker coloured; antenna and ocellar triangle black; maxillary palp yellow;

tegulae reddish yellow. Wing membrane brownish darkened, yellowish basally; pterostigma brownish yellow with brown front side and patch apically; wing veins yellowish brown.

Diagnosis. The differences between two known species of *Cassidibracon* are presented in the dichotomy below.

1. Longitudinal diameter of eye 3.4 times as long as malar space (front view). Face width 1.3 times combined height of face and clypeus. Transverse diameter of eye 2.7 times (dorsal view) and 3.5 times (lateral view) as long as temple. Median area of metanotum with complete median carina. T2 medially 1.3 times as long as T3. Ovipositor sheath 0.35 times as long as hind tibia and 0.1 times as long as fore wing. Median area and mid-longitudinal keel of T2 absent. Pterostigma brown *C. castus*
– Longitudinal diameter of eye 2.6–2.9 times as long as malar space (front view). Face width 1.5–1.7 times combined height of face and clypeus. Transverse diameter of eye 1.6–1.8 times (dorsal view) and 1.7–1.8 times (lateral view) as long as temple. Median area of metanotum with incomplete median carina. T2 medially 1–1.1 times as long as T3. Ovipositor sheath 0.8–0.85 times as long as hind tibia and 0.23–0.27 times as long as fore wing. Median area of T2 small, weakly separated, elongate-triangular, extending into weak incomplete mid-longitudinal keel. Pterostigma brownish yellow with brown front side and patch apically *C. vannoorsti* **sp. n.**

Etymology. The species is named in honour of Dr Simon van Noort whose help was crucial in determining the statuses of *Esenga*, *Cassidibracon*, and *Triaspidogastra*.

Genus *Crinibracon* Quicke, 1988

Crinibracon Quicke, 1988: 411 (type species *Crinibracon malayensis* Quicke, 1988). Gupta et al., 2016: 282.

= *Platybracon* Yang, Chen et Liu, 2008: 61 (nec Szépligeti, 1900: 49) (type species *Platybracon sinicus* Yang, Chen et Liu, 2008). Kittel, Quicke, 2015: 197 (as a junior synonym of *Crinibracon*).

Composition and distribution. *Crinibracon chromusae* Gupta et van Achterberg, 2016 (India), *C. indicus* Quicke, 1988 (India), *C. malayensis* Quicke, 1988 (Malaysia, Oriental China), *C. sinicus* (Yang, Chen et Liu, 2008) (Oriental China), *C. striatus* Quicke, 1988 (Papua New Guinea).

Redescription. Female. Head. Toruli somewhat protruding in dorsal view. Vertex (very) weakly longitudinally impressed behind ocelli. Face evenly convex, without elevated area above clypeus, with strong mid-longitudinal carina in upper part. Clypeus flattened, with weakly protruding ventral rim, dorsal clypeal margin sharp, dorsal carina absent or weak, clypeal sulcus absent. Malar suture deep and smooth. Hypostomal carina not or slightly protruding below mandible.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli deep, crenulate. Mesoscutum evenly setose. Median impression on mesopleuron vague. Median area of metanotum with incomplete median carina. Propodeal spiracle weakly protruding or with a tubercle above it.

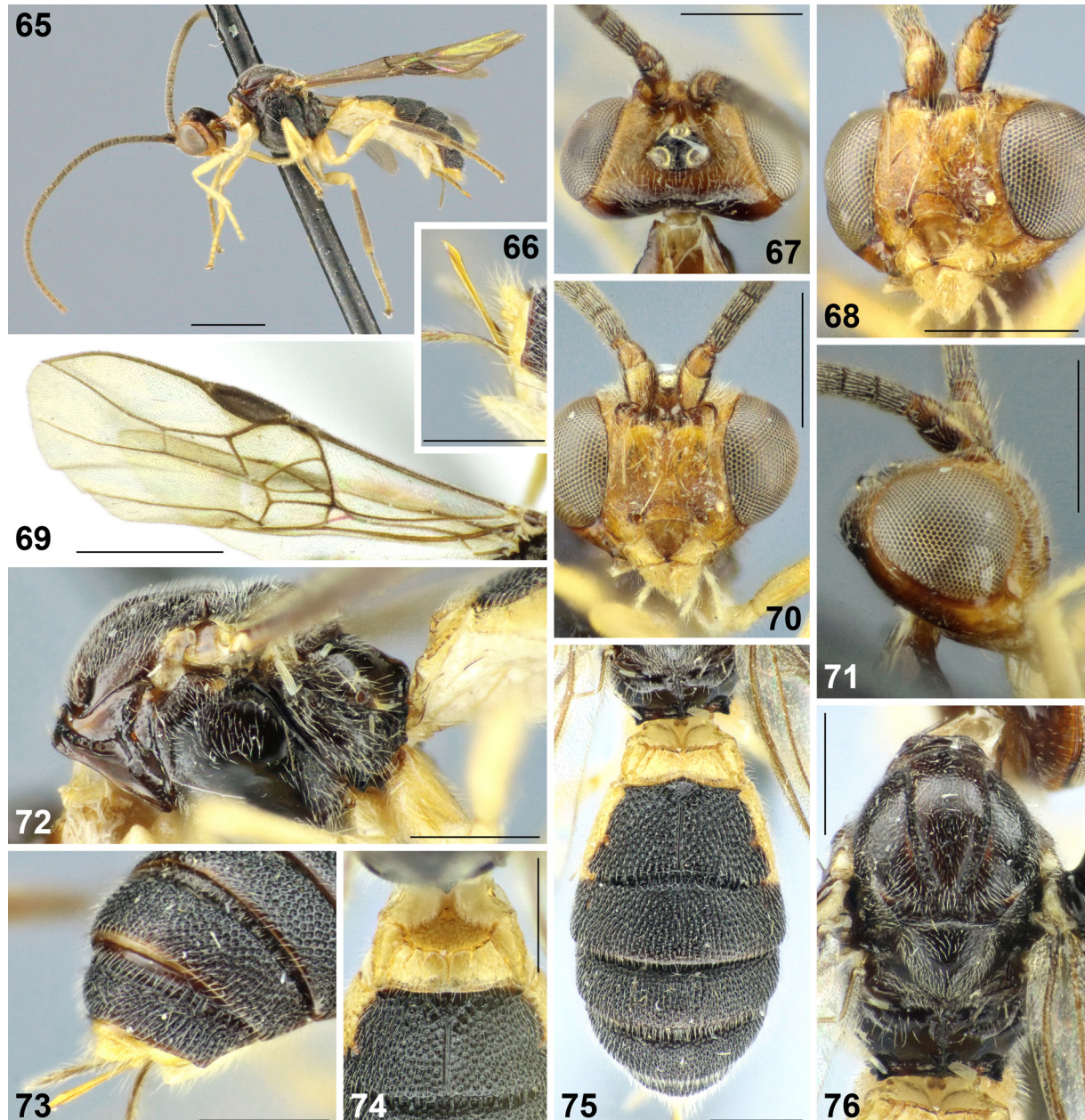
Wings. Angle between veins C + SC + R and 1-SR 50–60°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing. Hind wing vein r-m (weakly) antefurcal.

Legs. Fore tibia at most with weakly thickened setae and only subapically. Hind tibia without subapical row of thick setae. Claws with rounded or weakly angular basal lobe.

Metasoma with 6 dorsally visible tergites. T1 with weak mid-longitudinal impression, developed dorsolateral carinae, complete dorsal carinae, with short mid-longitudinal keel between dorsal carinae and hind margin of tergite; sublateral carinae absent. T2 with strong (almost) complete mid-longitudinal keel, deep crenulate dorsolateral impressions, and long sublateral carinae. Spiracle located at middle of T2.

Suture between T2 and T3 (weakly) curved. Anterolateral areas of T3–T6 absent. Posterior margins of T3–T6 laterally straight, with shallow weakly crenulate transverse subapical grooves (except *C. malayensis*). Ovipositor sheath 0.1–0.2 times as long as fore wing. Apex of ovipositor variable, with blunt dorsal nodus or dorsally roundly expanded dorsal valve and ventral valve with developed ventral serration or smooth and ventrally roundly expanded.

Sculpture. Head and mesosoma mostly smooth, metasomal tergites rugose or densely foveate.



Figs 65–76. *Crinibracon malayensis*, female, paratype.

65 – habitus, lateral view; 66 – ovipositor, lateral view; 67–68, 70–71 – head: 67 – dorsal view, 68 – anterolateral view, 70 – front view, 71 – lateral view; 69 – fore wing; 72, 76 – mesosoma: 72 – lateral view, 76 – dorsal view; 73 – T4–T6, dorsolateral view; 74 – T1 and T2, dorsal view; 75 – metasoma, dorsal view. Scale bars: 65, 69 – 1 mm; 66–68, 70–76 – 0.5 mm.

Рис. 65–76. *Crinibracon malayensis*, самка, паратип.

65 – общий вид сбоку; 66 – яйцеклад, вид сбоку; 67–68, 70–71 – голова: 67 – вид сверху, 68 – вид спереди/сбоку, 70 – вид спереди, 71 – вид сбоку; 69 – переднее крыло; 72, 76 – мезосома: 72 – вид сбоку, 76 – вид сверху; 73 – T4–T6, вид сверху/сбоку; 74 – T1 и T2, вид сверху; 75 – метасома, вид сверху. Масштабные линейки: 65, 69 – 1 мм; 66–68, 70–76 – 0.5 мм.

Crinibracon malayensis Quicke, 1988
(Figs 65–76)

Crinibracon malayensis Quicke, 1988: 412.

Material. 1♀, paratype (AEI), "Pasoh Forest Res., Negri S., Malaysia, III.27.78 forest, P. & M. Becker", "Paratype *Crinibracon malayensis* Det. D. Quicke 1987".

Redescription. Female. Body length 4.2 mm; fore wing length 3.7 mm.

Head. Width of head (dorsal view) 1.8 times its median length. Toruli somewhat protruding in dorsal view. Transverse diameter of eye (dorsal view) 3.7 times as long as temple. OOL 1.7× OD; POL 0.7× OD; OOL 2.4× POL. Frons with very deep mid-longitudinal groove and shallow impressions behind antennae. Longitudinal diameter of eye in lateral view 1.2 times its transverse diameter. Transverse diameter of eye (lateral view) 6 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face evenly convex, in upper half with strong mid-longitudinal carina. Face width 1.2 times combined height of face and clypeus, 2.5 times width of hypoclypeal depression. Width of hypoclypeal depression as large as distance from depression to eye. Clypeus flattened, with weakly protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin sharp; height of clypeus 0.4 times width of hypoclypeal depression. Longitudinal diameter of eye 3.4 times as long as malar space (front view). Malar suture deep, smooth. Maxillary palp much shorter than eye.

Antenna. First flagellomere 1.6 times as long as its apical width, middle flagellomeres 1.4 times as long as wide.

Mesosoma 1.3 times as long as its maximum height. Transverse pronotal sulcus deep and very wide, crenulate. Mesoscutum evenly setose, its width 1.2 times median length (dorsal view). Notauli deep, not united posteriorly. Scutellar sulcus 0.3 times as long as scutellum. Median impression on mesopleuron indistinct, mesepimeral sulcus weakly crenulate, mesopleural pit furrow-like. Median area of metanotum with incomplete median carina. Metapleural sulcus crenulate. Propodeum with a tubercle above spiracle, the latter round, located behind middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae.

Wings. Vein r arising from basal 0.3 of pterostigma. Vein 1-R1 1.7 times as long as pterostigma. Marginal cell 9 times as long as distance from its apex to apex of wing. Vein 3-SR 2.2× vein r, 0.45× vein SR1, 1.5× vein 2-SR. Vein 1-M 0.7× vein 1-SR + M, 2.5× vein m-cu, 2.1 times as long as vein cu-a. Vein 2-SR + M 0.4× vein 2-SR, 0.95× vein m-cu. Vein 1-SR + M curved anteriorly. Vein cu-a weakly postfurcal.

Legs. Fore tibia with no thick spines. Hind femur 3.9 times as long as wide. Hind tibia 1.5 times as long as hind femur, without subapical row of thick setae, its inner spur 0.35 times as long as hind basitarsus. Hind tarsus as long as hind tibia. Fifth segment of hind tarsus 0.5 times as long as hind basitarsus and as long as second segment. Claws with weakly protruding angular basal lobe.

Metasoma. Median length of T1 0.7 times its apical width. T2 medially 1.2 times as long as T3; basal width of T2 1.5 times its median length. T2 with strongly elevated small triangular median area and strong mid-longitudinal keel. Posterior margins of T3–T6 with no transverse subapical grooves. Ovipositor sheath 0.65 times as long as hind tibia and 0.18 times as long as fore wing. Apex of ovipositor with wide blunt dorsal nodus and with ventral serration.

Sculpture. Head and mesosoma mostly smooth, propodeum apically rugose, metanotum rugose. Median area of T1 weakly rugose. T2–T6 densely foveate.

Colouration. Scape rusty, laterally brown, flagellum dark brown. Head mostly yellowish brown; vertex and ocellar triangle brown; maxillary palps pale yellow. Mesosoma, metasoma dorsally, middle tarsus, hind tibia, and hind tarsus dark brown; tegulae yellowish brown; legs mostly, T1 and lateral sides of T2 yellow. Wing membrane brownish darkened, pterostigma and veins brown.

Crinibracon striatus Quicke, 1988
(Figs 77–88)

Crinibracon striatus Quicke, 1988: 413.

Material. 1♀, holotype (AEI), "Baiyer R., N. Guinea, XII.24–26.1978, 1100 m. J. Sedlacek", "Holotype *Crinibracon striatus* Quicke, Braconinae, Det. D. Quicke 1986".

Redescription. Female. Body length 5.2 mm; fore wing length 5.4 mm.

Head. Width of head (dorsal view) 2 times its median length. Toruli somewhat protruding in dorsal view. Transverse diameter of eye (dorsal view) 2.5 times as long as temple. OOL 2.5× OD; POL 1.1× OD; OOL 2.2× POL. Frons with very deep mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.2 times its transverse diameter. Transverse diameter of eye (lateral view) 3.2 times minimum width of temple, hind margins of eye and temple sub-parallel. Face evenly convex, in upper half with strong mid-longitudinal carina. Face width 1.2 times combined height of face and clypeus, 3 times width of hypoclypeal depression. Width of hypoclypeal depression 0.7 times distance from depression to eye. Clypeus flattened, with weakly protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin sharp; height of clypeus 0.65 times width of hypoclypeal depression. Longitudinal diameter of eye 2.3 times as long as malar space (front view). Malar suture deep, smooth. Maxillary palp longer than eye, but shorter than head.

Antenna. First flagellomere 2.1 times as long as its apical width, middle flagellomeres 1.4 times as long as wide.

Mesosoma 1.4 times as long as its maximum height. Transverse pronotal sulcus deep and wide, areolate anteriorly. Mesoscutum evenly setose, its width 1.1 times its median length (dorsal view). Notauli deep, almost united posteriorly. Scutellar sulcus 0.2 times as long as scutellum. Median impression on mesopleuron indistinct, mesepimeral sulcus smooth, mesopleural pit deep. Median area of metanotum with incomplete median carina. Metapleural sulcus smooth. Propodeal spiracle vertical, located behind middle of propodeum, weakly protruding. Mid-longitudinal keel on propodeum complete, with short transverse rugae.

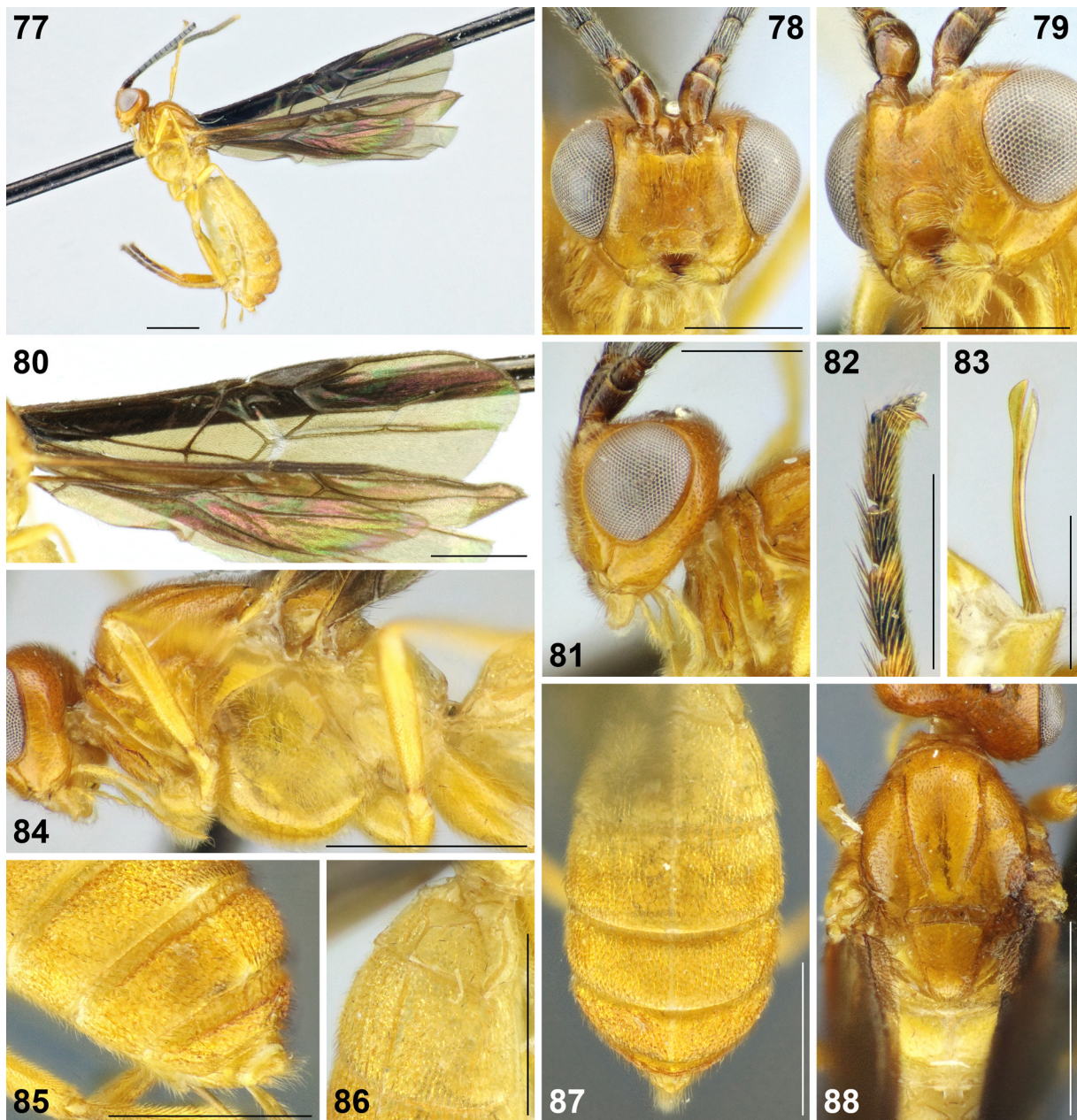
Wings. Vein r arising from basal 0.35 of pterostigma. Vein 1-R1 1.3 times as long as pterostigma. Marginal cell 8 times as long as distance from its apex to apex of wing. Vein 3-SR 2.6× vein r, 0.7× vein SR1, 2.2× vein 2-SR. Vein 1-M 0.8× vein 1-SR + M, 1.8× vein m-cu, 2.8 times as long as vein cu-a. Vein 2-SR + M 0.5× vein 2-SR, 0.7× vein m-cu. Vein 1-SR + M weakly curved anteriorly proximally. Vein cu-a interstitial.

Legs. Fore tibia with weakly thickened spines subapically. Hind femur 3.7 times as long as wide. Hind tibia 1.6 times as long as hind femur, without subapical row of thick setae, its inner spur 0.3 times as long as hind basitarsus. Hind tarsus almost as long as hind tibia. Fifth segment of hind tarsus 0.45 times as long as hind basitarsus and 0.7 times as long as second segment. Claws with not protruding, blunt basal lobe.

Metasoma. Median length of T1 0.6 times its apical width. T2 medially 1.1 times as long as T3; basal width of T2 1.2 times its median length. Median area of T2 absent, mid-longitudinal keel strong, extending on T3. Posterior margins of T3–T6 with shallow, weakly crenulate transverse subapical grooves. Ovipositor sheath 0.3 times as long as hind tibia and 0.08 times as long as fore wing. Apex of ovipositor with dorsally roundly protruding upper valve and ventrally roundly protruding lower valve.

Sculpture. Head and mesosoma smooth. T1 weakly rugulose to rugose; T2–T6 with weakening longitudinally rugose-punctate sculpture.

Colouration. Body mostly reddish yellow to rusty. Head ventrally, mesopleuron and propodeum, legs, and T1 and T2 yellow. Hind tarsus, ocellar triangle, and most of antenna brown. Flagellum brown with pale yellow subapical flagellomeres (apices of antennae absent). Wing membrane brownish darkened, pterostigma and wing veins brown.



Figs 77–88. *Crinibracon striatus*, female, holotype.

77 – habitus, lateral view; 78–79, 81 – head: 78 – front view, 79 – anterolateral view, 81 – lateral view; 80 – fore wing; 82 – apex of hind tarsus; 83 – ovipositor, lateral view; 84, 88 – mesosoma: 84 – lateral view, 88 – dorsal view; 85 – T4–T6, dorsolateral view; 86 – T1 and T2, dorsolateral view; 87 – metasoma, dorsal view. Scale bars: 77, 80, 84–88 – 1 mm; 78–79, 81–83 – 0.5 mm.

Рис. 77–88. *Crinibracon striatus* Quicke (голотип, самка, АЕИ).

77 – общий вид сбоку; 78–79, 81 – голова: 78 – вид спереди/сбоку, 79 – вид спереди/сбоку, 81 – вид сбоку; 80 – переднее крыло; 81 – голова, вид сбоку; 82 – вершина задней лапки; 83 – яйцеклад, вид сбоку; 84, 88 – мезосома: 84 – вид сбоку, 88 – вид сверху; 85 – T4–T6, вид сверху/сбоку; 86 – T1 и T2, вид сверху/сбоку; 87 – метасома, вид сверху. Масштабные линейки: 77, 80, 84–88 – 1 мм; 78–79, 81–83 – 0.5 мм.

Genus *Esenga* Cameron, 1906

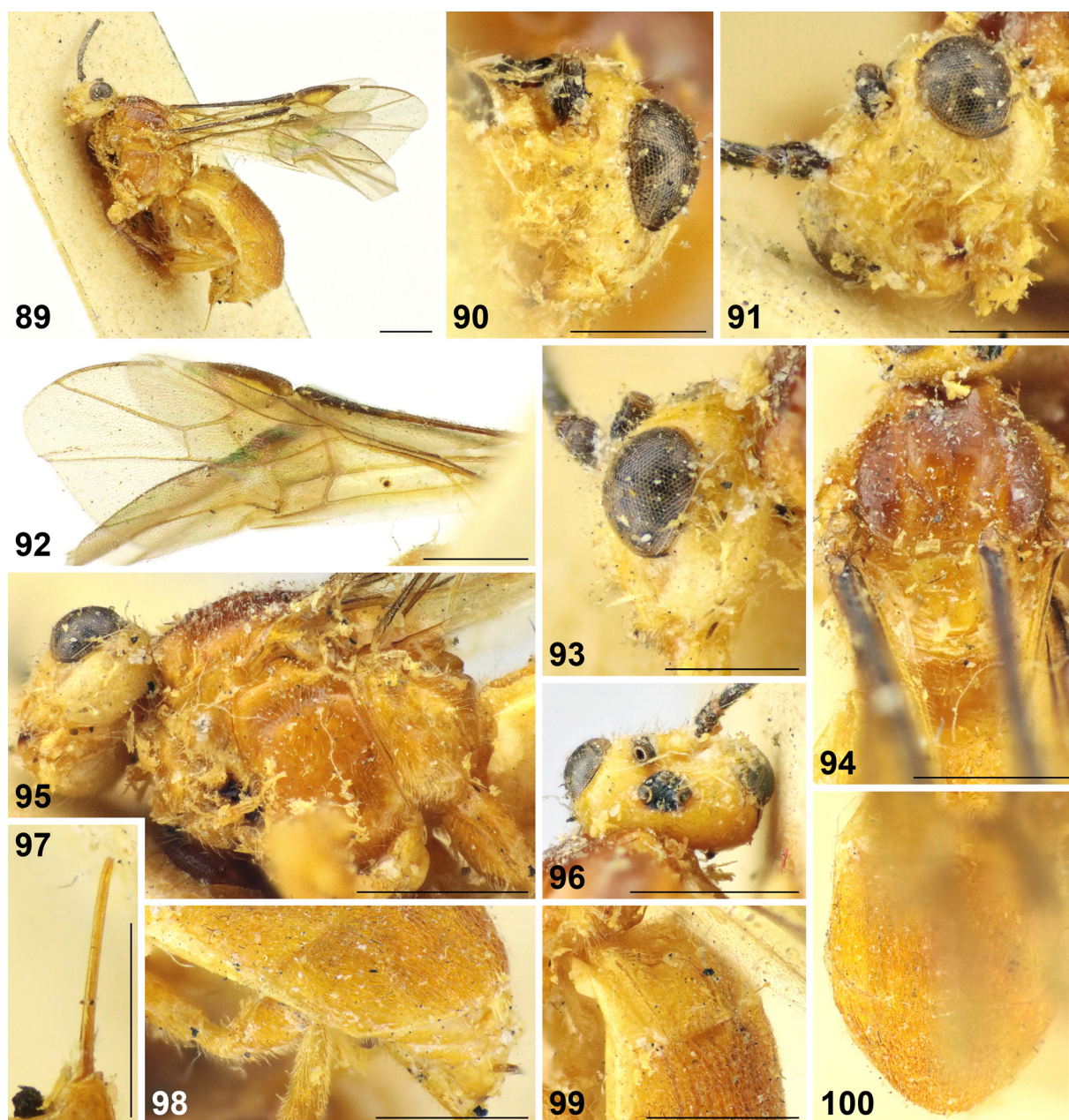
Esenga Cameron, 1906: 36 (type species *Esenga ovata* Cameron, 1906).

= *Triaspidoastra* Granger, 1949: 86 (type species *Triaspidoastra testacea* Granger, 1949), **syn. n.**

Note. Since the morphological differences between their type species are too weak (see below), *Triaspidoastra* is considered here a junior synonym of *Esenga*.

Composition and distribution. *Esenga ovata* Cameron, 1906 (Zimbabwe), *E. lutea* (Granger, 1949), **comb. n.** (Madagascar), *E. testacea* (Granger, 1949), **comb. n.** (Madagascar).

Redescription. Female. Head. Toruli not protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face not mid-longitudinally elevated, with projecting upwards between toruli, widened and elevated in upper part mid-longitudinal carina. Clypeus flattened or prominent, with protruding ventral rim; dorsal clypeal margin sharp or smoothed, with more or



Figs 89–100. *Esenga lutea* comb. n., female, lectotype.

89 – habitus, lateral view; 90–91, 93, 96 – head: 90 – front view, 91 – anterolateral view, 93 – lateral view, 96 – dorsal view; 92 – wings; 94–95 – mesosoma: 94 – dorsal view, 95 – lateral view; 97 – ovipositor, lateral view; 98 – apex of metasoma, dorsolateral view; 99 – T1, dorsolateral view; 100 – T2 and T3, dorsal view. Scale bars: 89, 92, 94–96, 98–100 – 1 mm; 90, 91, 93, 97 – 0.5 mm.

Рис. 89–100. *Esenga lutea* comb. n., самка, лектотип.

89 – общий вид сбоку; 90–91, 93, 96 – голова: 90 – вид спереди, 91 – вид спереди/сбоку, 93 – вид сбоку, 96 – вид сверху; 92 – крылья; 94–95 – мезосома: 94 – вид сверху, 95 – вид сбоку; 97 – яйцеклад, вид сбоку; 98 – вершина метасомы, вид сверху/сбоку; 99 – T1, вид сверху/сбоку; 100 – T2 и T3, вид сверху. Масштабные линейки: 89, 92, 94–96, 98–100 – 1 мм; 90, 91, 93, 97 – 0.5 мм.

less developed dorsal carina, clypeal sulcus absent. Malar suture absent. Hypostomal carina not protruding below mandible.

Mesosoma. Median lobe of mesoscutum strongly protruding (dorsal view). Notauli deep. Mesoscutum medially glabrous. Median impression on mesopleuron absent. Metanotum with incomplete median carina. Propodeum with weak tubercle above spiracle.

Wings. Angle between veins C + SC + R and 1-SR 60–75°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose in base of hind wing (or sparsely near vein cu-a). Hind wing vein r-m interstitial.

Legs. Fore tibia with weakly thickened longitudinal and transverse apical rows of long setae. Hind tibia with subapical transverse row of thick setae. Claws with acutely protruding basal lobe.

Metasoma with coarsely sclerotised T1–T3, T4–T7 more or less concealed. T1 with deep mid-longitudinal impression and developed dorsolateral carinae; dorsal carinae of T1 absent, sublateral carinae absent or complete. Median area and mid-longitudinal keel of T2 absent; dorsolateral impressions absent or weakly impressed; sublateral carinae long and extending on T3. Spiracle located in anterior part of T2. Anterolateral areas

absent or weakly defined by very shallow impressions only on T3. T3 narrowed posteriorly. Posterior margins of T3–T6 laterally straight, without transverse subapical grooves. Ovipositor sheath less than 0.1 times as long as fore wing.

Sculpture. Head and mesosoma mostly smooth, T1–T3 areolate-rugose to rugose, posterior tergites smooth.

A key to species of the genus *Esenga*

1. Temple broadened behind eyes (dorsal view), head behind eyes almost as wide as at the level of eyes. Vein C + SC + R reddish yellow. Vein cu-a postfurcal. Vein 1-M 1–1.1× vein 1-SR + M *E. testacea* **comb. n.**
- Temple not broadened, but roundly narrowed behind eyes (dorsal view), head behind eyes distinctly less wide than at the level of eyes. Vein C + SC + R brown. Vein cu-a interstitial. Vein 1-M 0.90–0.95× vein 1-SR + M *E. ovata* / *E. lutea* **comb. n.**

Comments. All three species are very similar to each other, and due to the scarcity of the material it is not possible to select reliable diagnostic characters. Almost all available for comparison characters (including proportions of the body parts) are identical in *E. ovata* and *E. lutea*. The only, minute, difference is in colouration: the head of *E. ovata* is dorsally brown while in *E. lutea* it is entirely yellow (except for stemmaticum). However, type specimens of both species are in very bad condition (and the large part of the body of *E. ovata* has a changed colour). In addition, only images of the holotype of *E. ovata* were examined in the current study. More material is required to decide whether *E. ovata* and *E. lutea* are synonyms or separate species.

Esenga lutea (Granger, 1949), **comb. n.** (Figs 89–100)

Triaspidoagastra lutea Granger, 1949: 88.

Material. 1♀, lectotype (here designated) (MNHN, EY19236), “♀”, “MNHN, Paris EY19236”, “Madagascar dr Sicard”, “Museum Paris, Coll. J. De Gaulle 1919”, “Lectotype”, “*Triaspidoagastra lutea* Granger, 1949”, “*Triaspidoagastra lutea* Granger, det. Belokobylskij, 2016”, “MNHN Paris”.

As indicated by Dr C. Villemant (personal communication), the second syntype female is absent in the MNHN collection.

Redescription. Female. Body length 5.5 mm; fore wing length 5.3 mm.

Head. Width of head (dorsal view) 1.8 times its median length. Transverse diameter of eye (dorsal view) 1.4 times as long as temple. OOL 2.7× OD; POL 1.6× OD; OOL 1.7× POL. Frons not impressed behind antennae, with 2 submedian longitudinal grooves. Longitudinal diameter of eye in lateral view 1.5 times its transverse diameter; transverse diameter of eye 1.1 times minimum width of temple, hind margins of eye and temple slightly broadened dorsally. Face width 1.9 times combined height of face and clypeus, 2.3 times width of hypoclypeal depression. Width of hypoclypeal depression as large as distance from depression to eye. Clypeus prominent, with protruding ventral rim, clypeal sulcus smoothed, height of clypeus 0.3 times width of hypoclypeal depression. Longitudinal diameter of eye 2.1 times as long as malar space (front view).

Antenna. First flagellomere 1.3 times as long as its apical width, middle flagellomeres 0.9 times as long as wide.

Mesosoma 1.4 times as long as its maximum height. Mesoscutum 1.2 times its median length (dorsal view). Median lobe of mesoscutum with strongly angularly protruding anterolateral angles (dorsal view). Notauli very deep anteriorly, impressed

and not united posteriorly. Scutellar sulcus 0.1 times as long as scutellum. Mesepimeral sulcus weakly crenulate, mesopleural pit weakly impressed. Metapleural sulcus smooth. Propodeal spiracle vertical, located in middle of propodeum. Mid-longitudinal keel on propodeum complete, branching posteriorly.

Wings. Vein r arising from middle of pterostigma. Vein 1-R1 1.3 times as long as pterostigma. Marginal cell 3.9 times as long as distance from its apex to apex of wing. Vein 3-SR 2.7× vein r, 0.3× vein SR1, 0.9× vein 2-SR. Vein 1-M 0.9× vein 1-SR + M, 2.5× vein m-cu, 2.1× vein cu-a. Vein 2-SR + M 0.55× vein 2-SR, 1.1× vein m-cu. Vein cu-a interstitial. Wing membrane evenly setose at base of hind wing. Legs. Hind femur 3.2 times as long as wide. Hind tibia 1.4 times as long as hind femur. Claws with small acute subapical protuberance.

Metasoma. Median length of T1 0.6 times its apical width. Sublateral carinae of T1 strongly developed, reaching posterior margin of tergite. T2 medially 1.1 times as long as T3, basal width of T2 1.3 times its median length. Suture between T2 and T3 weakly curved. Ovipositor sheath 0.15 times as long as hind tibia, 0.05 times as long as fore wing.

Sculpture. Head and mesosoma mostly smooth; malar space granulate; propodeum with tree-like rugosity in apical two thirds. T1 laterally rugose, its median area areolate-rugose posteriorly; T2 and T3 areolate-rugose to rugose, T4–T6 almost smooth.

Colouration. Body mostly yellowish brown. Head, maxillary palp, prothorax, tegulae, scutellum, legs, T1 and metasomal sternites yellow. Antenna and ocellar triangle brownish black. Wing membrane weakly darkened, pterostigma yellow with brownish front side, wing veins yellowish brown to brown.

Notes. *Esenga lutea* possibly represents a junior synonym of *E. ovata*.

Esenga ovata Cameron, 1906 (Figs 101–109)

Esenga ovata Cameron, 1906: 36.

Material. 1♀, holotype (SAMC, SAM-HYM-P002455), Zimbabwe, “Type”, “Rhodesia, Sebakwe / D. Dods. Nov. 1901”, “*Esenga ovata* Cam. Type Rhodesia”, “*Esenga ovata* Cameron C. van Achterberg, 1979 Holotype”, “Imaged WaspWeb LAS 4.9 SAMC 2019”.

Notes. According to the description, the type locality of the species is “Cape”. However, as the type label was written by P. Cameron himself (the hand recognised by C. van Achterberg) it must be assumed that the type locality was erroneously indicated in the description.

Esenga testacea (Granger, 1949), **comb. n.** (Figs 110–122)

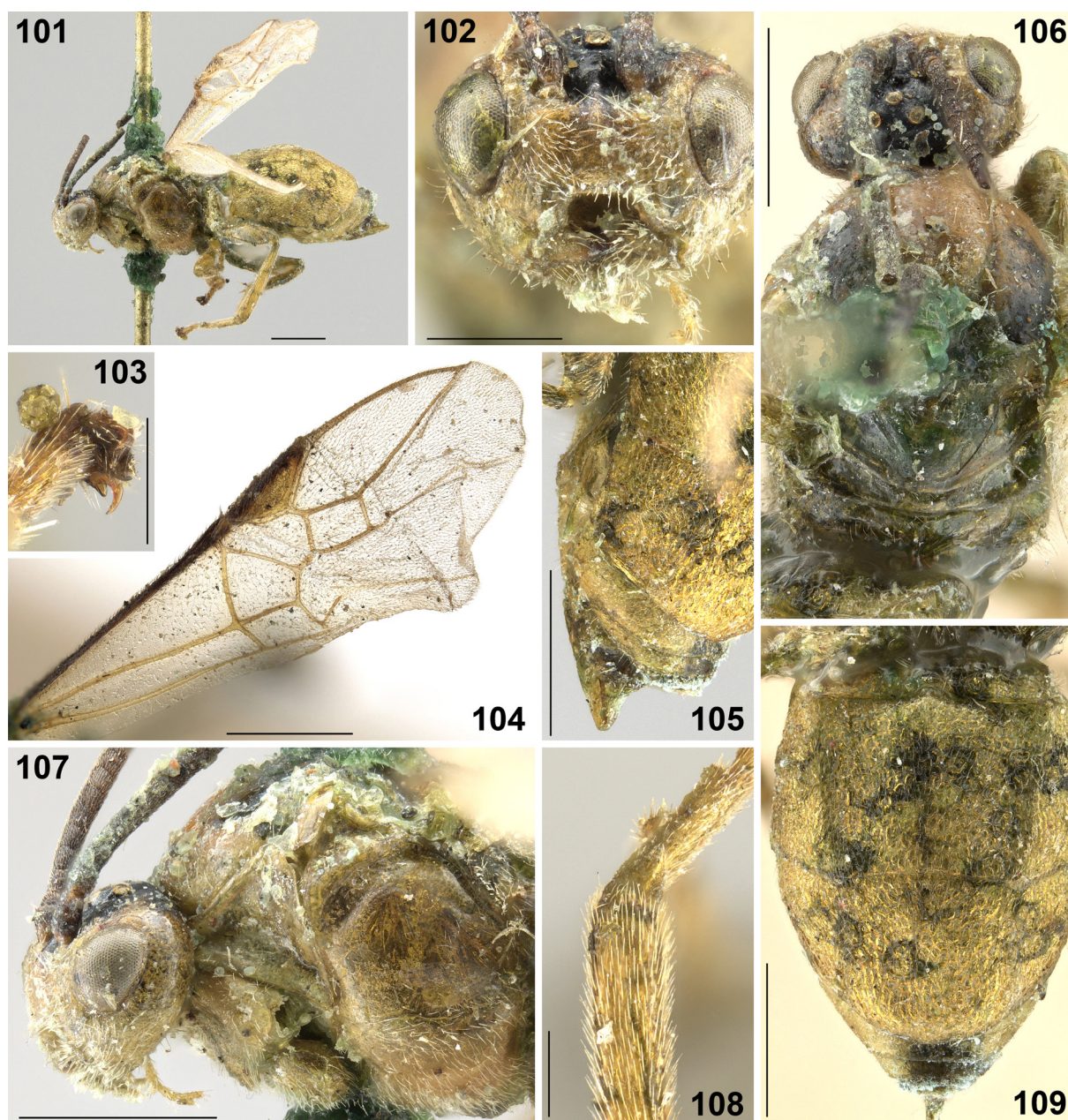
Triaspidoagastra testacea Granger, 1949: 87.

Material. 1♀, lectotype (designated here) (MNHN, EY19237), “♀”, “MNHN, Paris EY19237”, “Madagascar Bekily Rég. sud de l’île”, “Muséum Paris 1-[19]39, A. Seyrig”, “33”, “Type”, “Lectotype”, “*Triaspidoagastra testacea* Granger, 1949”, “*Triaspidoagastra testacea* Granger, det. Belokobylskij, 2016”, “MNHN Paris”.

Four paralectotype females located at MNHN were not examined (same locality and collector data as in the lectotype: EY19238, 01.1937; EY19239, 06.1936; EY19240, 01.1937; EY19241, 05.1940). Six syntypes were indicated in the original publication, but the sixth female was not found in the MNHN collection (Dr C. Villemant, personal communication).

Redescription. Female. Body length 7.1–7.2 mm; fore wing length 7–7.3 mm.

Head. Width of head (dorsal view) 1.8–1.9 times its median length. Transverse diameter of eye (dorsal view) 1–1.1 times as long as temple. OOL 3.2–3.8× OD; POL 1.8–2× OD; OOL 1.8–1.9× POL. Frons not impressed behind antennae, with 2 submedian longitudinal grooves. Longitudinal diameter of eye in lateral view 1.4–1.5 times its transverse diameter; transverse diameter of eye 0.9–1.1 times minimum width of temple, hind margins of eye and temple slightly broadened dorsally. Face width



Figs 101–109. *Esenga ovata*, female, holotype.

101 – habitus, lateral view; 102 – head, front view; 103 – apex of hind tarsus; 104 – fore wing; 105 – apex of metasoma, lateral view; 106–107 – mesosoma: 106 – dorsal view, 107 – lateral view; 108 – apex of hind tibia; 109 – metasoma, dorsal view. Scale bars: 101, 103–107, 109 – 1 mm; 102 – 0.5 mm; 108 – 0.25 mm.

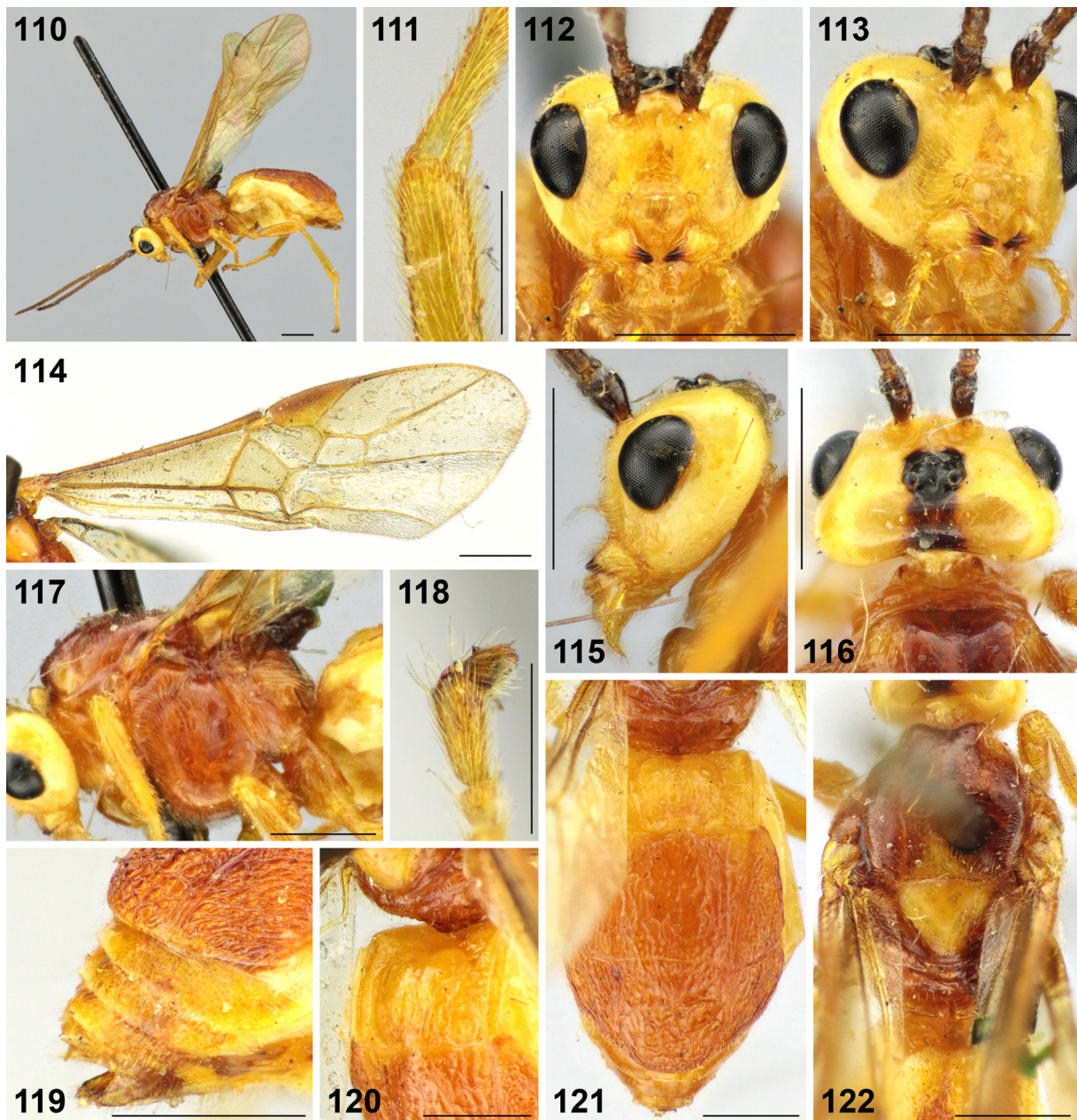
Рис. 101–109. *Esenga ovata*, самка, голотип.

101 – общий вид сбоку; 102 – голова, вид спереди; 103 – вершина задней лапки; 104 – переднее крыло; 105 – вершина метасомы, вид сбоку; 106–107 – мезосома: 106 – вид сверху, 107 – вид сбоку; 108 – вершина задней голени; 109 – метасома, вид сверху. Масштабные линейки: 101, 103–107, 109 – 1 мм; 102 – 0.5 мм; 108 – 0.25 мм.

1.9–2 times combined height of face and clypeus; 2–2.1 times width of hypoclypeal depression. Width of hypoclypeal depression 1.2–1.4 times distance from depression to eye. Clypeus prominent, with protruding ventral rim, clypeal sulcus smoothed, height of clypeus 0.25–0.3 times width of hypoclypeal depression. Longitudinal diameter of eye 1.9–2 times as long as malar space (front view).

Antenna with 33–35 antennomeres. First flagellomere 1.3–1.4 times as long as its apical width, middle and penultimate flagellomeres 1–1.1 and 1.3–1.4 times as long as wide, respectively.

Mesosoma 1.3 times as long as its maximum height. Mesoscutum 1–1.1 times its median length (dorsal view). Median lobe of mesoscutum with strongly angularly protruding anterolateral angles (dorsal view). Notauli very deep anteriorly, impressed and not united posteriorly. Scutellar sulcus 0.05–0.1 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit deep. Metapleural sulcus weakly crenulate. Propodeal spiracle vertical, located at middle of propodeum, propodeum with a tubercle above spiracle. Mid-longitudinal keel on propodeum complete, simple.



Figs 110–122. *Esenga testacea* comb. n., female, lectotype.

110 – habitus, lateral view; 111 – apex of hind tibia; 112–113, 115–116 – head: 112 – front view, 113 – anterolateral view, 115 – lateral view, 116 – dorsal view; 114 – fore wing; 117, 122 – mesosoma: 117 – lateral view, 122 – dorsal view; 118 – apex of hind tarsus; 119 – apex of metasoma, lateral view; 120 – T1, dorsolateral view; 121 – metasoma, dorsal view. Scale bars: 110, 112–117, 119–122 – 1 mm; 111, 118 – 0.5 mm.

Рис. 110–122. *Esenga testacea* comb. n., самка, лектотип.

110 – общий вид сбоку; 111 – вершина задней голени; 112–113, 115–116 – голова: 112 – вид спереди, 113 – вид спереди/сбоку, 115 – вид сбоку, 116 – вид сверху; 114 – переднее крыло; 117, 122 – мезосома: 117 – вид сбоку, 122 – вид сверху; 118 – вершина задней лапки; 119 – вершина метасомы, вид сбоку; 120 – T1, вид сверху/сбоку; 121 – метасома, вид сверху. Масштабные линейки: 110, 112–117, 119–122 – 1 мм; 111, 118 – 0.5 мм.

Wings. Vein r arising from basal 0.45 of pterostigma. Vein 1-R1 1.4–1.5 times as long as pterostigma. Marginal cell 3.2–5.9 times as long as distance from its apex to apex of wing. Vein 3-SR 2.9–3.3× vein r, 0.3× vein SR1, 1.2–1.3× vein 2-SR. Vein 1-M 1–1.1× vein 1-SR+M, 2.2–2.3× vein m-cu, 2.4–2.5× vein cu-a. Vein 2-SR+M 0.65–0.7× vein 2-SR, about 0.9× vein m-cu. Vein 1-SR+M weakly curved anteriorly. Vein cu-a postfurcal. Hind wing membrane with sparsely setosity near vein cu-a.

Legs. Hind femur 3.4–3.7 times as long as wide. Hind tibia 1.5–1.6 times as long as hind femur, its inner spur about 0.45 times

as long as hind basitarsus. Hind tarsus about 0.7 times as long as hind tibia. Fifth segment of hind tarsus about 0.6 times as long as hind basitarsus and 1.2 times as long as second segment. Claws with small acute subapical protuberance.

Metasoma. Median length of T1 0.75–0.85 times its apical width. Sublateral carinae of T1 absent. T2 medially about as long as T3, basal width of T2 1.3–1.4 times its median length. Suture between T2 and T3 weakly curved. Ovipositor sheath 0.15–0.2 times as long as hind tibia and 0.04–0.06 times as long as fore wing.

Sculpture. Head and mesosoma mostly smooth; malar space granulate-rugulose; propodeum medioposteriorly weakly rugose to smooth. T1 laterally rugose, its median area longitudinally rugose posteriorly; T2 and T3 areolate-rugose to rugose, T4–T6 almost smooth.

Colouration. Head and metasoma ventrally yellow; antenna mostly brown, flagellum medially with rusty tint; scape, ocellar triangle, and vertex medially dark brown; tegulae, scutellum, legs, T1, and T4–T7 reddish yellow. Wing membrane weakly darkened, pterostigma yellow with brownish front side, wing veins brown apically, but yellowish brown basally.

Genus *Esengoides* Quicke, 1989

Esengoides Quicke, 1989: 299 (type species *Esengoides crenulatus* Quicke, 1989).

Composition and distribution. *Esengoides crenulatus* Quicke, 1989 (Solomon Islands), *E. fulvus* Quicke, 1989 (Australia).

According to the description, *E. yunnanensis* Chen et Yang, 2006 has an ovipositor 0.7 times as long as the fore wing and, as it may be seen on the pictures, strong anterolateral areas on T3, and a smoothed or absent malar suture. Because of these character states *E. yunnanensis* is to be excluded from the genus *Esengoides*, it possibly belongs to the genus *Psilolobus*.

Redescription. Female. Head. Toruli somewhat protruding in dorsal view. Vertex at most very weakly longitudinally impressed behind ocelli. Face evenly convex. Clypeus flattened, with (weakly) protruding ventral rim; dorsal clypeal margin sharp, dorsal carina and clypeal sulcus absent. Malar suture deep and smooth. Hypostomal carina slightly protruding below mandible.

Mesosoma. Median lobe of mesoscutum not protruding (dorsal view). Notauli very deep and crenulate anteriorly, impressed and smooth posteriorly. Mesoscutum evenly setose. Precoxal sulcus weakly impressed and foveate anteriorly. Median area of metanotum with incomplete median carina. Propodeum with a tubercle above spiracle.

Wings. Angle between veins C + SC + R and 1-SR 50–60°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M straight or weakly curved anteriorly. Wing membrane evenly setose in base of hind wing. Hind wing vein r-m antefurcal.

Legs. Fore tibia only apically with thick spines. Hind tibia without subapical row of thick setae. Claws with large rounded basal lobe with small acute subapical protuberance.

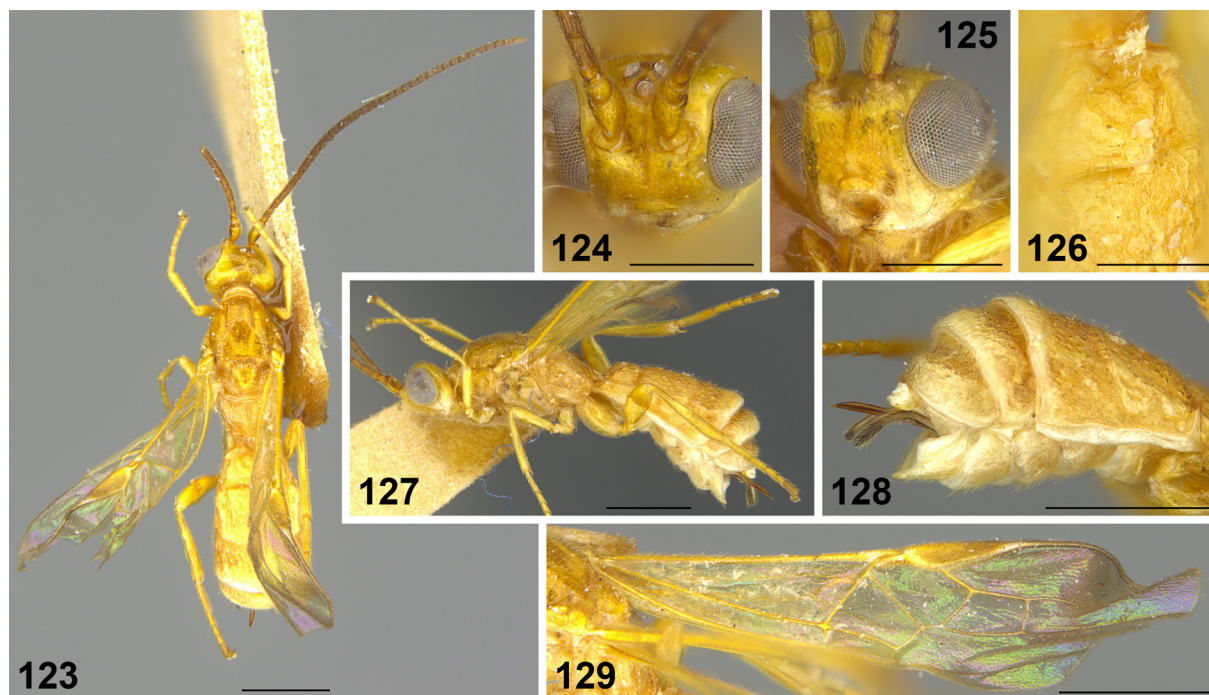
Metasoma with 5 dorsally visible tergites. T1 with weak mid-longitudinal impression and developed dorsolateral carinae; dorsal carinae absent, sublateral carinae strongly developed, complete. T2 with deep dorsolateral impressions and short sublateral carinae; median and anterolateral areas indistinct. Spiracle located at middle of T2. Suture between T2 and T3 straight. T3–T5 without anterolateral areas. Posterior margins of T3–T6 laterally straight, on T5 with crenulate transverse subapical grooves. T5 with wide protruding lamella, medially weakly emarginated. Ovipositor sheath 0.1–0.15 times as long as fore wing. Apex of ovipositor acute, without dorsal nodus and with weak ventral serration.

Sculpture. Head and mesosoma smooth, metasomal tergites rugose.

Note. A key to the species of the genus *Esengoides* is presented by Quicke [1989].

Esengoides crenulatus Quicke, 1989 (Figs 123–129)

Esengoides crenulatus Quicke, 1989: 300.

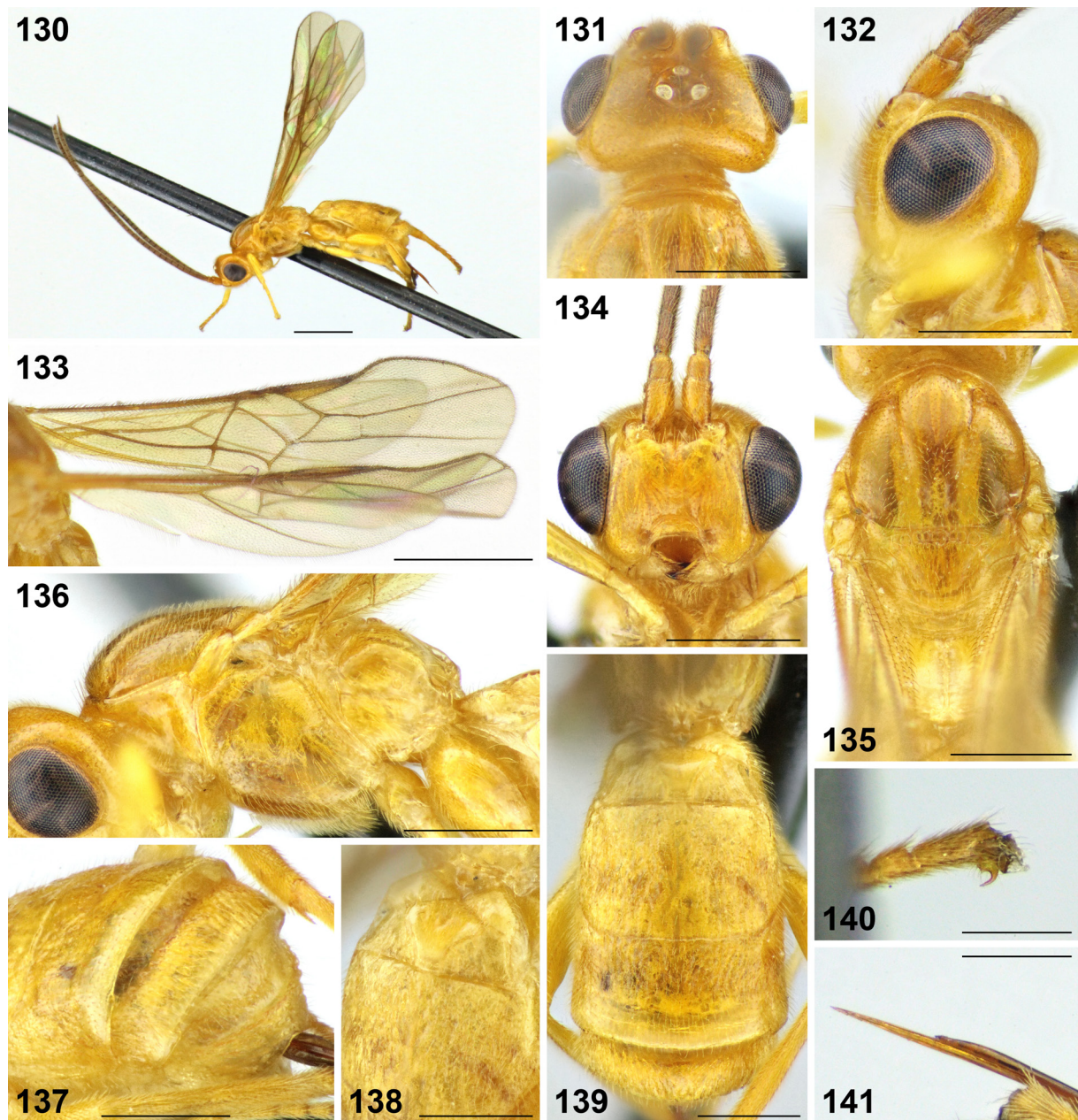


Figs 123–129. *Esengoides crenulatus*, female, holotype.

123, 127 – habitus: 123 – dorsal view, 127 – lateral view; 124–125 – head: 124 – front view, 125 – anterolateral view; 126 – T1, dorsolateral view; 128 – metasoma, lateral view; 129 – fore wing. Scale bars: 123, 127–129 – 1 mm; 124–126 – 0.5 mm.

Рис. 123–129. *Esengoides crenulatus*, самка, голотип.

123, 127 – общий вид: 123 – сверху, 127 – сбоку; 124–125 – голова: 124 – вид спереди, 125 – вид спереди/сбоку; 126 – T1, вид сверху/сбоку; 128 – метасома, вид сбоку; 129 – переднее крыло. Масштабные линейки: 123, 127–129 – 1 мм; 124–126 – 0.5 мм.



Figs 130–141. *Esengoides fulvus*, female, paratype.

130 – habitus, lateral view; 131–132, 134 – head: 131 – dorsal view, 132 – lateral view, 134 – front view; 133 – fore wing; 135–136 – mesosoma: 135 – dorsal view, 136 – lateral view; 137 – T3–T5, dorsolateral view; 138 – T1, dorsolateral view; 139 – metasoma, dorsal view; 140 – apex of hind tarsus; 141 – apex of ovipositor. Scale bars: 130, 133 – 1 mm; 131–132, 134–139 – 0.5 mm; 140–141 – 0.25 mm.

Рис. 130–141. *Esengoides fulvus*, самка, паратип.

130 – общий вид сбоку; 131–132, 134 – голова: 131 – вид сверху, 132 – вид сбоку, 134 – вид спереди; 133 – переднее крыло; 135–136 – мезосома: 135 – вид сверху, 136 – вид сбоку; 137 – T3–T5, вид сверху/сбоку; 138 – T1, вид сверху/сбоку; 139 – метасома, вид сверху; 140 – вершина задней лапки; 141 – вершина яйцеклада. Масштабные линейки: 130, 133 – 1 мм; 131–132, 134–139 – 0.5 мм; 140–141 – 0.25 мм.

Esengoides fulvus Quicke, 1989
(Figs 130–141)

Esengoides fulvus Quicke, 1989: 301.

Material. 1♀, paratype (AEI), Australia, Queensland, Bamaga, "Australia, N. Qld. Bamaga II.20.84 J. Sedlacek Rain forest", "Paratype *Esengoides fulus* Quicke".

Redescription. Female. Body length 3.4–3.9 mm; fore wing length 3.6–4 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2 times as long as

temple. OOL 2.4–2.7× OD; POL 0.8–0.9× OD; OOL 2.9–3× POL. Frons slightly convex, with deep mid-longitudinal groove. Vertex very weakly longitudinally impressed behind ocelli. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 2.3 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.4 times combined height of face and clypeus; 2.4 times width of hypoclypeal depression. Width of hypoclypeal depression 1.1 times distance from depression to eye. Height of clypeus 0.35 times width of hypoclypeal depression. Longitudinal diameter

of eye 2.3 times as long as malar space (front view). Maxillary palp longer than eye, but shorter than head.

Antenna with 35–37 antennomeres. First flagellomere 2.5 times as long as its apical width, middle and penultimate flagellomeres 1.4 and 1.7–1.8 times as long as wide, respectively.

Mesosoma 1.6–1.7 times as long as its maximum height. Transverse pronotal sulcus deep anteriorly and posteriorly, shallow medially, crenulate. Mesoscutum 1.1 times its median length (dorsal view). Scutellar sulcus about 0.2 times as long as scutellum. Mesepimeral sulcus crenulate, mesopleural pit deep, furrow-like. Metapleural sulcus smooth. Propodeal spiracle round, located behind middle of propodeum. Propodeum with weak complete mid-longitudinal impression. Mid-longitudinal keel on propodeum complete, with short transverse rugae.

Wings. Vein r arising from basal about 0.35 of pterostigma. Vein 1-R1 1.6 times as long as pterostigma. Marginal cell 8.5 times as long as distance from its apex to apex of wing. Vein 3-SR 1.5–1.9× vein r, 0.25–0.35× vein SR1, 1.1–1.2× vein 2-SR. Vein 1-M 0.7× vein 1-SR + M, 1.6× vein m-cu, 2× vein cu-a. Vein 2-SR + M 0.2× vein 2-SR, 0.25× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a interstitial.

Legs. Fore tibia with thick spines apically. Hind femur 2.8 times as long as wide. Hind tibia 1.4 times as long as hind femur, its inner spur 0.45 times as long as hind basitarsus. Hind tarsus about as long as hind tibia. Fifth segment of hind tarsus 0.5 times as long as hind basitarsus and 1.1 times as long as second segment.

Metasoma. Median length of T1 0.5 times its apical width. T2 medially 1.3 times as long as T3. Basal width of T2 1.3–1.5 times its median length. T2 with hardly distinct in posterior part of tergite mid-longitudinal carina. Ovipositor sheath about 0.6 times as long as hind tibia and 0.1–0.15 times as long as fore wing.

Sculpture. Head and mesosoma almost entirely smooth; face weakly punctate, propodeum posteriorly hardly coriaceous. T1 laterally rugulose, its median area obliquely rugulose posteriorly. T2 and T3 longitudinally rugose, T4 longitudinally rugose to rugulose, T5 weakly sub-transversely rugulose.

Colouration. Body mostly light ochre yellow. Vertex, mesosoma (except propleuron and propodeum) yellowish brown; tegulae yellow. Scape rusty, ventrally brown, flagellum reddish brown. Wing membrane weakly darkened, pterostigma brownish yellow with brown patches basally and apically, wing veins yellowish brown.

Genus *Gelasinibracon* Quicke, 1989

Gelasinibracon Quicke, 1989: 297 (type species *Gelasinibracon sedlaceki* Quicke, 1989). Samartsev, 2019: 76.

= *Pappobracon* Tobias in Belokobylskij, Tobias, 2000: 150 (as a subgenus of the genus *Bracon*) (type species *Bracon nodulosus* Papp, 1998). Samartsev, 2019: 76 (as a subgenus of *Gelasinibracon*).

Composition and distribution. *Gelasinibracon (Gelasinibracon) sedlaceki* Quicke, 1989 (Papua New Guinea), *G. (G.) simplicicaudatus* Quicke, 1989 (Papua New Guinea), *G. (Pappobracon) nodulosus* (Papp, 1998) (Palaeartic: Far East).

Redescription. Female. Head. Toruli not protruding in dorsal view. Vertex with or without mid-longitudinal sulcus. Face evenly convex. Clypeus flattened, ventral rim not protruding or protruding; dorsal carina absent or weak, clypeal sulcus absent or impressed, dorsal clypeal margin sharp or smoothed. Malar suture deep, smooth. Hypostomal carina not or slightly protruding below mandible.

Mesosoma. Median lobe of mesoscutum not or weakly protruding (dorsal view). Notauli deep anteriorly. Mesoscutum evenly setose. Median impression on mesopleuron absent or deep, pit-like. Median area of metanotum with incomplete or complete median carina. Propodeal spiracle not protruding.

Wings. Angle between veins C + SC + R and 1-SR variable, 40–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing. Hind wing vein r-m (strongly) antefurcal or interstitial.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae or only with weakly thickened spines sub-apically. Hind tibia without subapical row of thick setae or with 2 thick setae subapically. Claws with acute or blunt angularly protruding basal lobe.

Metasoma with 5 dorsally visible tergites (but T4 and T5 more or less retracted in the subgenus *Gelasinibracon*). T1 with weak or without mid-longitudinal impression and with developed dorsolateral carinae; dorsal carinae absent, sublateral carinae absent (but median area of T1 laterally compressed) or strongly developed and complete. Median area of T2 longitudinal, about half as wide or almost as wide as median area of T1, delineated by deep furrows and sharp margin. Mid-longitudinal keel of T2 absent. Dorsolateral impressions of T2 deep or shallow, sublateral carinae long, anterolateral areas absent. Spiracle located in anterior part or at middle of T2. Suture between T2 and T3 strongly curved medially. Anterolateral areas of T3–T5 absent. Posterior margins of T3–T5 with no transverse subapical grooves, laterally straight or weakly roundly protruding. Ovipositor sheath 0.1–0.15 times as long as fore wing. Apex of ovipositor with developed dorsal nodus and notch and ventral serration or smooth.

Sculpture. Body mostly smooth.

Notes. The key to the subgenera and species of *Gelasinibracon* was published earlier [Samartsev, 2019].

Gelasinibracon (Gelasinibracon) sedlaceki Quicke, 1989 (Figs 142–153)

Gelasinibracon sedlaceki Quicke, 1989: 298.

Material. 1♀, paratype (AEI), Papua New Guinea, “Wau, N. Guinea, 1250 m. II.13-III.13.79 J. Sedlacek, “Paratype *Gelasinibracon sedlaceki* Quicke, 1989”.

Redescription. Female. Body length 3.3 mm (Quicke [1989]: 3.1–3.5 mm); fore wing length 4 (3.9–4.2) mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.4 times as long as temple. OOL 2.2–2.3× OD; POL 0.8–0.9× OD; OOL 2.4–2.9× POL. Frons with deep mid-longitudinal groove and shallow impressions behind antennae. Vertex with deep mid-longitudinal sulcus. Longitudinal diameter of eye in lateral view 1.4 times its transverse diameter, transverse diameter of eye 3.4 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.2 times combined height of face and clypeus; 2.4 times width of hypoclypeal depression. Width of hypoclypeal depression 0.95 times distance from depression to eye. Clypeus with not protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin sharp, height of clypeus 0.45 times width of hypoclypeal depression. Longitudinal diameter of eye 2.8 times as long as malar space (front view). Maxillary palp shorter than eye.

Antenna with 29–35 antennomeres. First flagellomere 1.6 times as long as its apical width, middle and penultimate flagellomeres 1.3 and 1.7–1.9 times as long as wide, respectively.

Mesosoma 1.3 times as long as its maximum height. Transverse pronotal sulcus shallow, but complete and crenulate. Mesoscutum 1.2 times its median length (dorsal view). Scutellar sulcus 0.2 times as long as scutellum. Mesopleuron with deep pit in the middle. Mesepimeral sulcus smooth, mesopleural pit furrow-like. Metanotum with incomplete median carina. Metapleural sulcus smooth. Propodeal spiracle vertical, located at middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae; mid-longitudinal impression complete and shallow.

Wings. Angle between veins C + SC + R and 1-SR 60–65°. Vein r arising from basal 0.45–0.5 of pterostigma. Vein 1-R1



Figs 142–153. *Gelasinibracon (Gelasinibracon) sedlaceki*, female, paratype.

142 – habitus, lateral view; 143–144, 146 – head: 143 – dorsal view, 144 – lateral view, 146 – front view; 145 – fore wing; 147–148 – mesosoma: 147 – dorsal view, 148 – lateral view; 149, 151 – metasoma: 149 – dorsolateral view, 151 – dorsal view; 150 – T1, dorsal view; 152 – apex of hind tarsus; 153 – apex of ovipositor. Scale bars: 142, 145 – 1 mm; 143–144, 146–151, 153 – 0.5 mm; 152 – 0.25 mm.

Рис. 142–153. *Gelasinibracon (Gelasinibracon) sedlaceki*, самка, паратип.

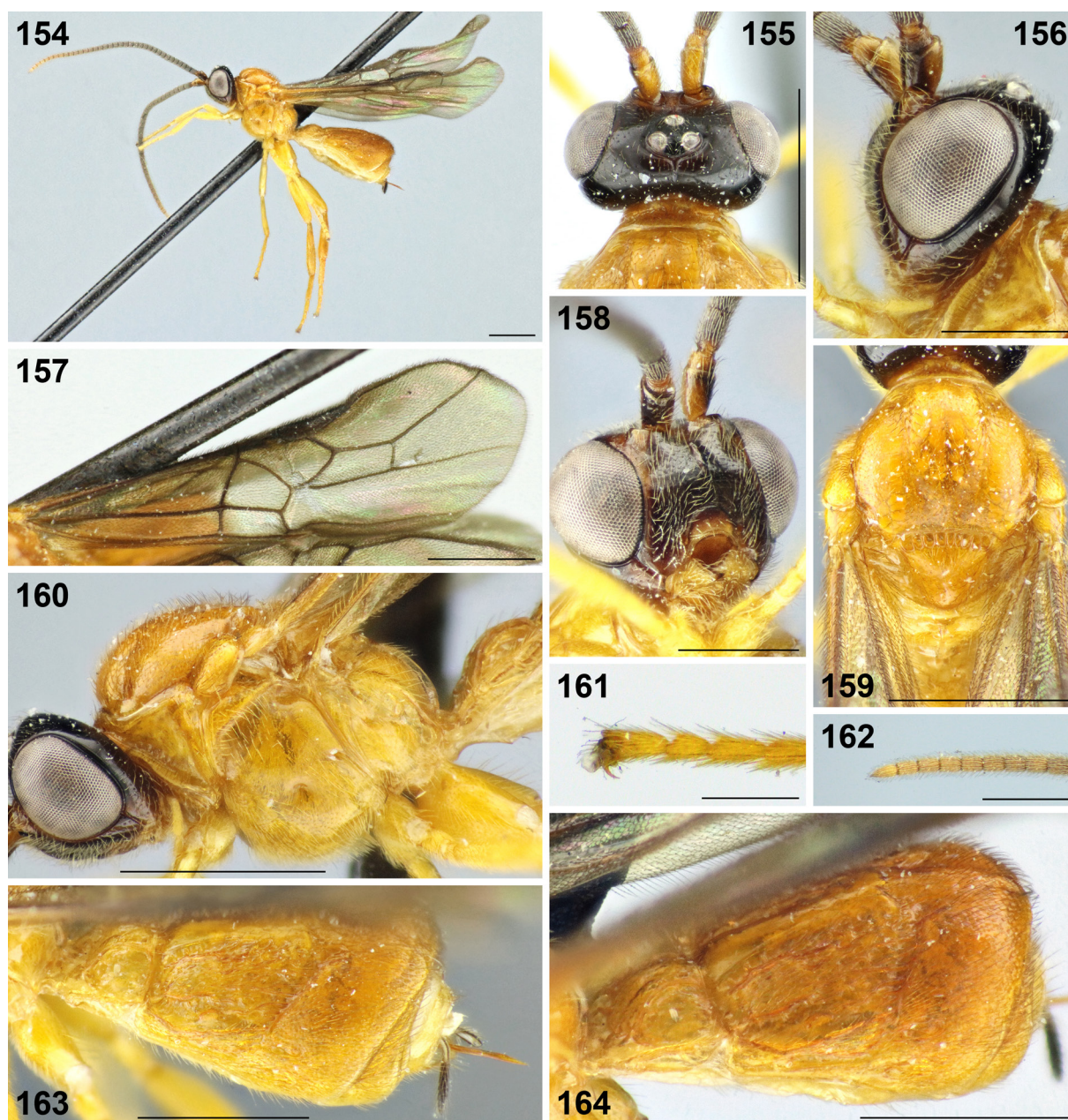
142 – общий вид сбоку; 143–144, 146 – голова: 143 – вид сверху, 144 – вид сбоку, 146 – вид спереди; 145 – переднее крыло; 147–148 – мезосома: 147 – вид сверху, 148 – вид сбоку; 149, 151 – метасома: 149 – вид сверху/сбоку, 151 – вид сверху; 150 – T1, вид сверху; 152 – вершина задней лапки; 153 – вершина яйцеклада. Масштабные линейки: 142, 145 – 1 мм; 143–144, 146–151, 153 – 0.5 мм; 152 – 0.25 мм.

1.8 times as long as pterostigma. Marginal cell 6.3 times as long as distance from its apex to apex of wing. Vein 3-SR 1.8–2× vein r, 0.25–0.35× vein SR1, 1.1–1.2× vein 2-SR. Vein 1-M 0.85× vein 1-SR + M, 1.8× vein m-cu, 2.2× vein cu-a. Vein 2-SR + M 0.35× vein 2-SR, 0.6× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a interstitial. Hind wing vein r-m antefurcal.

Legs. Fore tibia with weakly thickened spines sub-apically. Hind femur 3.3 times as long as wide. Hind tibia 1.5 times as long as hind femur, with 2 thick setae subapically, its inner spur 0.35 times as long as hind basitarsus. Hind tarsus about as long as

hind tibia. Fifth segment of hind tarsus 0.35 times as long as hind basitarsus and 0.7 times as long as second segment. Claws with large, protruding, and blunt basal lobe.

Metasoma. Median length of T1 0.7 times its apical width. T1 with weak mid-longitudinal impression. Sublateral carinae of T1 strongly developed, complete. T2 medially 2.6 times as long as T3. Basal width of T2 0.8 times its median length. Median area of T2 about half as wide as median area of T1, separated by smooth furrows. Suture between T2 and T3 curved backward, smooth. Posterior margins of T3–T5 laterally weakly roundly protruding.



Figs 154–164. *Gelasinibracon (Gelasinibracon) simplicicaudatus* paratype.

154 – habitus, lateral view; 155–156, 158 – head: 155 – dorsal view, 156 – lateral view, 158 – anterolateral view; 157 – fore wing; 159–160 – mesosoma: 159 – dorsal view, 160 – lateral view; 161 – middle leg, apex of tarsus; 162 – apex of antenna; 163 – metasoma, dorsolateral view; 164 – T1–T4, dorsolateral view. Scale bars: 154–155, 157, 159–160, 163–164 – 1 mm; 156, 158, 162 – 0.5 mm; 161 – 0.25 mm.

Рис. 154–164. *Gelasinibracon (Gelasinibracon) simplicicaudatus*, самка, паратип.

154 – общий вид сбоку; 155–156, 158 – голова: 155 – вид сверху, 156 – вид сбоку, 158 – вид спереди/сбоку; 157 – переднее крыло; 159–160 – мезосома: 159 – вид сверху, 160 – вид сбоку; 161 – средняя нога, вершина лапки; 162 – апикальные членики усика; 163 – метасома, вид сверху/сбоку; 164 – T1–T4, вид сверху/сбоку. Масштабные линейки: 154–155, 157, 159–160, 163–164 – 1 мм; 156, 158, 162 – 0.5 мм; 161 – 0.25 мм.

Ovipositor sheath 0.4 times as long as hind tibia and 0.1 times as long as fore wing. Apex of ovipositor with dorsal nodus and deep notch (looking bidental) and with ventral serration.

Sculpture. Body mostly smooth; T2 sparsely areolate to foveate on sides.

Colouration. Body mostly light brownish yellow. Head and mesosoma dorsally with darker brownish tint. Scape rusty, ventrally brown; flagellum brown; maxillary palps pale yellow; tegulae yellow. Wing membrane brownish darkened, pterostigma and wing veins brown.

Gelasinibracon (Gelasinibracon) simplicicaudatus
Quicke, 1989
(Figs 154–164)

Gelasinibracon simplicicaudatus Quicke, 1989: 298.

Material. 1♀, paratype (AEI), Papua New Guinea, “Bulolo, N. Guinea, II.13–III.13.79 900 m. J. Sedlacek, “Paratype *Gelasinibracon simplicicaudatus* Quicke, 1989”.

Redescription. Female. Body length 4.6 mm (Quicke [1989]: 4.1–4.5 mm); fore wing length 5 (4.3–5.2) mm.

Head. Width of head (dorsal view) 2 times its median length. Transverse diameter of eye (dorsal view) 2.5 times as long as temple. OOL 2× OD; POL 0.8× OD; OOL 2.5× POL. Frons weakly emarginate, with deep mid-longitudinal groove. Vertex with deep mid-longitudinal sulcus. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye (lateral view) 3.7 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.1 times combined height of face and clypeus; 2.5 times width of hypoclypeal depression. Width of hypoclypeal depression 0.95 times distance from depression to eye. Clypeus with not protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin sharp, height of clypeus 0.5 times width of hypoclypeal depression. Longitudinal diameter of eye 2.8 times as long as malar space (front view). Maxillary palp shorter than eye.

Antenna with 35–38 antennomeres. First flagellomere 1.3 times as long as its apical width, middle and penultimate flagellomeres 1.4 and 1.5–1.6 times as long as wide, respectively.

Mesosoma 1.3–1.4 times as long as its maximum height. Transverse pronotal sulcus shallow, but complete, crenulate. Median lobe of mesoscutum weakly protruding (dorsal view). Width of mesoscutum 1.2 times its median length (dorsal view). Notauli deep anteriorly, absent and not united posteriorly. Scutellar sulcus 0.2 times as long as scutellum. Mesopleuron with deep pit in the middle. Mesepimeral sulcus smooth, mesopleural pit deep, furrow-like. Metanotum with incomplete median carina. Metapleural sulcus weakly crenulate. Propodeal spiracle vertical, located in middle of propodeum. Mid-longitudinal keel on propodeum complete, with short transverse rugae; mid-longitudinal impression absent.

Wings. Angle between veins C + SC + R and 1-SR 65–70°. Vein r arising from basal 0.4–0.45 of pterostigma. Vein 1-R1 1.6 times as long as pterostigma. Marginal cell 4 times as long as distance from its apex to apex of wing. Vein 3-SR 1.9–2.1× vein r, 0.4–0.5× vein SR1, 1.2–1.3× vein 2-SR. Vein 1-M 0.8× vein 1-SR + M, 2.1× vein m-cu, 1.8× vein cu-a. Vein 2-SR + M 0.25× vein 2-SR, 0.5× vein m-cu. Vein 1-SR + M curved anteriorly. Vein cu-a interstitial. Hind wing vein r-m strongly antefurcal.

Legs. Fore tibia with weakly thickened spines sub-apically. Hind femur 3.6 times as long as wide. Hind tibia 1.4 times as long as hind femur, without subapical row of thick setae, its inner spur 0.35 times as long as hind basitarsus. Hind tarsus nearly as long as hind tibia. Fifth segment of hind tarsus 0.35 times as long as hind basitarsus and 0.7 times as long as second segment. Claws with protruding and more or less acute basal lobe.

Metasoma. Median length of T1 0.6 times its apical width. T1 with weak mid-longitudinal impression. Sublateral converging carinae of T1 strongly developed, complete. T2 medially 1.5 times as long as T3. Basal width of T2 1.1 times its median length. Median area of T2 about half as wide as median area of T1, separated by crenulate furrows. Suture between T2 and T3 strongly curved medially, crenulate. Posterior margins of T3–T5 laterally weakly roundly protruding. Ovipositor sheath 0.4 times as long as hind tibia and 0.1 times as long as fore wing. Apex of ovipositor acute, with smoothed nodus (dorsal side weakly protruding subapically) and no ventral serration.

Sculpture. Body mostly smooth; T2 laterally areolate-rugose.

Colouration. Similar to *G. sedlaceki*, but with dark brown head, lighter coloured apical flagellomeres, and yellowish brown hind tibia and tarsus.

Gelasinibracon (Pappobracon) nodulosus (Papp, 1998)
(Figs 165–174)

Bracon (Foveobracon) nodulosus Papp, 1998: 102.

Bracon (Pappobracon) nodulosus: Belokobylskij, Tobias, 2000: 150 (in key).

Gelasinibracon (Pappobracon) nodulosus: Samartsev, 2019: 76.

Material. 1♀, holotype (HNHM, 123429), North Korea, Gangwon-do, Kumgang Mountain, Lake Samilpo, 18.06.1988 (O. Merkl, G. Szél); 1♀ (ZISP, KS.A0137), Japan, Kumamoto, Momiki, 700 m, Izumi-mura, 20.07.1992 (V.N. Makarkin); 1♂ (ZISP, Hym.KS_0005184), South Korea, Gyeongsangnam-do, Sancheong-gun, 30 km NNW of Jinju, forest, 800 m, 12.06.2002 (S.A. Belokobylskij); 1♀ (ZISP, Hym.KS_0005190), 1♂ (ZISP, Hym.KS_0005191), same data as for preceding, but 29.06.2002; 1♀ (ZISP, Hym.KS_0005185), same data as for preceding, but 10.07.2002.

Redescription. Female. Body length 1.7–2.4 mm; fore wing length 2–2.4 mm.

Head. Width of head (dorsal view) 1.8–1.9 times its median length. Transverse diameter of eye (dorsal view) 1.8–2 times as long as temple. OOL 2.3–2.8× OD; POL 1.1–1.3× OD; OOL 2.1–2.4× POL. Frons not impressed behind antennae, with deep mid-longitudinal groove. Vertex without mid-longitudinal sulcus. Longitudinal diameter of eye in lateral view 1.4–1.5 times its transverse diameter; transverse diameter of eye (lateral view) 1.9–2.2 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.2–1.3 times combined height of face and clypeus; 2.1–2.4 times width of hypoclypeal depression. Width of hypoclypeal depression 1.1–1.2 times distance from depression to eye. Clypeus flattened, with weakly protruding ventral rim, clypeal sulcus absent, dorsal clypeal margin more or less sharp, height of clypeus 0.3 times width of hypoclypeal depression. Longitudinal diameter of eye 2.5–2.8 times as long as malar space (front view). Maxillary palp longer than eye, but shorter than head.

Antenna with 18–19 antennomeres. First flagellomere 2.7–3.1 times as long as its apical width, middle and penultimate flagellomeres 2.3–2.6 and 2.4–2.6 times as long as wide, respectively.

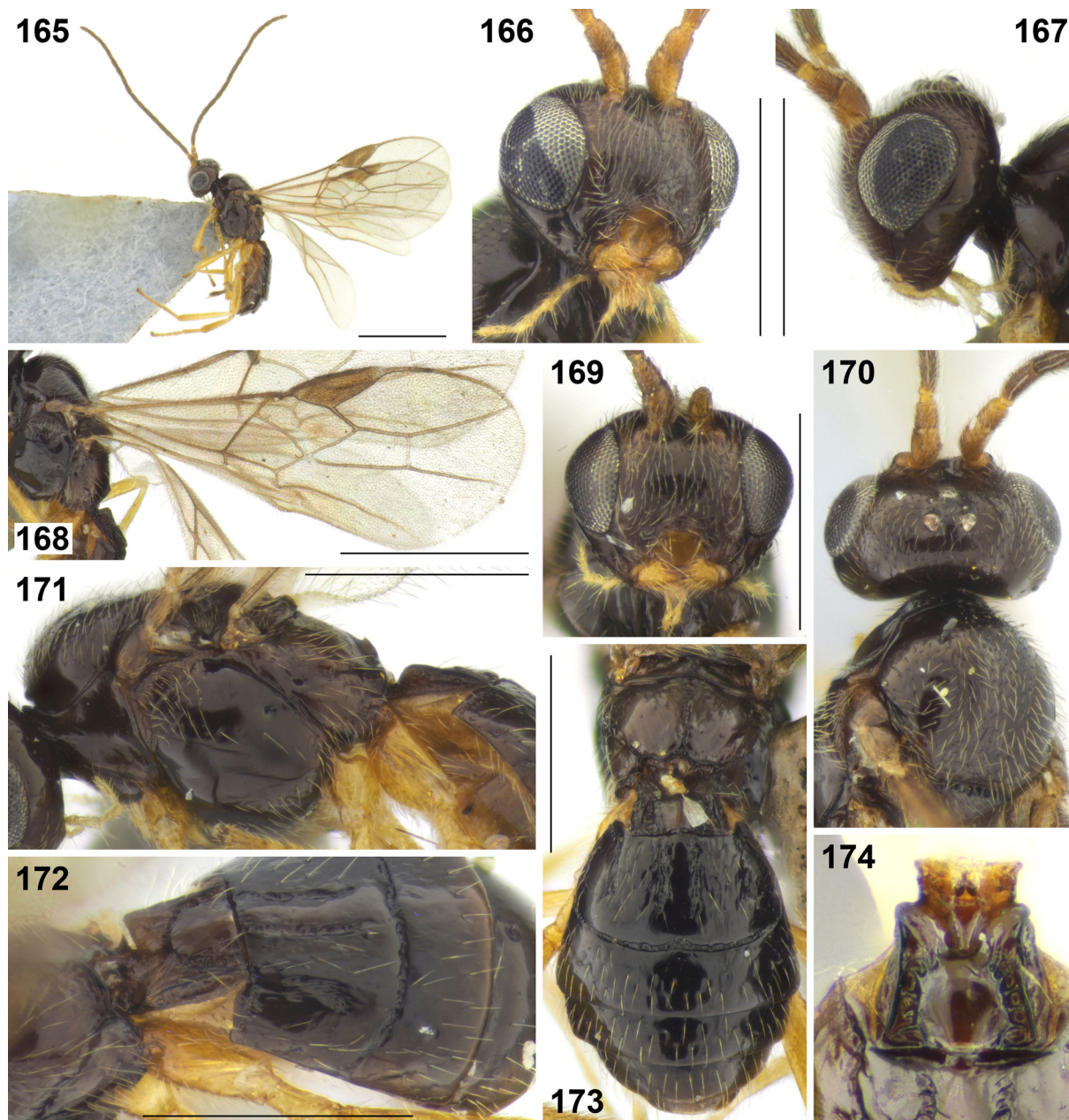
Mesosoma 1.4–1.5 times as long as its maximum height. Transverse pronotal sulcus deep, crenulate. Median lobe of mesoscutum not protruding (dorsal view). Mesoscutum 1.2 times its median length (dorsal view). Notauli deep anteriorly, shallow posteriorly. Scutellar sulcus 0.1–0.15 times as long as scutellum. Median impression on mesopleuron indistinct. Mesepimeral sulcus smooth, mesopleural pit deep. Median area of metanotum with complete median carina. Metapleural sulcus not deep, smooth. Propodeal spiracle round, located at middle of propodeum. Mid-longitudinal keel developed in apical third of propodeum, simple; mid-longitudinal impression deep and crenulate.

Wings. Angle between veins C + SC + R and 1-SR 40–55°. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.3–1.4 times as long as pterostigma. Marginal cell 5–15 times as long as distance from its apex to apex of wing. Vein 3-SR 1.5× vein r, 0.45–0.5× vein SR1, 0.9–1× vein 2-SR. Vein 1-M 0.65–0.75× vein 1-SR + M, 1.6× vein m-cu, 2.5–2.6× vein cu-a. Vein 2-SR + M 0.1× vein 2-SR, 0.15–0.2× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a interstitial. Hind wing vein r-m interstitial.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae. Hind femur 3.7–3.9 times as long as wide. Hind tibia 8–8.6 times as long as wide, 1.5–1.6 times as long as hind femur, its inner spur 0.3 times as long as hind basitarsus. Hind tarsus 0.95 times as long as hind tibia. Fifth segment of hind tarsus 0.45–0.47 times as long as hind basitarsus and 0.85–0.95 times as long as second segment. Claws with acute angularly protruding basal lobe.

Metasoma. Median length of T1 0.9–1.05 times its apical width. T1 with no mid-longitudinal impression. Sublateral carinae of T1 absent, but median area of tergite laterally compressed. T2 medially 1.4 times as long as T3. Basal width of T2 1.2–1.3 times its median length. Median area of T2 almost as wide as median area of T1, separated by crenulate furrows. Suture between T2 and T3 strongly curved, crenulate. Posterior margins of T3–T6 laterally straight. Ovipositor sheath 0.5–0.55 times as long as hind tibia and 0.14–0.15 times as long as fore wing. Apex of ovipositor acute, dorsal side weakly protruding, ventral serration indistinct.

Sculpture. Body entirely smooth.



Figs 165–174. *Gelasinibracon (Pappobracon) nodulosus*, female.

165 – habitus, lateral view; 166–167, 169–170 – head: 166 – anterolateral view, 167 – lateral view, 169 – front view, 170 – dorsal view; 168 – fore wing; 171 – mesosoma, lateral view; 172–173 – metasoma: 172 – dorsolateral view, 173 – dorsal view; 174 – T1, dorsal view. Scale bars: 165, 168 – 1 mm; 166–167, 169–174 – 0.5 mm.

Рис. 165–174. *Gelasinibracon (Pappobracon) nodulosus*, самка.

165 – общий вид сбоку; 166–167, 169–170 – голова: 166 – вид спереди/сбоку, 167 – вид сбоку, 169 – вид спереди, 170 – вид сверху; 168 – переднее крыло; 171 – мезосома, вид сбоку; 172–173 – метасома: 172 – вид сверху/сбоку, 173 – вид сверху; 174 – T1, вид сверху. Масштабные линейки: 165, 168 – 1 мм; 166–167, 169–174 – 0.5 мм.

Colouration. Body dark brown; scape brownish yellow; maxillary palps yellow; legs brownish yellow. Wing membrane weakly darkened, pterostigma brown, wing veins pale brown.

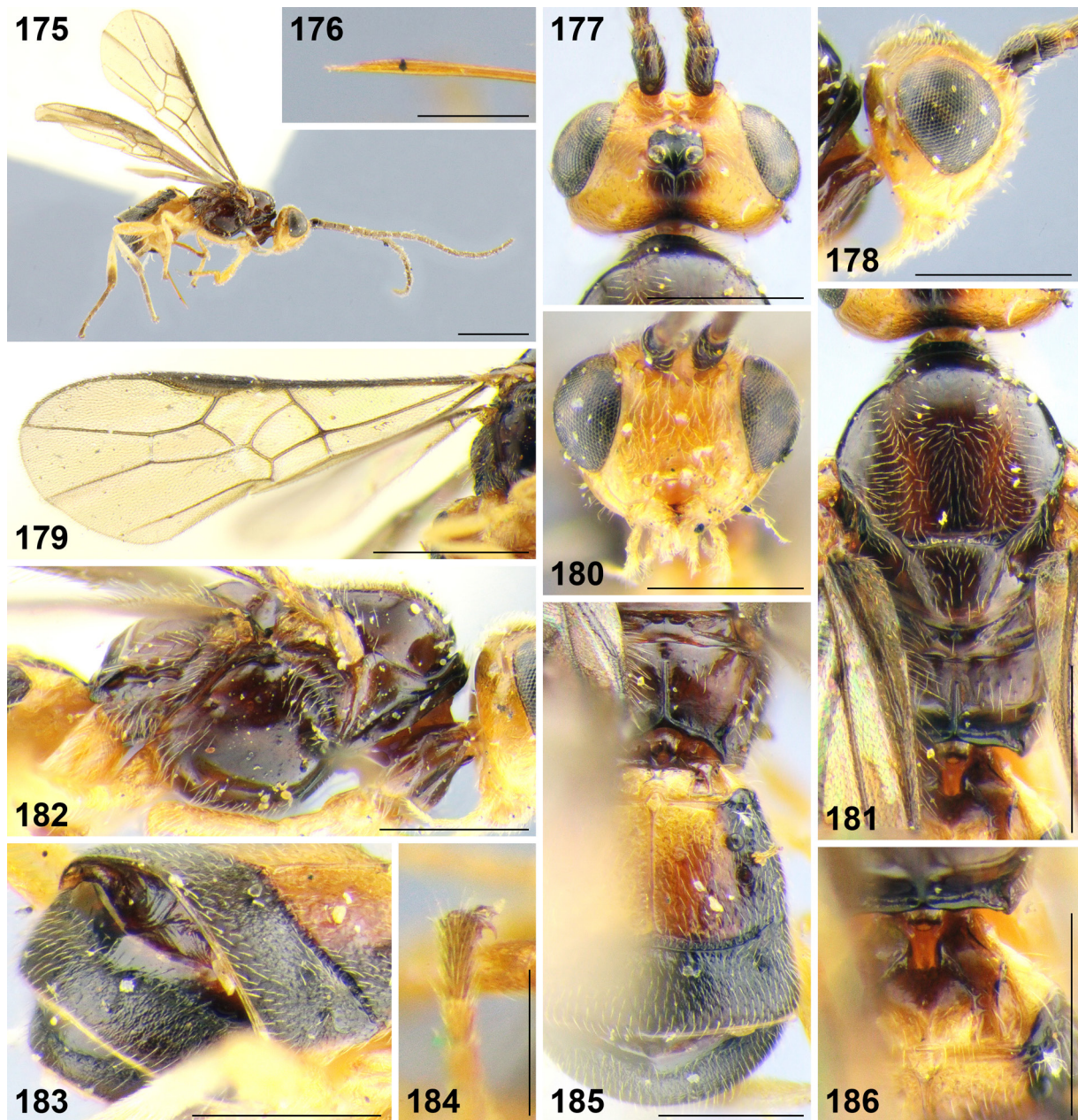
Male. Transverse diameter of eye (dorsal view) 1.8–2.6 times as long as temple. OOL 2.9–3.2× OD; POL 1.4–1.7× OD; OOL 1.9–2× POL. Face width 1.3–1.6 times combined height of face and clypeus. Middle and penultimate flagellomeres 2.8–2.9 and 2.9 times as long as wide, respectively. Mesosoma 1.5–1.6 times as long as its maximum height. Hind femur 4–4.5 times as long as wide. Hind tibia 9–10.2 times as long as wide. Otherwise similar to female.

Genus *Isomerosoma* gen. n.

Type species *Bracon subacaudatus* Granger, 1949.

Composition and distribution. *Isomerosoma subacaudatum* (Granger, 1949), **comb. n.** (Madagascar).

Description. Female. Head. Toruli strongly protruding anterolaterally (dorsal view). Vertex with deep mid-longitudinal sulcus. Face evenly convex, without elevated area above clypeus, with complete, but weak mid-longitudinal carina. Clypeus flattened, with weakly protruding ventral rim; dorsal clypeal



Figs 175–186. *Isomerostoma subacaudatum* gen. et comb. n., female, lectotype.

175 – habitus, lateral view; 176 – apex of ovipositor; 177–178, 180 – head: 177 – dorsal view, 178 – lateral view, 180 – front view; 179 – fore wing; 181–182 – mesosoma: 181 – dorsal view, 182 – lateral view; 183 – T3–T5, dorsolateral view; 184 – apex of hind tarsus; 185 – propodeum and metasoma, dorsal view; 186 – T1, dorsal view. Scale bars: 175, 179 – 1 mm; 176, 184 – 0.25 mm; 177–178, 180–183, 185–186 – 0.5 mm.

Рис. 175–186. *Isomerostoma subacaudatum* gen. et comb. n., самка, лектотип.

175 – общий вид сбоку; 176 – вершина яйцеклада; 177–178, 180 – голова: 177 – вид сверху, 178 – вид сбоку, 180 – вид спереди; 179 – переднее крыло; 181–182 – мезосома: 181 – вид сверху, 182 – вид сбоку; 183 – T3–T5, вид сверху/сбоку; 184 – вершина задней лапки; 185 – проподоум и метасома, вид сверху; 186 – T1, вид сверху. Масштабные линейки: 175, 179 – 1 мм; 176, 184 – 0.25 мм; 177–178, 180–183, 185–186 – 0.5 мм.

margin sharp, without both dorsal carina and clypeal sulcus. Malar suture deep and smooth. Hypostomal carina slightly protruding below mandible.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli deep anteriorly, absent posteriorly, smooth. Mesoscutum widely setose on notauli and posteriorly, anteromedially widely glabrous. Median impression on mesopleuron absent. Metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 55–60°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M distinctly curved

anteriorly. Wing membrane evenly setose in base of hind wing. Hind wing vein r-m antefurcal.

Legs. Fore tibia only subapically with weakly thickened spiny setae. Hind tibia without subapical row of thick setae. Claws with small rectangular basal lobe.

Metasoma with 5 dorsally visible tergites. T1 basally with crenulate mid-longitudinal impression, with very distantly separated dorsolateral carinae, and without both dorsal and sublateral carinae (but median area of T1 laterally compressed and apically with short and weak median keel). Median area of T2

strongly elevated, very small, elongate-triangular, and extending into strong complete mid-longitudinal keel. Dorsolateral impressions of T2 shallow, foveate, sublateral carinae absent. Spiracle located in middle of T2, distinctly in its dorsum. Suture between T2 and T3 curved. Anterolateral areas of T3–T5 indistinct. Posterior margins of T3–T5 without transverse subapical grooves, laterally straight. Apical tergite without projections or incisure. Ovipositor very short; its apex acute, dorsal nodus absent, ventral serration weak.

Sculpture. Head and mesosoma smooth, metasomal tergites weakly granulate.

Diagnosis. *Isomerosoma* gen. n. is most similar to the genus *Crinibracon*. Differences between these taxa are listed below.

1. Vertex with deep mid-longitudinal sulcus. Notauli shallow. Mesoscutum widely setose on notaular area and posteriorly, but with widely glabrous median lobe. Dorsal carinae of T1 absent, mid-longitudinal keel very short. T2 without sublateral carinae. Metasoma with 5 dorsally visible tergites. Apex of ovipositor simple *Isomerosoma* gen. n.
- Vertex at most weakly mid-longitudinally impressed. Notauli deep. Mesoscutum evenly setose. Dorsal carinae of T1 complete, fused with hind margin of tergite by a mid-longitudinal keel. T2 with long sublateral carinae. Metasoma with 6 dorsally visible tergites. Apex of ovipositor distinctly dorsally expanded *Crinibracon*

Etymology. From the Greek “ἴσμερής” (“equally divided”) and “σῶμα” (“body”), because the longitudinal structures, i.e. the sulcus on vertex and the keels on propodeum, T1, and T2, imaginary divide the wasp’s body in the sagittal plane. Gender neuter.

Isomerosoma subacaudatum (Granger, 1949), **comb. n.**
(Figs 175–186)

Bracon subacaudatus Granger, 1949: 73.

Material. 1♀, lectotype (designated here) (MNHN EY19054), “♀”, “Madagascar Ranomafana”, “Muséum Paris, X-38, A. Seyrig”, “30”, “Lectotype”, “Museum Paris ex coll. J. Barbier in Ch. Granger”, “*Bracon subacaudatus* Granger, 1949”, “MNHN Paris”.

The second syntype female (paralectotype) with the inventory number EY19053 (MNHN, Madagascar, Ankaratra, 02.1939, A. Seyrig) was not examined.

Redescription. Female. Body length 2.9 mm; fore wing length 3.1 mm.

Head. Width of head (dorsal view) 2 times its median length. Transverse diameter of eye (dorsal view) 2.4 times as long as temple. OOL 2.3× OD; POL 1× OD; OOL 2.3× POL. Frons with very deep mid-longitudinal groove and shallow impressions behind antennae. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter, transverse diameter of eye 2.6 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.3 times combined height of face and clypeus; 2.6 times width of hypoclypeal depression. Width of hypoclypeal depression 0.8 times distance from depression to eye. Height of clypeus 0.45 times width of hypoclypeal depression. Longitudinal diameter of eye 2.2 times as long as malar space (front view). Maxillary palp as long as eye height.

Antenna with 30 antennomeres. First flagellomere 1.7 times as long as its apical width, middle and penultimate flagellomeres 1.6 and 1.8 times as long as wide, respectively.

Metasoma 1.5 times as long as its maximum height. Transverse pronotal sulcus deep and smooth. Mesoscutum

1.2 times its median length (dorsal view). Mesepimeral sulcus smooth, mesopleural pit deep, wide, and separated from mesepimeral sulcus. Metapleural sulcus smooth. Propodeal spiracle round, located behind middle of propodeum, not protruding. Mid-longitudinal keel on propodeum complete, simple, lying in complete shallow mid-longitudinal impression.

Wings. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.3 times as long as pterostigma. Marginal cell 15 times as long as distance from its apex to apex of wing. Vein 3-SR 1.5× vein r, 0.4× vein SR1, 1.1× vein 2-SR. Vein 1-M 0.6× vein 1-SR + M, 1.7× vein m-cu, and 1.7 times as long as vein cu-a. Vein 2-SR + M 0.25× vein 2-SR, 0.45× vein m-cu. Vein 1-SR + M curved anteriorly. Vein cu-a interstitial.

Legs. Hind femur 3.3 times as long as wide. Hind tibia 1.4 times as long as hind femur. Hind tarsus as long as hind tibia. Its inner spur 0.3 times as long as hind basitarsus. Fifth segment of hind tarsus 0.4 times as long as hind basitarsus and 0.9 times as long as second segment.

Metasoma. Median length of T1 0.6 times its apical width. T2 medially 1.5 times as long as T3; basal width of T2 1.3 times its median length. Ovipositor sheath 0.35 times as long as hind tibia and 0.1 times as long as fore wing.

Sculpture. Head and mesosoma entirely smooth. T1 mostly smooth, its median area weakly foveate posteriorly, T2 weakly granulate to smooth, T3 weakly granulate, T4 and T5 granulate.

Colouration. Head brownish yellow, malar space and maxillary palp yellow. Scape dark brown, flagellum brown. Mesosoma dark brown, but lighter coloured along notauli; tegulae yellowish brown. Wing membrane weakly brownish darkened; pterostigma and wing veins brown. Legs mostly yellow; hind tibia pale yellow with brown apex, hind tarsus brown. Metasomal tergites brownish black; median area of T1 and T2 medially between sublateral impressions brownish yellow.

Genus *Lyricibracon* Quicke, 1988

Lyricibracon Quicke, 1988: 414 (type species *Lyricibracon bicolorus* Quicke, 1988). Ranjith et al., 2017: 423.

Composition and distribution. *Lyricibracon bicolorus* Quicke, 1988 (Brunei), *L. jenningsi* Ranjith, 2017 (India), *L. nigerianus* (Quicke, 1988), **comb. n.** (Nigeria).

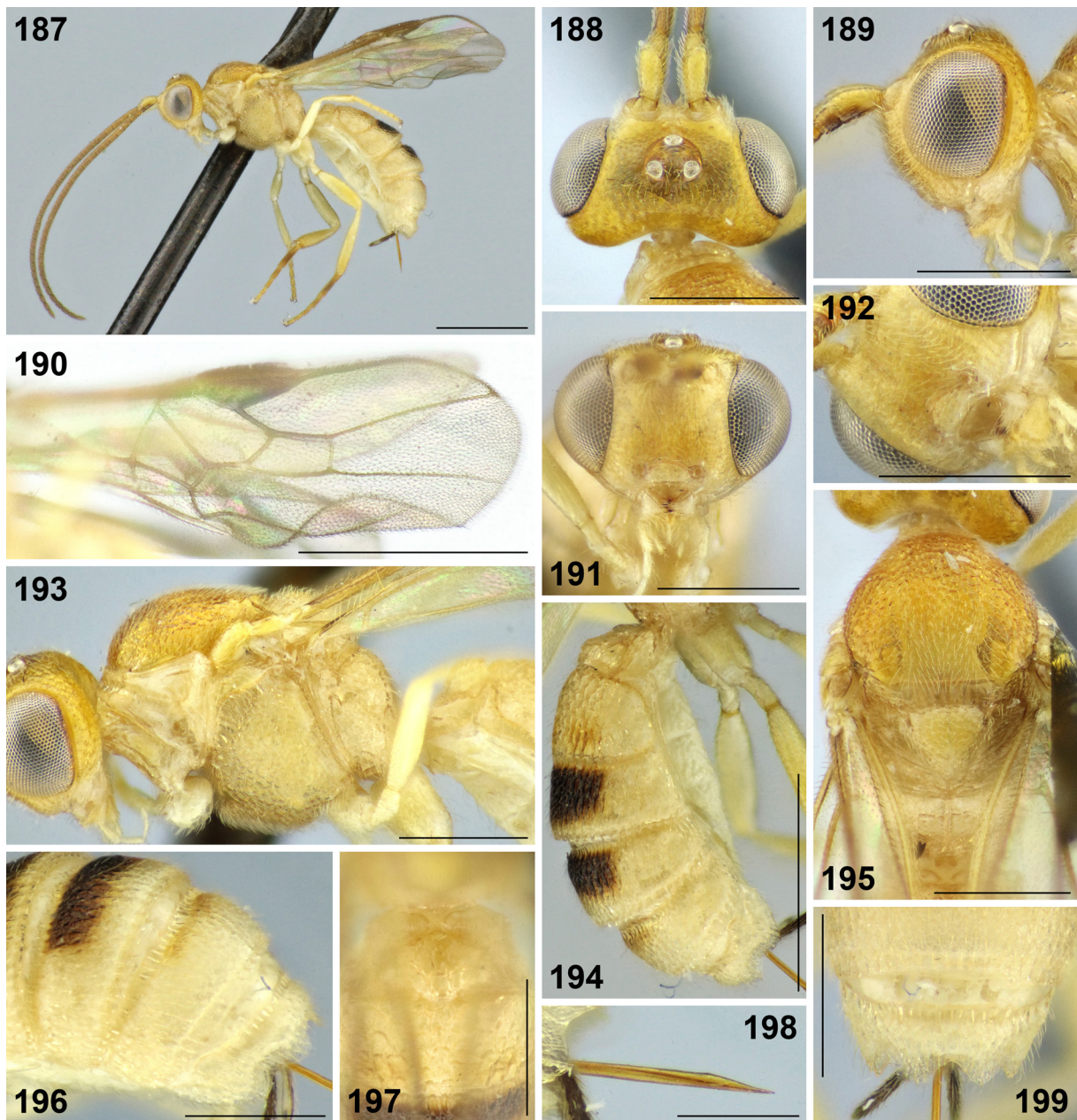
Redescription. Female. Head. Toruli somewhat protruding in dorsal view. Vertex weakly mid-longitudinally impressed. Face evenly convex. Clypeus flattened, with weakly protruding ventral rim; dorsal carina and clypeal sulcus absent, dorsal clypeal margin sharp. Malar suture deep, smooth. Hypostomal carina strongly protruding, lamelliform.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli deep anteriorly, shallow posteriorly, rugose. Mesoscutum evenly setose. Precoxal sulcus vaguely impressed (*Lyricibracon bicolorus*: well developed [Quicke, 1988]). Median area of metanotum medially elevated, with high complete median carina. Propodeal spiracle not protruding.

Wings. Angle between veins C + SC + R and 1-SR 50–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M straight or slightly curved anteriorly. Wing membrane evenly setose at base of hind wing or glabrous near vein cu-a. Hind wing vein r-m interstitial or weakly antefurcal.

Legs. Fore tibia with sparse longitudinal and transverse apical rows of thick setae (*Lyricibracon bicolorus*: without transverse row [Quicke, 1988]). Hind tibia without subapical row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 6 dorsally visible tergites. T1 without mid-longitudinal impression, with developed dorsolateral carinae and complete dorsal carinae; sublateral carinae absent, but median area of T1 laterally compressed. Median area and



Figs 187–199. *Lyricibracon nigerianus* **comb. n.**, female, paratype.

187 – habitus, lateral view; 188–189, 191–192 – head: 188 – dorsal view, 189 – lateral view, 191 – front view, 192 – anterolateral view; 190 – fore wing; 193, 195 – mesosoma: 193 – lateral view, 195 – dorsal view; 194 – metasoma, lateral view; 196 – T4–T6, dorsolateral view; 197 – T1, dorsal view; 198 – apex of ovipositor; 199 – T6, dorsal view. Scale bars: 187, 190, 194 – 1 mm; 188–189, 191–193, 195–197, 199 – 0.5 mm; 198 – 0.25 mm.

Рис. 187–199. *Lyricibracon nigerianus* **comb. n.**, самка, паратип.

187 – общий вид сбоку; 188–189, 191–192 – голова: 188 – вид сверху, 189 – вид сбоку, 191 – вид спереди, 192 – вид спереди/сбоку; 190 – переднее крыло; 193, 195 – мезосома: 193 – вид сбоку, 195 – вид сверху; 194 – метасома, вид сбоку; 196 – T4–T6, вид сверху/сбоку; 197 – T1, вид сверху; 198 – вершина яйцеклада; 199 – T6, вид сверху. Масштабные линейки: 187, 190, 194 – 1 мм; 188–189, 191–193, 195–197, 199 – 0.5 мм; 198 – 0.25 мм.

mid-longitudinal keel of T2 absent; sublateral carinae absent or short. Spiracle located at middle of T2. Suture between T2 and T3 almost straight. T3–T6 without anterolateral areas, their posterior margins with crenulate transverse subapical grooves. T6 with large lateroposterior and often (sub-)medioposterior protuberances. Ovipositor sheath about 0.2 times as long as fore wing. Apex of ovipositor with weak nodus and weak ventral serration.

Sculpture. Head and mesosoma widely granulate, metasomal tergites rugose.

Lyricibracon nigerianus (Quicke, 1988), **comb. n.**
(Figs 187–199)

Rugosibracon nigerianus Quicke, 1988: 416.

Material. 1♀, paratype (AEI), "Zaruma, Nigeria, Sept. 74 W. State, J. T. Medler"; "Paratype *Rugosibracon nigerianus* Quicke, Braconinae Det. D. Quicke 1987".

Redescription. Female. Body length 3.3 mm; fore wing length 2.7 mm.

Head. Width of head (dorsal view) 2 times its median length. Transverse diameter of eye (dorsal view) 2.7 times as long as temple.

OOL 2.3× OD; POL 1.2× OD; OOL 2× POL. Frons with weak mid-longitudinal groove and shallow impressions behind antennae. Longitudinal diameter of eye in lateral view 1.2 times its transverse diameter; transverse diameter of eye 4 times minimum width of temple, hind margins of eye and temple parallel. Face width 1.2 times combined height of face and clypeus; 2.3 times width of hypoclypeal depression. Width of hypoclypeal depression as large as distance from depression to eye. Height of clypeus 0.45 times width of hypoclypeal depression. Longitudinal diameter of eye 2.8 times as long as malar space (front view). Maxillary palp shorter than eye.

Antenna with 31 antennomeres. First flagellomere 1.9 times as long as its apical width, middle and penultimate flagellomeres 1.6 and 2 times as long as wide, respectively.

Mesosoma 1.4 times as long as its maximum height. Transverse pronotal sulcus deep and wide, crenulate. Width of mesoscutum 1.3 times its median length (dorsal view). Notauli not united posteriorly. Scutellar sulcus 0.3 times as long as scutellum. Mesepimeral sulcus crenulate, mesopleural pit deep. Metapleural sulcus weakly crenulate. Propodeal spiracle round, located in middle of propodeum. Mid-longitudinal keel on propodeum complete, simple; mid-longitudinal impression complete and shallow.

Wings. Vein r arising from basal 0.45 of pterostigma. Vein 1-R1 1.7 times as long as pterostigma. Marginal cell 7 times as long as distance from its apex to apex of wing. Vein 3-SR 1.4× vein r, 0.3× vein SR1, 1.2× vein 2-SR. Vein 1-M 0.7× vein 1-SR+M, 2.2× vein m-cu, 1.8× vein cu-a. Vein 2-SR+M 0.8× vein 2-SR, 1.4× vein m-cu. Vein cu-a interstitial. Wing membrane evenly setose in base of hind wing.

Legs. Hind femur 3.4 times as long as wide. Hind tibia 1.3 times as long as hind femur, its inner spur 0.35 times as long as hind basitarsus. Hind tarsus 1.1 times as long as hind tibia. Fifth segment of hind tarsus 0.4 times as long as hind basitarsus and 0.75 times as long as second segment.

Metasoma. Median length of T1 0.5 times its apical width. T2 medially 1.2 times as long as T3; basal width of T2 1.6 times its median length. T6 with large submedioposterior and lateroposterior protuberances. Ovipositor sheath 0.6 times as long as hind tibia and 0.2 times as long as fore wing.

Sculpture. Face, frons, and vertex granulate; genae coriaceous; malar space granulate-rugulose. Pronotum weakly granulate, propleuron almost smooth; mesoscutum, scutellum, and mesopleuron foveate-granulate; metanotum rugose; propodeum rugose anteriorly, granulate posteriorly. Coxae hardly coriaceous to smooth. T1 laterally rugose, with posteriorly areolate-rugose median area; T2 and T3 areolate-rugose; T4 areolate-rugose to granulate-rugose; T5–T6 granulate-rugulose.

Colouration. Body pale yellow. Scape brownish yellow, ventrally brown, flagellum and hind tarsus brown. Head dorsally, face medially, and mesoscutum (brownish) yellow. Tegulae yellow. T3 and T4 medially with wide brown patches. Wing membrane weakly darkened, pterostigma and veins brown.

Male (not examined). Posterior margin of T6 medially straight [Quicke, 1988].

Note. This species is transferred from *Rugosibracon* to *Lyticibracon* because of the following differences between these genera. The holotype of the type species of *Rugosibracon*, *R. maculithorax* Quicke, 1988 (female, AEI), has been studied.

1. Face medially not mid-longitudinally elevated. Malar suture deep. Hypostomal carina strongly protruding below base of mandible. Vein 1-SR+M (almost) straight. Median lobe of mesoscutum weakly protruding (dorsal view). T2 without sublateral carinae (or with short carinae: *L. jenningsi* Ranjith, 2017). Posterior margins of T3–T6 laterally straight *Lyticibracon*

– Face medially weakly elevated mid-longitudinally. Malar suture absent. Hypostomal carina slightly protruding below base of mandible. Vein 1-SR+M distinctly curved anteriorly. Median lobe of mesoscutum strongly protruding (dorsal view). T2 with long parallel sublateral carinae. Posterior margins of T3–T6 laterally protruding and acutely pointed *Rugosibracon*

Genus *Plesiobracon* Cameron, 1903

Plesiobracon Cameron, 1903: 123 (type species *Plesiobracon carinatus* Cameron, 1903).

Composition and distribution. *Plesiobracon carinatus* Cameron, 1903 (Malaysia), *P. cincticauda* (Enderlein, 1920) (Indonesia), *P. vierecki* (Strand, 1912) (Papua New Guinea).

Redescription. Female. Head. Toruli somewhat protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face weakly mid-longitudinally elevated. Clypeus flattened or prominent, with weakly protruding ventral rim; dorsal carina absent or weak, clypeal sulcus absent. Malar suture weakly impressed. Hypostomal carina not protruding below mandible.

Mesosoma. Median lobe of mesoscutum weakly or strongly protruding (dorsal view). Notauli deep anteriorly, shallow posteriorly, smooth. Mesoscutum widely glabrous anteromedially, with setae at notaulic area and posteriorly. Median impression on mesopleuron indistinct. Median area of metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 60–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR+M weakly curved anteriorly. Wing membrane glabrous or sparsely setose at base of hind wing.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae. Hind tibia with subapical transverse row of spiny setae. Claws with large triangular lobe.

Metasoma with 7 dorsally visible tergites (but T6–T7 distinctly retracted). T1 with distinct mid-longitudinal impression, developed dorsolateral carinae, incomplete or weak dorsal carinae, and without sublateral carinae. Median area of T2 strongly elevated, narrow, elongate-triangular, extending into incomplete mid-longitudinal keel. T2 with long more or less converging sublateral carinae. Spiracle located in anterior part of T2. Suture between T2 and T3 almost straight. T3–T6 without anterolateral areas; with deep and crenulate transverse subapical grooves. Posterior margins of T3 and T4 laterally weakly roundly protruding. Ovipositor sheath 1–1.3 times as long as fore wing. Apex of ovipositor with developed dorsal nodus and ventral serration.

Sculpture. Head and mesosoma mostly smooth, metasomal tergites longitudinally rugose.

Plesiobracon carinatus Cameron, 1903
(Figs 200, 204, 205, 208, 209, 211–213)

Plesiobracon carinata Cameron, 1903: 123. Van Achterberg, 1983: 186 (lectotype designation).

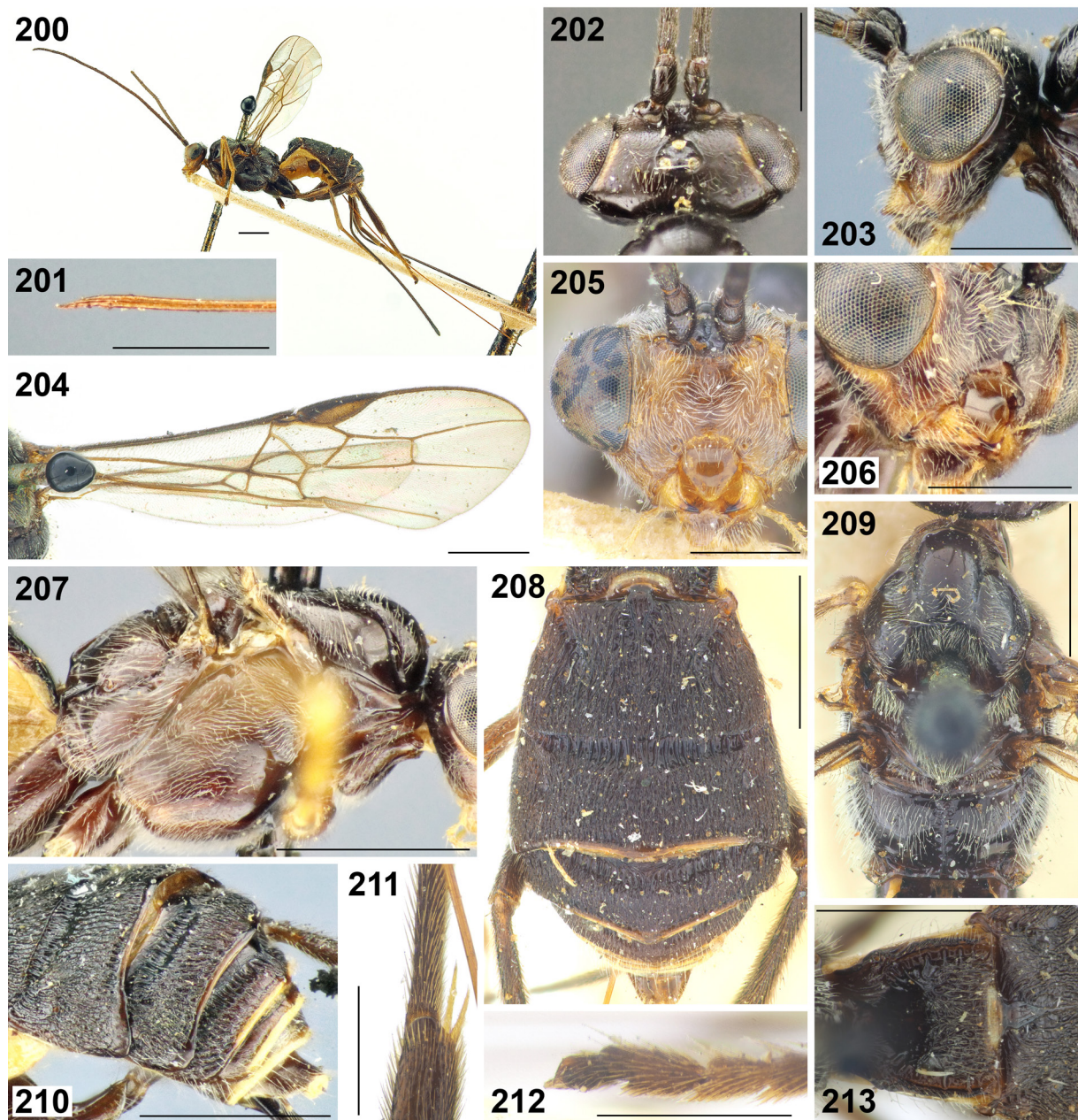
Material. 1♀, lectotype (BMNH, NHMUK_010888614), Malaysia, "Type", "Kuching Feb. 3 1902", "Cameron Coll. 1903-121.", "*Plesiobracon carinata* Cam. Type Borneo.", "♀ *Plesiobracon carinata* Cameron, C. van Achterberg, 1981, Lectotype", "B.M. Type Hym. 3c.603".

Plesiobracon cincticauda (Enderlein, 1920)
(Figs 201–203, 206, 207, 210)

Campyloneurus cincticauda Enderlein, 1920: 104.

Plesiobracon cincticauda: Quicke, van Achterberg, 1990: 255.

Material. 1♀, holotype (MIIZ), Indonesia, "Dohrn Sumatra Liangagas", "Type", "*Campyloneurus cincticauda* Type Enderl. ♀ Dr. Enderlein det. 1919", "♀ *Campyloneurus cincticauda* Enderlein C. van Achterberg, 1990, Holotype".



Figs 200–213. *PlesioBracon* species, females.

200, 204–205, 208–209, 211–213 – *P. carinatus*, lectotype; 201–203, 206–207, 210 – *P. cincticauda*, holotype. 200 – habitus, lateral view; 201 – apex of ovipositor; 202–203, 205–206 – head: 202 – dorsal view, 203 – lateral view, 205 – front view, 206 – anterolateral view; 204 – fore wing; 207, 209 – mesosoma: 207 – lateral view, 209 – dorsal view; 208 – metasoma, dorsal view; 210 – T3–T6, dorsolateral view; 211 – apex of hind tibia; 212 – apex of hind tarsus; 213 – T1, dorsal view. Scale bars: 200, 204, 207, 210 – 1 mm; 201–203, 205–206, 208–209, 211–213 – 0.5 mm.

Рис. 200–213. Виды рода *PlesioBracon*, самки.

200, 204–205, 208–209, 211–213 – *P. carinatus*, лектотип; 201–203, 206–207, 210 – *P. cincticauda*, голотип. 200 – общий вид сбоку; 201 – вершина яйцеклада; 202–203, 205–206 – голова: 202 – вид сверху, 203 – вид сбоку, 205 – вид спереди, 206 – вид спереди/сбоку; 204 – переднее крыло; 207, 209 – мезосома: 207 – вид сбоку, 209 – вид сверху; 208 – метасома, вид сверху; 210 – T3–T6, вид сверху/сбоку; 211 – вершина задней голени; 212 – вершина задней лапки; 213 – T1, вид сверху. Масштабные линейки: 200, 204, 207, 210 – 1 мм; 201–203, 205–206, 208–209, 211–213 – 0.5 мм.

Genus *Pseudochivinia*
Long et van Achterberg, 2023, stat. n.

Pseudochivinia Long et van Achterberg in Long et al., 2023: 532 (as a subgenus of *Bracon* Fabricius, 1804) (type species *Bracon tobiasi* Long et van Achterberg, 2023).

Composition and distribution. *Pseudochivinia vitobiasi* (Long et van Achterberg), **nom. et comb. n.** (= *B. tobiasi* Long et van Achterberg, 2023) (Vietnam).

Redescription. Female. Head. Toruli not protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face with median triangular area weakly and narrowly elevated above clypeus; mid-

longitudinal carina distinct in upper half of face, projecting upwards between toruli, in upper part widened and flattened. Clypeal sulcus absent, dorsal clypeal margin sharp. Malar suture absent.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli weakly impressed anteriorly, absent posteriorly. Mesoscutum along notauli widely setose. Median impression on mesopleuron absent. Median area of metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 80–85°. Vein r-m absent. Vein 1-SR + M straight. Wing membrane evenly setose in base of hind wing; vein r-m weakly antefurcal.

Legs. Hind tibia with 1 thick seta subapically. Claws with acute angularly protruding basal lobe.

Metasoma with partly retracted, but dorsally visible T6–T7. T1 with deep, crenulate mid-longitudinal impression, developed dorsolateral carinae, without dorsal and sublateral carinae. Median area, mid-longitudinal keel, and sublateral carinae of T2 absent; dorsolateral impressions of T2 deep, weakly diverging, and rugose. Spiracle located in anterior part of T2. Suture between T2 and T3 almost straight. Anterolateral areas weakly defined only on T3, with inner sides separated by shallow grooves. Posterior margins of T3–T6 without transverse subapical grooves, laterally straight. Ovipositor sheath 0.13 times as long as fore wing. Apex of ovipositor with developed dorsal nodus, weak notch, and ventral serration.

Sculpture. Head and mesosoma mostly smooth, metasomal tergites longitudinally rugose.

Note. *Pseudochivinia* differs from the genus *Bracon* by the presence of an elevated median area on the face, a high, lamella-like, mid-longitudinal keel on the propodeum, a deep mid-longitudinal impression of T1 and weak, but distinct anterolateral areas on T3. According to these characters, the taxon *Pseudochivinia* is included in the *Plesiobracon* group as a separate genus; its differences from the most similar genus *Simplicibracon* (listed in the key couplet 9 above) currently do not allow me to consider it a subgenus of the latter.

Pseudochivinia vitobiasi

(Long et van Achterberg), **nom. et comb. n.**

Bracon (*Pseudochivinia*) *tobiasi* Long et van Achterberg, 2023: 534 (nec Papp, 1965: 411).

Note. After consultation and with the consent of the authors of the published name, in accordance with article 50.1.1. of the International Code of Zoological Nomenclature [1999], *Bracon tobiasi* Long et van Achterberg, 2023 is renamed here to *Bracon vitobiasi* Long et van Achterberg, **nom. n.** The new replacement name is given in memory of Prof. V.I. Tobias. The new combination is proposed by the author of this paper.

Genus *Reticulotergus* gen. n.

Type species *Cassidibracon indicus* Narendran et Rema, 1994.

Composition and distribution. *Reticulotergus indicus* (Narendran et Rema, 1994), **comb. n.** (India).

Description. Female. Head. Toruli not protruding in dorsal view. Vertex weakly mid-longitudinally impressed. Face evenly convex, without elevated area above clypeus, with distinct mid-longitudinal carina. Clypeus flattened, with not protruding ventral rim; dorsal clypeal margin sharp, without dorsal carina and with impressed clypeal sulcus. Malar suture deep and smooth. Hypostomal carina not protruding below mandible.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli very deep anteriorly, impressed posteriorly, weakly crenulate. Mesoscutum evenly setose. Median impression on mesopleuron absent. Median area of metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 65–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing.

Legs. Hind tibia without subapical row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 5 dorsally visible tergites. T1 without mid-longitudinal impression, with weakly separated dorsolateral carinae, without dorsal carinae (but median area elevated on their place) and without sublateral carinae. Median area, mid-longitudinal keel, and sublateral carinae of T2 absent; dorsolateral impressions shallow. Spiracle in anterior part of T2. Suture between T2 and T3 curved. Anterolateral areas of T3–T6 indistinct. Posterior margins of T3–T5 with deep crenulate transverse subapical grooves, laterally weakly protruding. Apex of ovipositor with weak nodus and distinct ventral serration.

Sculpture. Propleuron and mesopleuron weakly coriaceous; coxae very weakly coriaceous; mesoscutum medially reticulate-granulate; metasomal tergites irregularly reticulate-rugose.

Note. The new genus is most similar to *Acrocerilia* and *Scutibracon* and especially to the taxon concept of the latter proposed by Quicke and Walker [1989]. The most marked characters that distinguish *Reticulotergus* **gen. n.** from related taxa are the sculptured mesosoma, the absence of both dorsal and sublateral carinae of T1, and the short and strongly transverse T2. Comparative diagnosis of the new genus is given in the key to genera above.

Etymology. From the Latin nouns “rētīculus” (“a little net”, “network”) and “tergum” (“back”, “surface”), because of remarkable reticulate sculpture of the body. Gender masculine.

Reticulotergus indicus

(Narendran et Rema, 1994), **comb. n.**

(Figs 214–223)

Cassidibracon indicus Narendran et Rema in Narendran et al., 1994: 130.

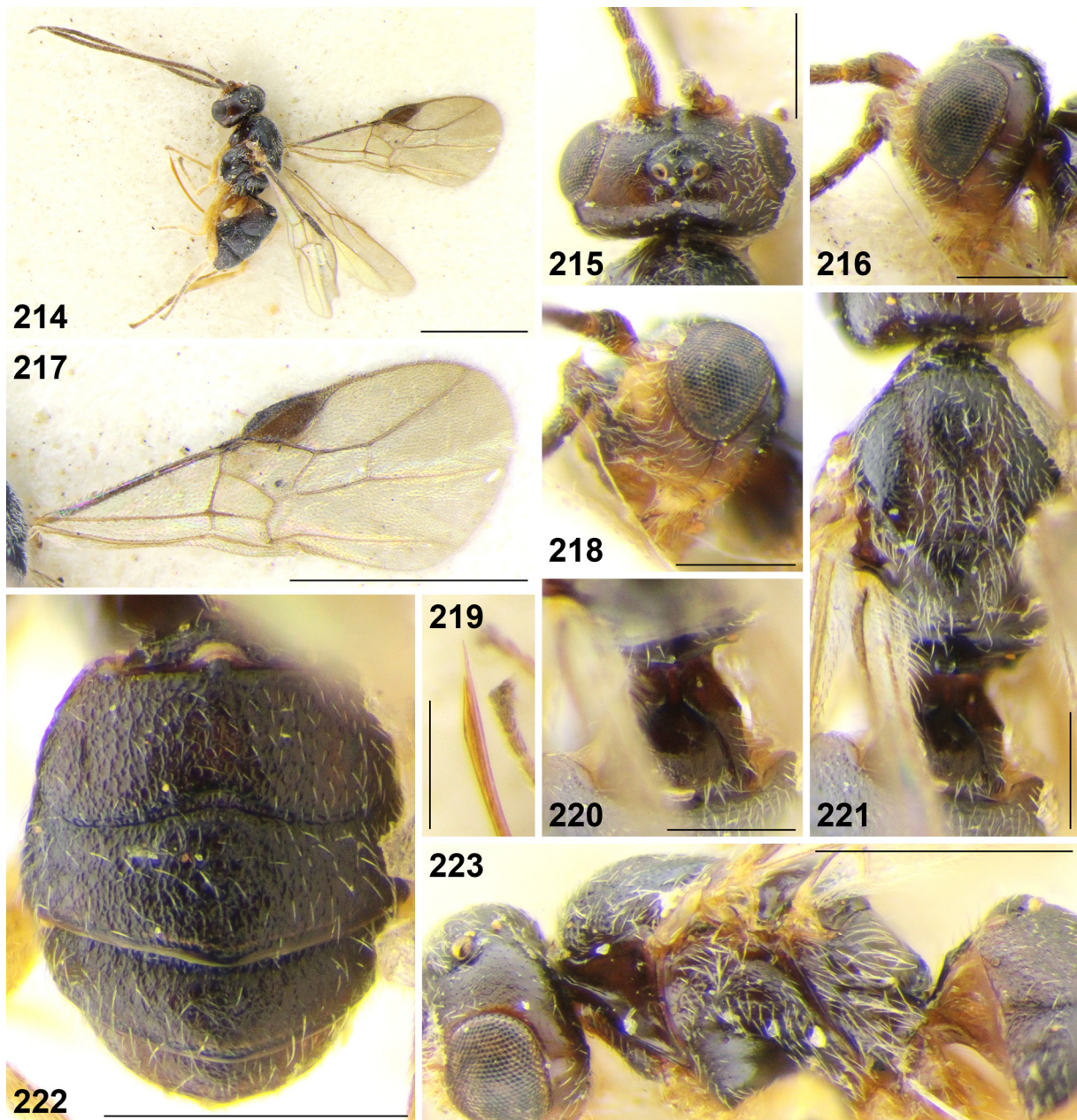
Material. 1♀, holotype (HNHM, 153289), “India: Kerala, C.U. Campus, T.C. Narendran, 11.XI.1987”, “♀ *Cassidibracon indicus* sp. nov. Det. Narendran, T.C. & Rema C.G. 1994”, “Holotypus”, “Holotype”, “Hym. Typ.No.12036. Museum Budapest”.

Redescription. Female. Body length 1.8 mm; fore wing length 2 mm.

Head. Width of head (dorsal view) 2 times its median length. Transverse diameter of eye (dorsal view) 2 times as long as temple. OOL 2.3× OD; POL 1.2× OD; OOL 1.9× POL. Frons not impressed behind antennae, with deep mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.4 times its transverse diameter; transverse diameter of eye 2.5 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.7 times combined height of face and clypeus; 2.8 times width of hypoclypeal depression. Height of clypeus 0.3 times width of hypoclypeal depression. Maxillary palp shorter than eye.

Antenna with 24 antennomeres. First flagellomere 2.8 times as long as its apical width, middle and penultimate flagellomeres 2 and 2.1 times as long as wide, respectively.

Mesosoma 1.3 times as long as its maximum height. Transverse pronotal sulcus smooth, deep anteriorly, shallow posteriorly. Width of mesoscutum 1.4 times its median length (dorsal view). Notauli very deep anteriorly, impressed and united posteriorly. Scutellar sulcus 0.15 times as long as scutellum.



Figs 214–223. *Reticulotergus indicus* gen. et comb. n., female, holotype.

214 – habitus, lateral view; 215–216, 218 – head: 215 – dorsal view, 216 – lateral view, 218 – anterolateral view; 217 – fore wing; 219 – apex of ovipositor; 220 – T1, dorsal view; 221, 223 – mesosoma: 221 – dorsal view, 223 – lateral view; 222 – metasoma, dorsal view. Scale bars: 214, 217 – 1 mm; 215–216, 218–221 – 0.25 mm; 222–223 – 0.5 mm.

Рис. 214–223. *Reticulotergus indicus* gen. et comb. n., самка, голотип.

214 – общий вид сбоку; 215–216, 218 – голова: 215 – вид сверху, 216 – вид сбоку, 218 – вид спереди/сбоку; 217 – переднее крыло; 219 – верхушка яйцеклада; 220 – T1, вид сверху; 221, 223 – мезосома: 221 – вид сверху, 223 – вид сбоку; 222 – метасома, вид сверху. Масштабные линейки: 214, 217 – 1 мм; 215–216, 218–221 – 0.25 мм; 222–223 – 0.5 мм.

Median impression on mesopleuron absent. Mesepimeral sulcus smooth, mesopleural pit deep and separated from mesepimeral sulcus. Metapleural sulcus smooth. Propodeal spiracle protruding, located behind middle of propodeum. Mid-longitudinal keel occupying apical half of propodeum, simple.

Wings. Vein r arising from basal 0.35 of pterostigma. Vein 1-R1 1.4 times as long as pterostigma. Marginal cell 4.2 times as long as distance from its apex to apex of wing. Vein 3-SR 2.3× vein r, 0.4× vein SR1, 1.2× vein 2-SR. Vein 1-M 0.7× vein 1-SR + M, 1.9× vein m-cu, 1.8× vein cu-a. Vein 2-SR + M 0.4× vein 2-SR,

0.8× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a weakly postfurcal. Hind wing vein r-m antefurcal.

Legs. Fore tibia subapically with wide brush of long thick setae. Hind femur 3.5 times as long as wide. Hind tibia 1.4 times as long as hind femur, its inner spur 0.3 times as long as hind basitarsus. Hind tarsus as long as hind tibia. Fifth segment of hind tarsus 0.45 times as long as hind basitarsus and 0.9 times as long as second segment.

Metasoma. Median length of T1 0.8 times its apical width. T2 medially 0.8 times as long as T3. Basal width of T2 1.8 times

its median length. Ovipositor sheath 0.6 times as long as hind tibia and 0.2 times as long as fore wing.

Sculpture. Face, frons, and malar space granulate. Mesoscutum medially reticulate-granulate; scutellum, propodeum, and metanotum smooth. T1 laterally smooth, its median area weakly granulose posteriorly; T2–T4 irregularly reticulate-rugose, T5 granulate-rugulose.

Colouration. Body mostly dark brown. Head with brown face and genae and with brownish yellow mouth parts and patches below toruli. Legs brownish yellow; all tarsi and hind tibia mostly brown; tegulae yellowish brown. Wing membrane brownish darkened, pterostigma and wing veins brown.

Genus *Scutibracon* Quicke et Walker, 1989

Scutibracon Quicke et Walker, 1989: 19 (type species *Microbracon hispae* Viereck, 1913).

Composition and distribution. *Scutibracon fujianensis* Wang et Chen, 2010 (China: Fujian), *S. gracillariae* (Quicke, 2012), **comb. n.** (India), *S. hispae* (Viereck, 1913) (Bangladesh, Oriental China), *S. malabaricus* (Narendran, 1994), **comb. n.** (India), *S. sumodani* (Narendran et Madhavikutty, 1994), **comb. n.** (India). The new proposed combinations are based on the sufficient correspondence of the diagnostic characters of these species to those of the type species of the genus *Scutibracon*.

Notes. The material underlying the description of the genus *Scutibracon* was attributed by the authors to the type species based on comparison with the holotype. However, the morphological characters that can be seen in photographs of the holotype in Chan et al. [2023] differ significantly from the description of *S. "hispae"* sec Quicke et Walker (which has the straight fore wing vein 1-SR + M and the short, strongly transverse T2). Thus, the description of the genus is based on a misidentification of the material and the diagnosis of the genus should be corrected.

The genus *Piliferolobus* [Chen, Yang, 2006] may be a synonym of *Scutibracon*, but the brief description does not allow to make a certain conclusion about its status.

Redescription. Female. Head. Toruli strongly anterolaterally protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face evenly convex. Clypeus flattened, with protruding ventral rim, dorsal clypeal margin sharp; dorsal carina absent, clypeal sulcus deep or absent. Malar suture deep. Hypostomal carina slightly protruding below mandible.

Mesosoma. Median lobe of mesoscutum not protruding (dorsal view). Notauli more or less deep anteriorly, shallow posteriorly, smooth. Mesoscutum evenly setose. Median impression on mesopleuron indistinct. Median area of metanotum with incomplete or complete median carina.

Wings. Angle between veins C + SC + R and 1-SR 60–80°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly (straight in *S. hispae* sec Quicke et Walker, 1989). Wing membrane evenly setose at base of hind wing.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae. Claws with more or less protruding basal lobe.

Metasoma with 4 or 5 dorsally visible tergites. T1 without mid-longitudinal impression, with developed dorsolateral carinae, complete dorsal carinae, and without sublateral carinae. Median area of T2 absent or developed (elongate-triangular), mid-longitudinal keel absent. T2 with long s-shaped sublateral carinae. Spiracle located in anterior part or in middle of T2. Suture between T2 and T3 almost straight or curved. T3–T5 without anterolateral areas, with posterior margins laterally straight or roundly protruding, with or without transverse subapical grooves.

Ovipositor sheath 0.2–0.25 times as long as fore wing. Apex of ovipositor with (weak) dorsal nodus and ventral serration.

Sculpture. Head and mesosoma mainly smooth, metasoma with rugose and punctate sculpture.

A key to species of the genus *Scutibracon*

1. Basal width of T2 1.7 times its median length. T2 medially 1.1 times as long as T3. Vein 1-SR + M straight or weakly curved posteriorly *S. "hispae"* sec Quicke et Walker, 1989
- Basal width of T2 1.1–1.4 times its median length. T2 medially 1.3–1.6 times as long as T3. Vein 1-SR + M weakly curved anteriorly 2
2. Legs very slender, hind tarsus about 0.9 times as long as mesosoma. – Metasoma with 4 dorsally visible tergites *S. hispae* (Viereck, 1913)
- Legs less slender, hind tarsus 0.6–0.7 times as long as mesosoma 3
3. T2 with elongate-triangular median area. Median area of metanotum (dorsal view) with incomplete median carina. Metasoma with 4 dorsally visible tergites. Apical margins of T3 and T4 without transverse subapical grooves *S. malabaricus* (Narendran, 1994), **comb. n.**
- T2 without median area. Median area of metanotum (dorsal view) with complete high median carina. Metasoma with 5 dorsally visible tergites. Apical margins of T3–T5 with deep, crenulate transverse subapical grooves. – T5 with wide protruding lamella 4
4. T2 medially 1.5 times as long as T3. Middle flagellomeres about 2 times as long as wide *S. sumodani* (Narendran et Madhavikutty, 1994), **comb. n.**
- T2 medially 1.3 times as long as T3. Middle flagellomeres 1.4–1.5 times as long as wide 5
5. Antenna with about 30 antennomeres. Vein cu-a postfural *S. fujianensis*
- Antenna with about 24 antennomeres. Vein cu-a interstitial *S. gracillariae* (Quicke, 2012), **comb. n.**

Scutibracon fujianensis Wang et Chen, 2010

Scutibracon fujianensis Wang et Chen in Wang et al., 2010: 58.

Scutibracon gracillariae (Quicke, 2012), **comb. n.**

Cassidibracon gracillariae Quicke in Quicke et al., 2012: 139.

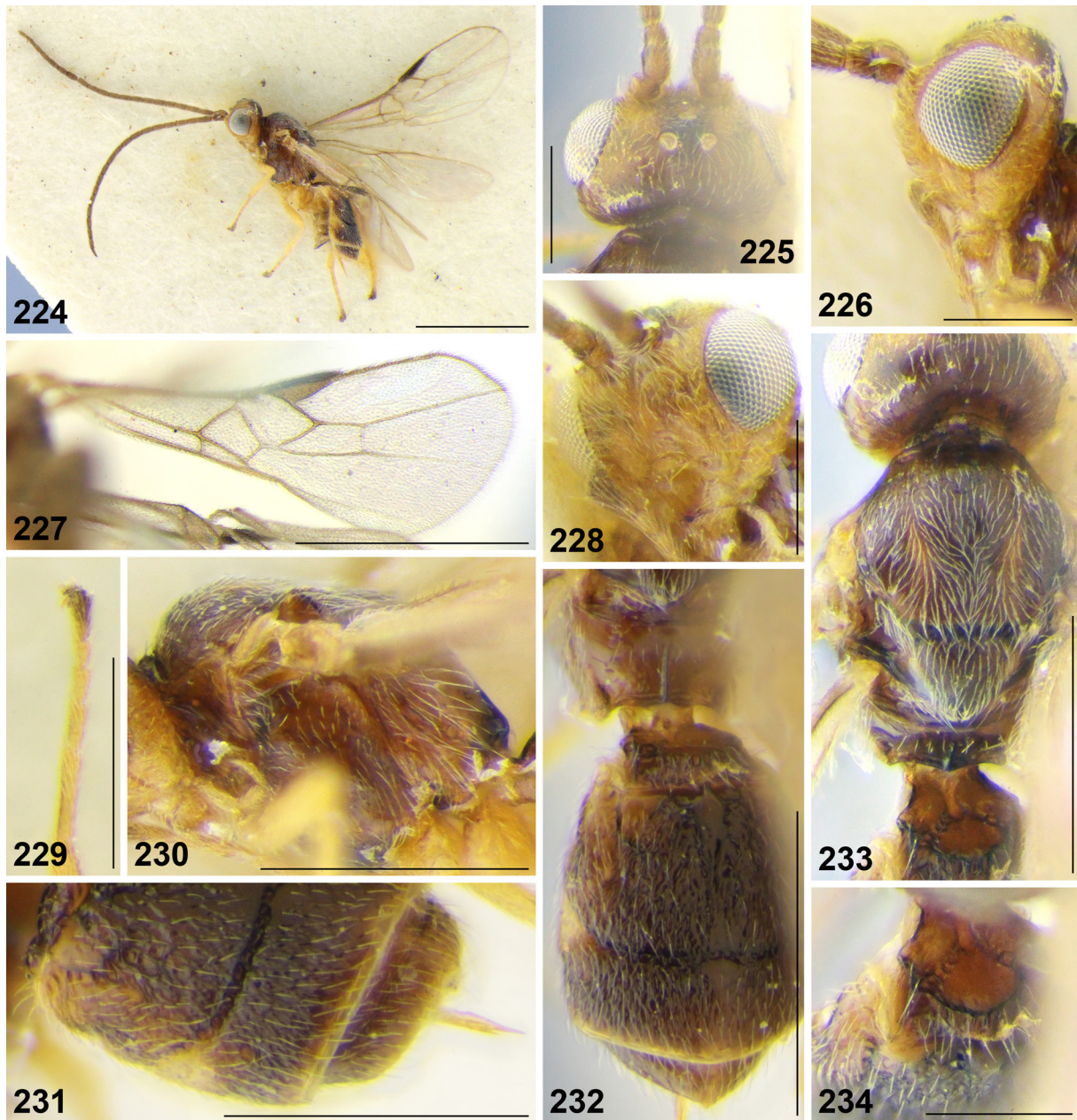
Scutibracon hispae (Viereck, 1913)

Microbracon hispae Viereck, 1913: 642. Quicke, Walker, 1989: 23 (transferred to *Scutibracon*).

Note. The photographs of the holotype are available at the “Integrated insect types database of Taiwanese species” [Chan et al., 2023].

Scutibracon malabaricus (Narendran, 1994), **comb. n.**
(Figs 224–234)

Cassidibracon malabaricus Narendran in Narendran et al., 1994: 130.



Figs 224–234. *Scutibracon malabaricus* comb. n., female, holotype.

224 – habitus, lateral view; 225–226, 228 – head: 225 – dorsal view, 226 – lateral view, 228 – anterolateral view; 227 – fore wing; 229 – hind tarsus; 230, 233 – mesosoma: 230 – lateral view, 233 – dorsal view; 231–232 – metasoma: 231 – dorsolateral view, 232 – dorsal view; 234 – T1, dorsal view. Scale bars: 224, 227 – 1 mm; 225–226, 228, 234 – 0.25 mm; 229–233 – 0.5 mm.

Рис. 224–234. *Scutibracon malabaricus* comb. n., самка, голотип.

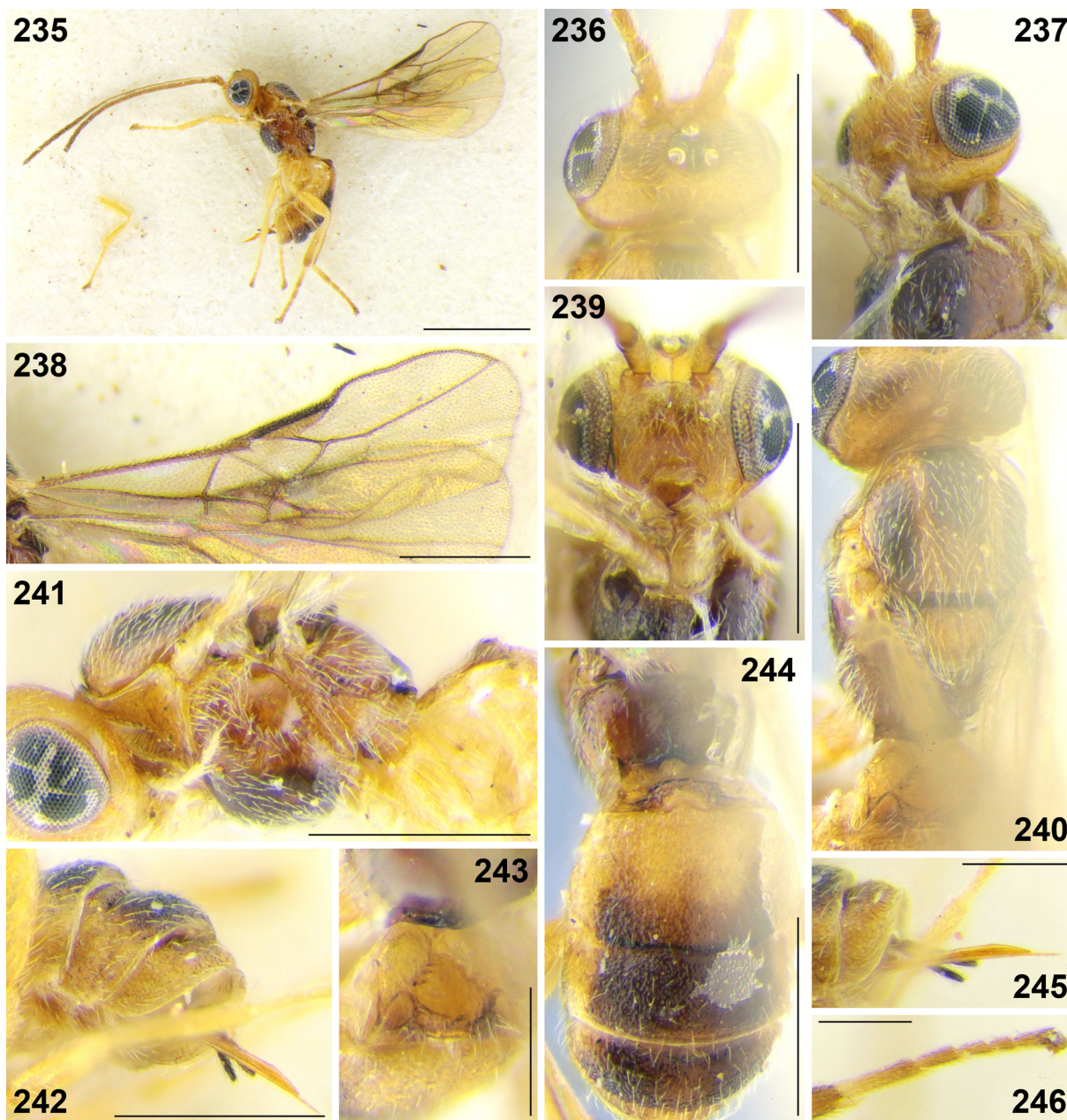
224 – общий вид сбоку; 225–226, 228 – голова: 225 – вид сверху, 226 – вид сбоку, 228 – вид спереди/сбоку; 227 – переднее крыло; 229 – задняя лапка; 230, 233 – мезосома: 230 – вид сбоку, 233 – вид сверху; 231–232 – метасома: 231 – вид сверху/сбоку, 232 – вид сверху; 234 – T1, вид сверху. Масштабные линейки: 224, 227 – 1 мм; 225–226, 228, 234 – 0.25 мм; 229–233 – 0.5 мм.

Material. 1♀, holotype (HNHM, 153290), “India: Kerala, Aralam farm, T.C. Narendran, 31.X.1988”, “♀ *Cassidibracon malabaricus* sp. n. Det. Narendran, T.C. 1994”, “Holotypus”, “Holotype”, “Hym. Typ.No.12037. Museum Budapest”.

Redescription. Female. Body length 1.7 mm; fore wing length 2 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.4 times as long as temple. OOL 2.5× OD; POL 1.4× OD; OOL 1.8× POL. Frons impressed behind antennae, with shallow mid-longitudinal groove.

Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 2.3 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.3 times combined height of face and clypeus; 2.2 times width of hypoclypeal depression. Width of hypoclypeal depression 1.2 times distance from depression to eye. Clypeal sulcus absent, height of clypeus 0.25 times width of hypoclypeal depression. Longitudinal diameter of eye 2.6 times as long as malar space (front view). Maxillary palp longer than eye, but shorter than head.



Figs 235–246. *Scutibracon sumodani* comb. n., female, holotype.

235 – habitus, lateral view; 236–237, 239 – head: 236 – dorsal view, 237 – anterolateral view, 239 – front view; 238 – fore wing; 240–241 – mesosoma: 240 – dorsal view, 241 – lateral view; 242 – T3–T5, dorsolateral view; 243 – T1, dorsolateral view; 244 – metasoma, dorsal view; 245 – apex of ovipositor; 246 – hind tarsus. Scale bars: 235 – 1 mm; 236–242, 244 – 0.5 mm; 243, 245–246 – 0.25 mm.

Рис. 235–246. *Scutibracon sumodani* comb. n., самка, голотип.

235 – общий вид сбоку; 236–237, 239 – голова: вид сверху, 237 – вид спереди/сбоку, 239 – вид спереди; 238 – переднее крыло; 240–241 – мезосома: 240 – вид сверху, 241 – вид сбоку; 242 – T3–T5, вид сверху/сбоку; 243 – T1, вид сверху/сбоку; 244 – метасома, вид сверху; 245 – вершина яйцеклада; 246 – задняя лапка. Масштабные линейки: 235 – 1 мм; 236–242, 244 – 0.5 мм; 243, 245–246 – 0.25 мм.

Antenna with 21 antennomeres. First flagellomere 2 times as long as its apical width, middle and penultimate flagellomeres 2 and 2.4 times as long as wide, respectively.

Mesosoma 1.4 times as long as its maximum height. Transverse pronotal sulcus deep and smooth. Width of mesoscutum 1.3 times its median length (dorsal view). Scutellar sulcus 0.15 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit deep, separated from mesepimeral sulcus. Median area of metanotum with incomplete median carina. Metapleural sulcus weakly crenulate. Propodeal spiracle round, located

behind middle of propodeum, not protruding. Mid-longitudinal keel developed in apical two thirds of propodeum, simple; mid-longitudinal impression absent.

Wings. Vein r arising from basal 0.4 of pterostigma. Vein 1-R1 1.7 times as long as pterostigma. Marginal cell 25 times as long as distance from its apex to apex of wing. Vein 3-SR 1.6× vein r, 0.3× vein SR1, 1× vein 2-SR. Vein 1-M 0.9× vein 1-SR + M, 2.2× vein m-cu, 3× vein cu-a. Vein 2-SR + M 0.35× vein 2-SR, 0.7× vein m-cu. Vein 1-SR + M weakly curved anteriorly proximally. Vein cu-a interstitial. Hind wing vein r-m antefurcal.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae. Hind femur 3.6 times as long as wide. Hind tibia 1.5 times as long as hind femur, its inner spur 0.3 times as long as hind basitarsus. Hind tarsus 1.1 times as long as hind tibia. Fifth segment of hind tarsus 0.5 times as long as hind basitarsus and 0.95 times as long as second segment. Claws with shortly protruding and blunt basal lobes.

Metasoma with 4 dorsally visible tergites. Median length of T1 0.8 times its apical width. T2 medially 1.6 times as long as T3; basal width of T2 1.1 times its median length. Median area of T2 weakly elevated, elongate-triangular, much longer than wide, with sharp crenulate margin. T2 with long s-shaped sublateral carinae delineating weakly elevated anterolateral areas with smoothed sculpture. Spiracle located in anterior part of T2. Suture between T2 and T3 curved. Posterior margins of T3 and T4 without transverse subapical grooves, laterally straight. Ovipositor sheath 0.7 times as long as hind tibia and 0.2 times as long as fore wing.

Sculpture. Head and mesosoma mainly smooth. Face medially below toruli and frons weakly granulate; mesoscutum granulate along notauli. T1 smooth with rugae only along dorsal carinae; T2 rugose, T3 rugose to rugulose, T4 rugulose to almost smooth.

Colouration. Head yellowish brown with brown patches on frons, stemmaticum, and vertex; maxillary palps pale yellow. Antenna brown. Mesosoma reddish brown with brown patches on mesoscutal lobes, scutellum, ventral side of mesopleuron, and propodeum; tegulae yellow. Metasoma dorsally brown; T2 and T3 anterolaterally and posterior margins of T3 and T4 yellowish brown. Wing membrane weakly darkened, pterostigma brown, veins pale brown.

Scutibracon sumodani

(Narendran et Madhavikutty, 1994), **comb. n.**

(Figs 235–246)

Cassidibracon sumodani Narendran et Madhavikutty in Narendran et al., 1994: 129.

Material. 1♀, holotype (HNHM, 153291), "India: Kerala, C.U. Campus, T.C. Narendran, 1990"; "♀ *Cassidibracon sumodani* sp. nov. Det. Narendran, T.C. & Madhavi 1994"; "Holotypus", "Holotype"; "Hym. Typ. No. 12038. Museum Budapest".

Redescription. Female. Body length 1.9 mm; fore wing length 1.8 mm.

Head. Width of head (dorsal view) 1.9 times its median length. Transverse diameter of eye (dorsal view) 2.9 times as long as temple. OOL 2.6× OD; POL 1.2× OD; OOL 2.1× POL. Frons slightly convex, with deep mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 2.8 times minimum width of temple, hind margins of eye and temple broadened ventrally. Face width 1.2 times combined height of face and clypeus; 2.7 times width of hypoclypeal depression. Width of hypoclypeal depression 0.95 times distance from depression to eye. Clypeal sulcus absent, height of clypeus 0.4 times width of hypoclypeal depression. Longitudinal diameter of eye 2.4 times as long as malar space (front view). Maxillary palp as long as eye height.

Antenna with 23 antennomeres. First flagellomere 2.7 times as long as its apical width, middle and penultimate flagellomeres 2.1 and 2.1 times as long as wide, respectively.

Mesosoma 1.4 times as long as its maximum height. Transverse pronotal sulcus deep and crenulate. Width of mesoscutum 1.2 times its median length (dorsal view). Scutellar sulcus 0.2 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit deep, separated from mesepimeral sulcus. Median area of metanotum medially elevated, with complete high median carina. Metapleural sulcus weakly crenulate. Propodeal spiracle located behind middle of propodeum, weakly protruding. Mid-longitudinal keel developed in apical two thirds of propodeum, with short transverse rugae. Mid-longitudinal impression on propodeum absent.

Wings. Vein r arising from basal 0.45 of pterostigma. Vein 1-R1 1.7 times as long as pterostigma. Marginal cell 4.7 times as long as distance from its apex to apex of wing. Vein 3-SR 1.6× vein r, 0.3× vein SR1, 1.2× vein 2-SR. Vein 1-M 0.8× vein 1-SR + M, 2.1× vein m-cu, 2.4× vein cu-a. Vein 2-SR + M 0.35× vein 2-SR, 0.55× vein m-cu. Vein 1-SR + M straight. Vein cu-a weakly postfurcal. Hind wing vein r-m antefurcal.

Legs. Fore tibia with longitudinal and transverse apical rows of thick setae. Hind femur 2.8 times as long as wide. Hind tibia 1.5 times as long as hind femur, its inner spur 0.4 times as long as hind basitarsus. Hind tarsus 1.1 times as long as hind tibia. Fifth segment of hind tarsus 0.5 times as long as hind basitarsus and 0.9 times as long as second segment. Claws with acute angularly protruding basal lobe.

Metasoma with 5 dorsally visible tergites. Median length of T1 0.5 times its apical width. T2 medially 1.5 times as long as T3. Basal width of T2 1.4 times its median length. Median area of T2 absent. T2 with long s-shaped carinae delineating weakly elevated anterolateral areas. Spiracle located in middle of T2. Suture between T2 and T3 almost straight. Posterior margins of T3–T5 with deep crenulate transverse subapical grooves, laterally straight. T5 with wide protruding lamella. Ovipositor sheath 0.75 times as long as hind tibia and 0.2 times as long as fore wing.

Sculpture. Face weakly granulate below toruli and laterally, genae weakly granulate; frons, vertex, and malar space smooth; coxae coriaceous; mesosoma mostly smooth, propodeum posteriorly coriaceous; T1 laterally granulate-rugulose, its median area posteriorly rugose; T2–T5 densely irregularly punctate.

Colouration. Ground colour of body brownish yellow. Scape yellowish brown, flagellum yellowish brown basally, darkening apically. Maxillary palp pale yellow. Mesosoma reddish brown with yellowish brown prothorax, margins of mesoscutal lobes and scutellum; mesopleuron ventrally and patches on mesoscutal lobes dark brown; tegulae brownish yellow. Metasoma yellow with brown patches on posterior half of T2 and medially on T3–T5. Wing membrane brownish darkened, pterostigma brown, wing veins pale brown.

Genus *Simplicibracon* Quicke, 1988

Simplicibracon Quicke, 1988: 416 (type species *Simplicibracon maculigaster* Quicke, 1988). Maetô, 1991: 303.

Composition and distribution. *Simplicibracon curticaudis* Maetô, 1991 (Japan), *S. maculigaster* Quicke, 1988 (Oriental China), *S. nigritarsus* Quicke et Ingram, 1993 (Australia).

Redescription. Female. Head. Toruli not protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face weakly mid-longitudinally elevated. Clypeus flattened, with weakly protruding ventral rim, dorsal carina and clypeal sulcus absent, dorsal clypeal margin sharp. Malar suture weakly impressed. Hypostomal carina not protruding below mandible.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli deep and crenulate. Mesoscutum evenly setose. Median impression on mesopleuron absent. Median area of metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 65–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing.

Legs. Fore tibia with wide row of long thick setae. Hind tibia without subapical row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 6 dorsally visible tergites. T1 with distinct mid-longitudinal impression, developed dorsolateral carinae, and complete dorsal carinae; sublateral carinae of T1 absent. Median area and mid-longitudinal keel of T2 absent; dorsolateral impressions deep, sublateral carinae short. Spiracle located in anterior part of T2. Suture between T2

and T3 straight or medially curved backward. Anterolateral areas developed only on T3, wide, weakly defined by shallow impressions. Posterior margins of T3–T6 with deep, crenulate transverse subapical grooves, laterally straight. T6 medially weakly emarginated. Ovipositor sheath 0.1–0.4 times as long as fore wing. Apex of ovipositor with developed dorsal nodus and ventral serration.

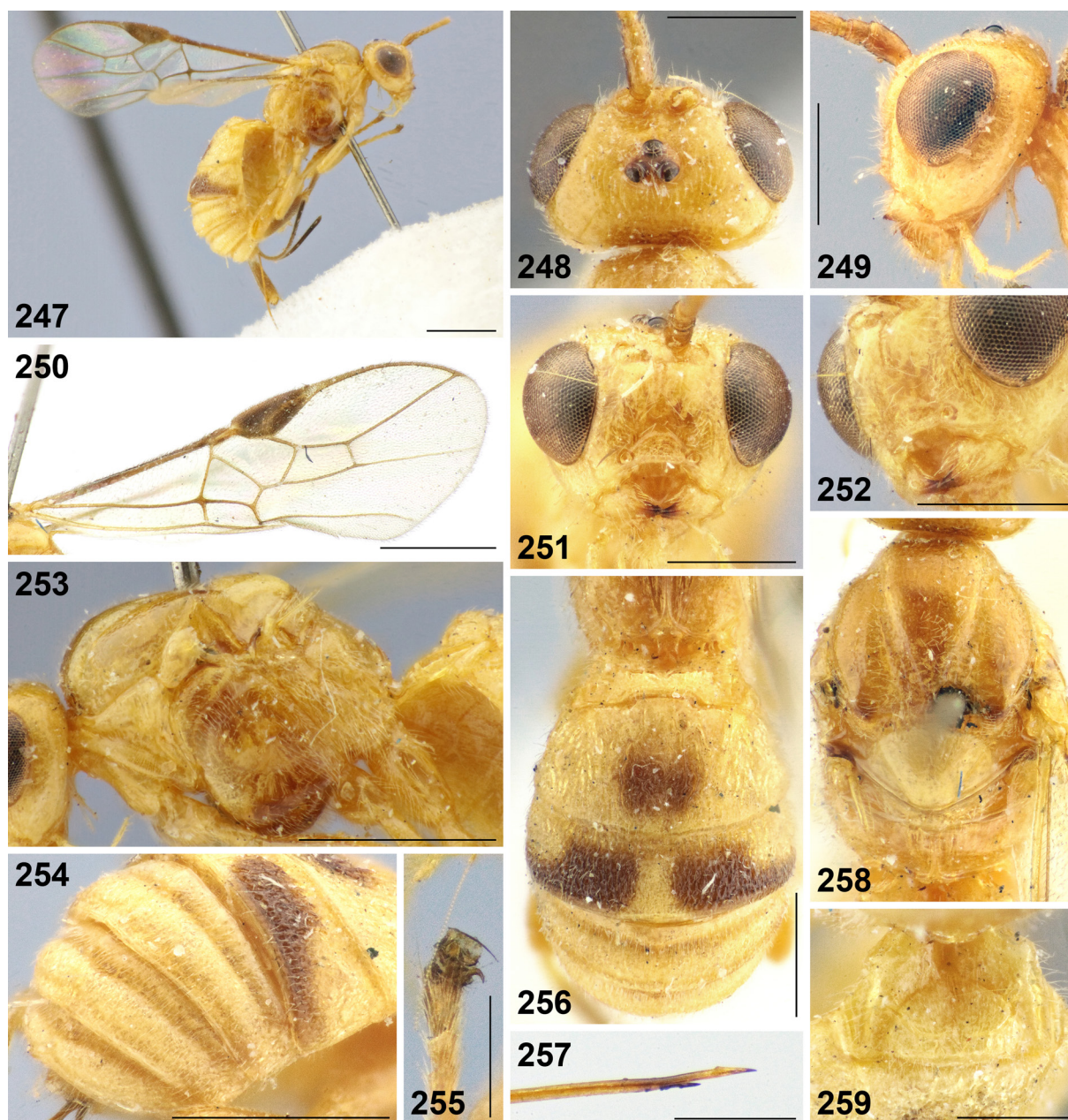
Sculpture. Head and mesosoma mainly smooth, metasomal tergites rugose.

Simplicibracon curticaudis Maetò, 1991

Simplicibracon curticaudis Maetò, 1991: 304.

Simplicibracon maculigaster Quicke, 1988
(Figs 247–259)

Simplicibracon maculigaster Quicke, 1988: 417.



Figs 247–259. *Simplicibracon maculigaster*, female, holotype.

247 – habitus, lateral view; 248–249, 251–252 – head: 248 – dorsal view, 249 – lateral view, 251 – front view, 252 – anterolateral view; 250 – fore wing; 253, 258 – mesosoma: 253 – lateral view, 258 – dorsal view; 254 – T3–T6, dorsolateral view; 255 – apex of hind tarsus; 256 – metasoma, dorsal view; 257 – apex of ovipositor; 259 – T1, dorsal view. Scale bars: 247, 250, 253–254 – 1 mm; 248–249, 251–252, 256, 258–259 – 0.5 mm; 255, 257 – 0.25 mm.

Рис. 247–259. *Simplicibracon maculigaster*, самка, голотип.

247 – общий вид сбоку; 248–249, 251–252 – голова: 248 – вид сверху, 249 – вид сбоку; 251 – вид спереди, 252 – вид спереди/сбоку; 250 – переднее крыло; 253, 258 – мезосома: 253 – вид сбоку, 258 – вид сверху; 254 – T3–T6, вид сверху/сбоку; 255 – вершина задней лапки; 256 – метасома, вид сверху; 257 – вершина яйцеклада; 259 – T1, вид сверху. Масштабные линейки: 247, 250, 253–254 – 1 мм; 248–249, 251–252, 256, 258–259 – 0.5 мм; 255, 257 – 0.25 мм.

Material. 1♀, holotype (BMNH), Taiwan, "Formosa, Sauter", "Koshun 1908.II".

Redescription. Female. Body length 4.3 mm; fore wing length 4.2 mm.

Head. Width of head (dorsal view) 1.7 times its median length. Transverse diameter of eye (dorsal view) 2.1 times as long as temple. OOL 3× OD; POL 1× OD; OOL 3× POL. Frons with shallow impressions behind antennae and deep mid-longitudinal groove. Longitudinal diameter of eye in lateral view 1.3 times its transverse diameter; transverse diameter of eye 2.2 times minimum width of temple, hind margins of eye and temple slightly broadened ventrally. Face width 1.3 times combined height of face and clypeus; 1.9 times width of hypoclypeal depression. Width of hypoclypeal depression 1.5 times distance from depression to eye. Height of clypeus 0.45 times width of hypoclypeal depression. Longitudinal diameter of eye 2.7 times as long as malar space (front view). Maxillary palp longer than eye, but shorter than head.

Antenna. First flagellomere 2 times as long as its apical width.

Mesosoma 1.2 times as long as its maximum height. Transverse pronotal sulcus deep and wide, crenulate. Width of mesoscutum 1.2 times its median length (dorsal view). Notauli united posteriorly. Scutellar sulcus 0.1 times as long as scutellum. Mesepimeral sulcus smooth, mesopleural pit deep. Metapleural sulcus smooth. Propodeal spiracle vertical, located before middle of propodeum, weakly protruding. Mid-longitudinal keel on propodeum simple, complete, with weak mid-longitudinal impression in upper half.

Wings. Angle between veins C + SC + R and 1-SR 65–70°. Vein r arising from basal 0.3 of pterostigma. Vein 1-R1 1.5 times as long as pterostigma. Marginal cell 5.8 times as long as distance from its apex to apex of wing. Vein 3-SR 1.9× vein r, 0.4× vein SR1, 1.4× vein 2-SR. Vein 1-M 0.75× vein 1-SR + M, 2.2× vein m-cu, 1.8× vein cu-a. Vein 2-SR + M 0.35× vein 2-SR, 0.65× vein m-cu. Vein 1-SR + M weakly curved anteriorly. Vein cu-a interstitial. Hind wing vein r-m weakly postfurcal.

Legs. Fore tibia with wide row of long thick setae. Hind femur 3.2 times as long as wide. Hind tibia 1.4 times as long as hind femur, without subapical row of thick setae, its inner spur 0.45 times as long as hind basitarsus. Hind tarsus 0.85 times as long as hind tibia. Fifth segment of hind tarsus 0.45 times as long as hind basitarsus and as long as second segment.

Metasoma. Median length of T1 0.6 times its apical width. T2 medially 1.7 times as long as T3, basal width of T2 1.4 times its median length. Ovipositor sheath 1.7 times as long as hind tibia and 0.4 times as long as fore wing.

Sculpture. Head and mesosoma mostly smooth; malar space granulate, frons weakly granulate; propodeum very weakly coriaceous and weakly rugose medioposteriorly. T1 weakly rugulose, its median area posteriorly rugose; T2 longitudinally rugose to rugulose, T3–T5 rugulose, T6 rugulose-punctate.

Colouration. Body mainly pale ochre yellow. Scape reddish brown, flagellum yellowish brown. Maxillary palp and tegulae yellow. Ocellar triangle, patch on vertex, three patches on mesoscutum, mesopleuron, and hind tibia and tarsus yellowish brown. Patches on T2 and T3 brown. Wing membrane weakly darkened, pterostigma brown, wing veins yellowish brown.

Genus *Testudobracon* Quicke, 1986

Testudobracon Quicke, 1986: 25 (type species *Testudobracon niger* Quicke, 1986). Maetô, 1991: 305; Sheeba et al., 2017: 332; Mai et al., 2023: 486.

Composition and distribution. *Testudobracon alius* Long, 2023 (Vietnam), *T. asphondyliae* Haider et Shujaiddin, 2004 (India), *T. athashi* Ranjith, 2017 (India), *T. australicolorus* Quicke et Ingram, 1993 (Australia), *T. descensus* Long, 2023 (Vietnam), *T. flavus* Wang, Chen et He, 2003 (East China), *T. gibbosa* Yang et Chen, 2006

(Central and East China), *T. grandiventris* Wang, Chen et He, 2003 (East China), *T. guangxinensis* Wang, Chen et He, 2003 (South China), *T. imitator* Long, 2023 (Vietnam), *T. longicaudis* Maetô, 1991 (Japan), *T. malabaricus* Sheeba, 2017 (India), *T. niger* Quicke, 1986 (Indonesia), *T. phiaoacus* Long, 2023 (Vietnam), *T. pleuralis* (Ashmead, 1906) (Oriental China, South Korea, Japan), *T. shameeri* Ranjith, 2017 (India), *T. tatyanae* Quicke et Ingram, 1993 (Australia), *T. travencorensis* Sheeba, 2017 (India), *T. unicolorus* Quicke et Ingram, 1993 (Australia), *T. watanabei* Yang et Chen, 2006 (Oriental China).

Redescription. Female. Head. Toruli weakly or strongly protruding in dorsal view. Vertex at most very weakly longitudinally impressed behind ocelli. Face evenly convex or weakly elevated mid-longitudinally. Clypeus variable, flattened, prominent, or weakly swollen, with (weakly) protruding ventral rim, dorsal carina absent or weak, clypeal sulcus impressed or absent, dorsal clypeal margin sharp or smoothed. Malar suture absent or weakly impressed. Hypostomal carina not protruding or forming thick hook-like tooth below mandible.

Mesosoma. Median lobe of mesoscutum strongly protruding (dorsal view), often with anteriorly projecting anterolateral angles. Notauli deep anteriorly. Mesoscutum evenly setose or mostly glabrous with setae only on notaulic area and on posterior part. Median impression of mesopleuron indistinct. Median area of metanotum with incomplete median carina.

Wings. Angle between veins C + SC + R and 1-SR 55–70°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M weakly curved anteriorly. Wing membrane evenly setose at base of hind wing.

Legs. Fore tibia with more or less developed longitudinal and transverse apical rows of thick setae. Hind tibia without subapical transverse row of thick setae. Claws with acutely protruding basal lobe.

Metasoma with 6 dorsally visible tergites. T1 often with distinct mid-longitudinal impression. Dorsolateral carinae of T1 (weakly) developed, dorsal carinae absent or more or less developed, sublateral carinae absent. Median area of T2 absent or developed, usually longitudinal, stronger separated anteriorly, smoothed posteriorly. Dorsolateral impressions and sublateral carinae of T2 more or less developed. Spiracle located in middle or behind middle of T2. Suture between T2 and T3 curved or almost straight. Anterolateral areas absent or weakly defined only on T3. Posterior margins of T3–T6 often with deep and crenulate transverse subapical grooves, laterally roundly protruding. T6 medially emarginated, with submedioposteriorly protruding lamella. Ovipositor sheath 0.5–1.1 times as long as fore wing. Apex of ovipositor with dorsal nodus and ventral serration.

Sculpture. Head and mesosoma mostly smooth or granulate, metasomal tergites with rugose sculpture.

Testudobracon pleuralis (Ashmead, 1906) (Figs 260–263, 265, 266, 268–272)

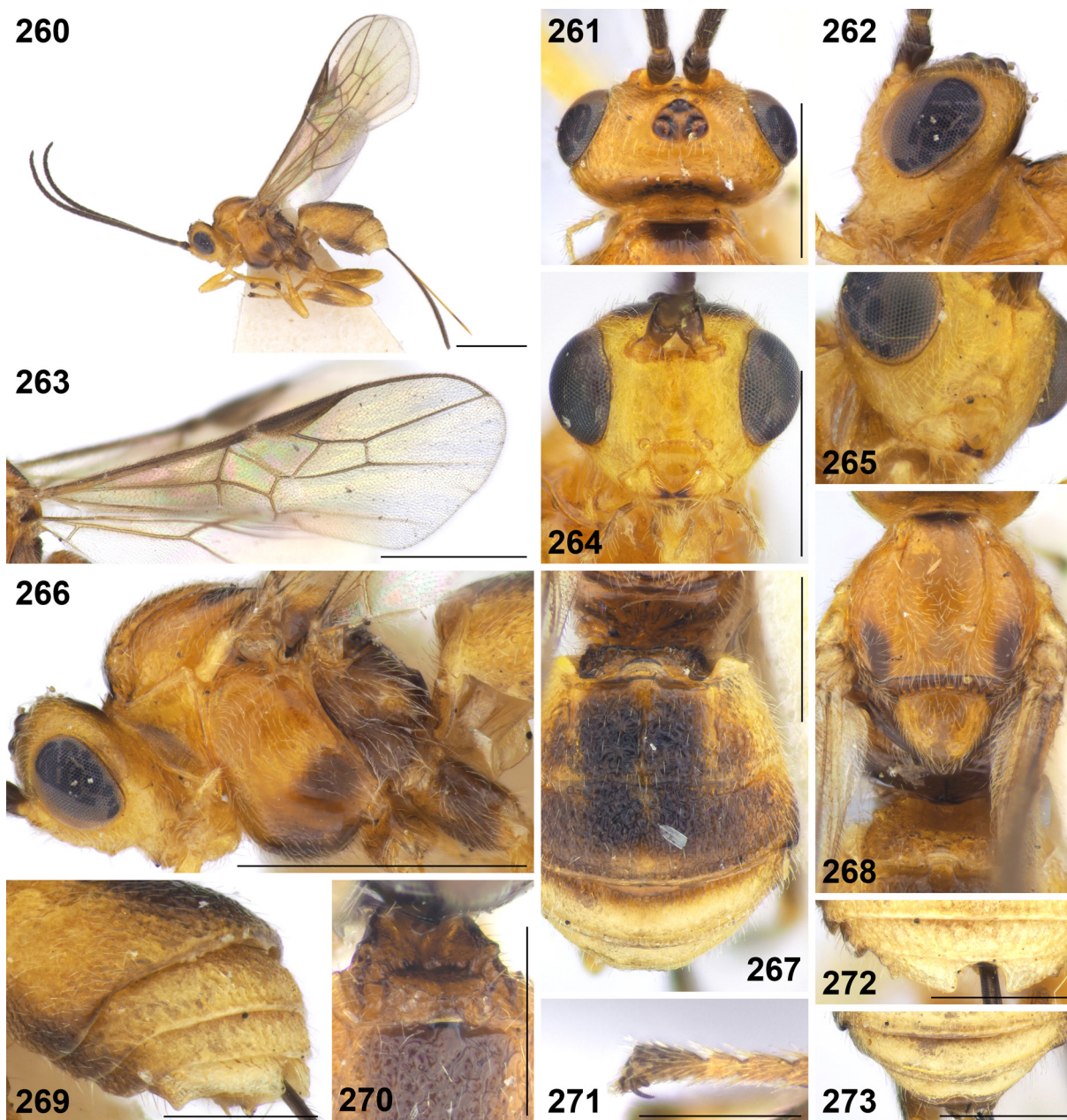
Chelonogastra pleuralis Ashmead, 1906: 196. Maetô, 1991: 306.

Material. 1♀ (ZISP, Hym.KS_0005157), Japan, Kyushu, Fukuoka Prefecture, Fukuoka, Hibaru, 12.07.1992 (V.N. Makarkin); 2♀ (ZISP, Hym.KS_0005010, Hym.KS_0005154), 2♂ (ZISP, Hym.KS_0005155–0005156), Japan, Honshu, Ibaraki Prefecture, Tsukuba, 10.10.1999 (S.A. Belokobylskij).

Testudobracon longicaudis Maetô, 1991 (Figs 264, 267, 273)

Testudobracon longicaudis Maetô, 1991: 309.

Material. 1♀ (ZISP, Hym.KS_0005158), Japan, Kyushu, Fukuoka Pref., Fukuoka, Hibaru, 12.07.1992 (V.N. Makarkin); 1♀ (ZISP, Hym.KS_0005011), Japan, Honshu, Tsukuba, 19.09.1999 (S.A. Belokobylskij).



Figs 260–273. *Testudobracon* species, females.

260–263, 265–266, 268–272 – *T. pleuralis*; 264, 267, 273 – *T. longicaudis*. 260 – habitus, lateral view; 261–262, 264–265 – head: 261 – dorsal view, 262 – lateral view, 264 – front view, 265 – anterolateral view; 263 – fore wing; 266, 268 – mesosoma: 266 – lateral view, 268 – dorsal view; 267 – metasoma, dorsal view; 269 – T3–T6, dorsolateral view; 270 – T1, dorsolateral view; 271 – apex of hind tarsus; 272–273 – T6, dorsal view. Scale bars: 260, 263, 266 – 1 mm; 261–262, 264–265, 267–270, 272–273 – 0.5 mm; 271 – 0.25 mm.

Рис. 260–273. Виды рода *Testudobracon*, самки.

260–263, 265–266, 268–272 – *T. pleuralis*; 264, 267, 273 – *T. longicaudis*. 260 – общий вид сбоку; 261–262, 264–265 – голова: 261 – вид сверху, 262 – вид сбоку, 264 – вид спереди, 265 – вид спереди/сбоку; 263 – переднее крыло; 266, 268 – мезосома: 266 – вид сбоку, 268 – вид сверху; 267 – метасома, вид сверху; 269 – T3–T6, вид сверху/сбоку; 270 – T1, вид сверху/сбоку; 271 – вершина задней лапки; 272–273 – T6, вид сверху. Масштабные линейки: 260, 263, 266 – 1 мм; 261–262, 264–265, 267–270, 272–273 – 0.5 мм; 271 – 0.25 мм.

Genus *Trigastrotheca* Cameron, 1906

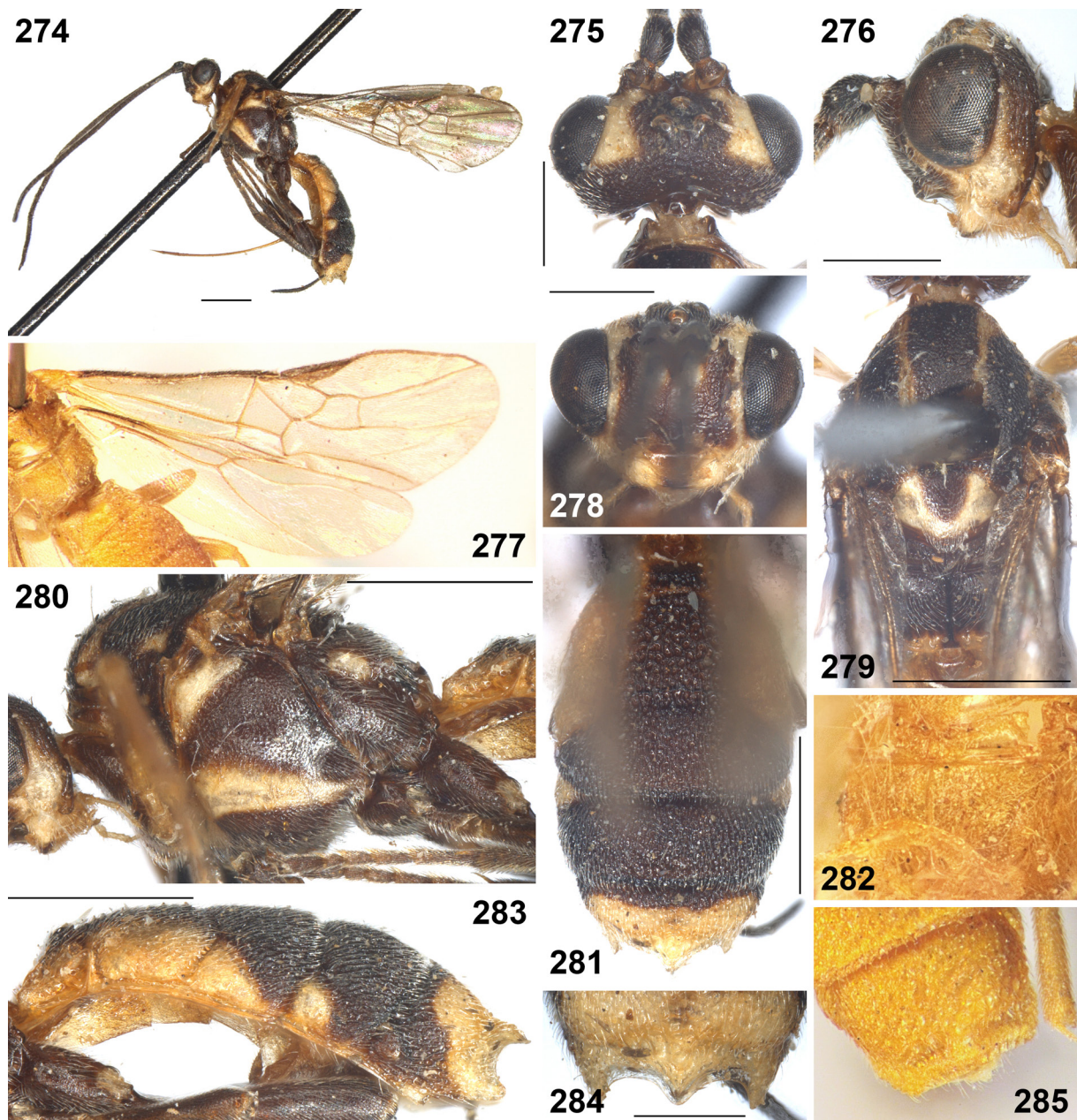
Trigastrotheca Cameron, 1906: 32 (type species *Trigastrotheca trilobata* Cameron, 1906). Quicke et al., 2017: 96.

= *Coelodontus* Roman, 1912: 246 (type species *Ichneumon costator* Thunberg, 1822). Quicke, 1987: 133 (as a synonym of *Trigastrotheca*).

= *Kenema* van Achterberg, 1983: 188 (type species *Kenema quickei* van Achterberg, 1983). Quicke, 1987: 133 (as a synonym of *Trigastrotheca*).

= *Odontopygia* Enderlein, 1920: 60 (type species *Odontopygia tridentata* Enderlein, 1920). Quicke, 1987: 133 (as a synonym of *Trigastrotheca*).

Composition and distribution. *Trigastrotheca doiphukhaensis* Raweearamwong, Quicke et Butcher, 2020 (Thailand [Raweearamwong et al., 2020]), *T. inermis* (Guérin-Ménéville, 1848) (Ethiopia, South Africa), *T. laikipiensis* Quicke, 2005 (Kenya), *T. luzonensis* Quicke et Butcher,



Figs 274–285. *Trigastrotheca* species.

274–276, 278–281, 283–284 – *T. tridentata*, female, holotype; 277, 282, 285 – *T. notata* comb. n., male, holotype. 274 – habitus, lateral view; 275–276, 278 – head: 275 – dorsal view, 276 – lateral view, 278 – front view; 277 – fore wing; 279–280 – mesosoma: 279 – dorsal view, 280 – lateral view; 281, 283 – metasoma: 281 – dorsal view, 283 – lateral view; 282 – metanotum and propodeum, dorsal view; 284–285 – T5, dorsal view. Scale bars: 274, 279–281, 283 – 1 mm; 275–276, 278, 284 – 0.5 mm.

Рис. 274–285. Виды рода *Trigastrotheca*.

274–276, 278–281, 283–284 – *T. tridentata*, самка, голотип; 277, 282, 285 – *T. notata* comb. n., самец, голотип. 274 – общий вид сбоку; 275–276, 278 – голова: 275 – вид сверху, 276 – вид сбоку, 278 – вид спереди; 277 – переднее крыло; 279–280 – мезосома: 279 – вид сверху, 280 – вид сбоку; 281, 283 – метасома: 281 – вид сверху, 283 – вид сбоку; 282 – метанотум и проподеум, вид сверху; 284–285 – T5, вид сверху. Масштабные линейки: 274, 279–281, 283 – 1 мм; 275–276, 278, 284 – 0.5 мм.

2017 (Philippines), *T. maetoi* Quicke et Butcher, 2017 (Indonesia), *T. nigricornis* Cameron, 1910 (South Africa), *T. notata* (Szépligeti, 1914), **comb. n.** (Equatorial Guinea), *T. pariyanonthae* Quicke et Butcher, 2017 (Thailand), *T. quickei* (van Achterberg, 1983) (Sierra Leone), *T. romani* Quicke, 2005 (= *Ichneumon costator* Thunberg, 1822 nec Donovan, 1810) (South Africa), *T. rugosa* (Szépligeti,

1914) (Tanzania), *T. serrata* (van Achterberg et Sigwalt, 1987) (Senegal), *T. sureeratae* Quicke et Butcher, 2017 (Thailand), *T. tricolor* Quicke et Ingram, 1993 (Australia), *T. tridentata* (Enderlein, 1920) (Indonesia), *T. trilobata* Cameron, 1906 (Zimbabwe).

Redescription. Female. Head. Toruli strongly protruding in dorsal view. Vertex without mid-longitudinal sulcus. Clypeus weakly swollen, with not protruding ventral rim, not separated

from face by dorsal carina, clypeal sulcus absent, dorsal clypeal margin sharp. Malar suture weakly impressed or deep only below eye. Hypostomal carina strongly protruding, lamelliform.

Mesosoma. Median lobe of mesoscutum weakly protruding (dorsal view). Notauli deep anteriorly, shallow posteriorly. Mesoscutum evenly setose. Precoxal sulcus vaguely impressed. Median area of metanotum with complete median carina.

Wings. Angle between veins C + SC + R and 1-SR 60–80°. Fore wing vein r-m longer than vein 2-SR. Vein 1-SR + M straight. Wing membrane evenly setose at base of hind wing.

Legs. Hind tibia without subapical row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 5 dorsally visible tergites. T1 with deep mid-longitudinal impression, developed dorsolateral carinae, complete and almost reaching posterior margin of tergite dorsal carinae; sublateral carinae absent, but median area of tergite laterally compressed. Median area and mid-longitudinal keel of T2 absent; sublateral carinae short or long. Spiracle located at middle of T2. Suture between T2 and T3 weakly curved. T3–T5 with large anterolateral areas proximally separated by crenulate furrows. Posterior margins of T3–T5 laterally straight, without transverse subapical grooves. T5 with large median and lateroposterior protuberances separated by submedial emarginations. Ovipositor sheath 0.2–0.25 times as long as fore wing. Apex of ovipositor with developed dorsal nodus and ventral serration.

Sculpture. Head and mesosoma widely with rugulose sculpture, metasomal tergites rugose.

Male. T5 evenly rounded posteriorly.

Trigastrotheca luzonensis Quicke et Butcher, 2017

Trigastrotheca luzonensis Quicke et Butcher in Quicke et al., 2017: 98.

Trigastrotheca nigricornis Cameron, 1910

Trigastrotheca nigricornis Cameron, 1910: 439.

Material. 1♀, holotype (MNB), South Africa, “12943”, “Capland, Krebs S.”; “*Trigastrotheca nigricornis* Cam. Type.”

Trigastrotheca notata (Szépligeti, 1914), **comb. n.**
(Figs 277, 282, 285)

Habrobracon notatus Szépligeti, 1914: 186.

Material. 1♂, holotype (MNB), Equatorial Guinea, “Span. Guinea Nkolentangan, X1.07–V.08. G. Teßmann S.G.”; “Equatorial Guinea”, “*Habrobracon notatus* sp. n. det. Szépligeti”, “*Habrobracon notatus* sp. n.”; “Type”, “Lectotypus ♂ *Habrobracon notatus* sp. n. Szépl. 1914. des. Papp J. 2007”.

Note. Designation of the type specimen as a lectotype by J. Papp is unnecessary and invalid, because the original description does not imply more than one specimen in the type material. In addition, a single male specimen in the MNB collection is labeled as a “type”. The new combination is proposed based on the complete correspondence of the diagnostic characters of this species to the genus *Trigastrotheca*.

Trigastrotheca quickei (van Achterberg, 1983)

Kenema quickei van Achterberg, 1983: 188.

Trigastrotheca rugosa (Szépligeti, 1914)

Habrobracon rugosus Szépligeti, 1914: 186.

Kenema rugosa: Quicke, Koch, 1990: 219.

Trigastrotheca rugosa: Quicke, Stanton, 2005: 187.

Material. 1♂, holotype (after Quicke and Koch [1990: 219]) (MNB), Tanzania, “D. O. Afrika 1.06 3000–4000 m, Kilimandscharo, Schröder S.”; “Tanzania”, “*Habrobracon rugosus* sp. n. det. Szépligeti”, “*Habrobracon rugosus* sp. n.”; “Type”, “Lectotypus ♂ *Habrobracon rugosus* sp. n. Szépl. 1914. des. Papp J. 2007”.

Trigastrotheca serrata (van Achterberg et Sigwalt, 1987)

Kenema serrata van Achterberg et Sigwalt, 1987: 453.

Trigastrotheca serrata: Quicke, Stanton, 2005: 187.

Trigastrotheca tridentata (Enderlein, 1920)

(Figs. 274–276, 278–281, 283, 284)

Odontopygia tridentata Enderlein, 1920: 60.

Trigastrotheca tridentata: Quicke, van Achterberg, 1990: 262.

Material. 1♀, holotype (MIIZ), Indonesia, “Sumatra, Soekaranda”.

Trigastrotheca luzonensis Quicke et Butcher, 2017

Trigastrotheca luzonensis Quicke et Butcher in Quicke et al., 2017: 98.

Genus *Uncobracon* Papp, 1996

Uncobracon Papp, 1996: 168 (type species *Bracon apoderi* Watanabe, 1933). Samartsev, 2018: 249.

Composition and distribution. *Uncobracon apoderi* (Watanabe, 1933) (Palaeartic: Far East), *U. belokobylskii* Samartsev, 2018 (Palaeartic: Far East), *U. eurysulcatus* (Li, He et Chen, 2020) (South China [Li et al., 2020]), *U. longwangshanensis* (Li, He et Chen, 2020) (East China [Li et al., 2020]), *U. pappi* (Tobias, 2000) (Palaeartic: Far East), *U. tricoloratus* (Tobias, 2000) (Palaeartic: Far East).

Redescription. Female. Head. Toruli not or weakly protruding in dorsal view. Vertex without mid-longitudinal sulcus. Face evenly convex or weakly elevated mid-longitudinally. Clypeus more or less prominent, with strongly protruding ventral rim; dorsal carina absent, clypeal sulcus impressed or absent, dorsal clypeal margin sharp or smoothed. Malar suture weakly impressed (but often distinct). Hypostomal carina forming thick hook-like tooth.

Mesosoma. Median lobe of mesoscutum not or weakly protruding (dorsal view). Notauli deep anteriorly, impressed posteriorly, smooth. Mesoscutum with setae only along notauli or with lobes entirely, but sparsely setose. Median impression of mesopleuron absent. Median area of metanotum with incomplete or complete median carina.

Wings. Angle between veins C + SC + R and 1-SR 70–80°. Vein r-m shorter than vein 2-SR. Vein 1-SR + M curved anteriorly. Wing membrane evenly setose at base of hind wing.

Legs. Hind tibia without subapical transverse row of thick setae. Claws with acute angularly protruding basal lobe.

Metasoma with 6 dorsally visible tergites. Dorsolateral carinae of T1 developed, dorsal carinae incomplete or complete, sublateral carinae absent (but median area of T1 sometimes laterally compressed). Median area of T2 absent or weakly defined, longitudinal; mid-longitudinal keel absent. Dorsolateral impressions of T2 shallow or deep, sublateral carinae absent or more or less developed; anterolateral areas absent. Spiracle located in middle or in anterior part of T2. Suture between T2 and T3 (weakly) curved. T3–T6 without anterolateral areas, with laterally straight posterior margins, and with or without transverse subapical grooves. Ovipositor sheath 0.38–0.55 times as long as fore wing. Apex of ovipositor with distinct dorsal nodus and ventral serration.

Sculpture. Head and mesosoma mostly smooth, metasomal tergites often strongly sculptured at least on T2.

Uncobracon apoderi (Watanabe, 1933)

Bracon apoderi Watanabe, 1933: 180. Belokobylskij, Tobias, 2000: 119.

Uncobracon apoderi: Papp, 1996: 168; Tan et al., 2012: 65; Samartsev, 2018: 254.

= *Bracon dahuricus* Telenga, 1936: 396; Belokobylskij, Tobias, 2000: 119 (lectotype designation; synonymised with *B. apoderi*).

Material. 1♀, lectotype of *Bracon dahuricus* (ZISP, INS_HYM_0002795), Russia, Primorskiy Region, "Vladivostok Sedanka Malaise" and "20/7 30" (on the reverse side), "*Bracon dahuricus* sp. n. det. Shestakov", "Lectotypus *Bracon dahuricus* Tel design. Tobias 1999", "*Uncobracon apoderi* Wat. det. Papp J. 2001"; 1♀ (ZISP, KS.A0063), Russia, Primorskiy Region, Vladivostok, Okeanskaya, forest, forest edges, 30.07.2001 (S.A. Belokobylskij); 1♀ (ZISP, KS.A0062), Russia, Primorskiy Region, Sukhanovka, 10 km SW of Slavyanka, forest, glades, 7.08.2013 (S.A. Belokobylskij).

Uncobracon belokobylskii Samartsev, 2018

Uncobracon belokobylskii Samartsev, 2018: 249.

Material. 1♀, holotype (ZISP), Russia, Primorskiy Region, 10 km SE of Partizansk, Novitskoe, forest, glades, 3–4.08.2013 (S.A. Belokobylskij); 1♂ (ZISP, Hym.KS_0005227), Russia, Primorskiy Region, Partizansk, Novitskoe, 43.049°N / 133.225°E, 9.06.2016 (S.A. Belokobylskij).

Uncobracon pappi (Tobias, 2000)

Bracon pappi Tobias, 2000 in Belokobylskij, Tobias, 2000: 121.

Uncobracon pappi: Tan et al., 2012: 65; Samartsev, 2018: 254.

Material. 1♀, paratype (ZISP), Russia, Primorskiy Region, 20 km ESE of Spassk-Dalniy, Siniy Ridge, forest, forest openings, 16.07.1998 (S.A. Belokobylskij).

Uncobracon tricoloratus (Tobias, 2000)

Bracon tricoloratus Tobias, 2000 in Belokobylskij, Tobias, 2000: 120.

Uncobracon tricoloratus: Samartsev, 2018: 254.

Material. 1♀, holotype (ZISP), Russia, Primorskiy Region, vicinity of Spassk-Dalniy, forest border, glades, 8.08.1996 (S.A. Belokobylskij); 1♀, paratype (ZISP), Russia, Primorskiy Region, 20 km ESE of Spassk-Dalniy, forest, forest openings, 15.07.1995, (S.A. Belokobylskij).

Discussion

The aim of this work was to distinguish *Cassidibracon* and related genera and substantiate their composition. The taxa were considered based on the criteria that were established during their description [van Achterberg, 1983, 1989; Quicke, 1987, 1988, 1989; Quicke, Walker, 1989]. It is important to note that majority of the genera under consideration are represented by one to three morphologically very similar species (except *Crinibracon* and *Scutibracon* with five species each, *Uncobracon* with seven species, and the larger genera *Trigastrotheca* and *Testudobracon*), and, therefore, the taxonomic concepts of these genera are quite strict. Further study will possibly lead to a blurring of the boundaries between a number of these genera and their synonymisation or rank lowering to subgenera. Thus, the limits of the genus *Gelasinibracon* had to be expanded to include the subgenus *Pappobracon*, which is characterised by the long, distinctly projecting T4 and T5 [Samartsev, 2019], while transferring the species with developed median area of T2 (*Scutibracon malabaricus*) or reduced dorsolateral carinae of T1 and the transverse T2

(*S. "hispaе"* sec Quicke et Walker) considerably expanded the diagnosis of the genus *Scutibracon* in the current study.

The data obtained during the current work do not allow me to make certain assumptions about the proximity of the considered genera. Ten genera from the couplets 11–17 of the presented key appear to be quite morphologically similar and probably forming a separate group of genera. The most distinctive genus of this group is *Ancilibracon* characterised by a strong malar suture, a deep longitudinal impression on the vertex, development of impressions of the mesopleuron, dorsal and dorsolateral carinae on T1, strongly shortened and retracted T4–T6, and very short ovipositor sheath.

However, morphological analysis also shows that other genera of the *Plesiobracon* group are morphologically very diverse and their unification is hardly justified. Thus, classification of this set of genera requires further elaboration involving a larger number of genera and molecular methods. Hopefully, the presented key and illustrations will help to correctly identify representatives of the considered genera when conducting new studies.

Acknowledgements

This work would not have happened without studying the type material from many museum collections. I am indebted to Frederique Bakker and Wendy van Bohemen (RMNH), Sergey A. Belokobylskij (ZISP, MIIZ), Gavin R. Broad (BMNH), Robert R. Kula (USNM), Viola Richter (MNB), Zoltán Vas (HNHM), Claire Villemant (MNHN), and David Wahl (AEI) for the opportunities to study the necessary material. Simon van Noort (SAMC), Crystal A. Maier and Charles W. Farnum (MCZ), Bao-Cheng Lai (National Museum of Natural Science, Taichung, Taiwan), Khuat Dang Long (Institute of Ecology and Biological Resources, Vietnam Academy of Science and Technology), and A.P. Ranjith (Ashoka Trust for Research in Ecology and the Environment, Bangalore, India) provided photographs and checked characters of some taxa, for which I am deeply grateful. I would like to sincerely thank S.A. Belokobylskij (ZISP) and Cornelis van Achterberg (RMNH) for multiple consultations and encouragement to elaborate the presented article as well as for readily providing reviews with detailed criticism and valuable comments that helped me to correct many flaws in the manuscript.

This work was performed in the frames of the state research project No. 122031100272-3.

References

- Achterberg C. van. 1983. Six new genera of Braconinae from the Afrotropical Region (Hymenoptera, Braconidae). *Tijdschrift voor Entomologie*. 126: 175–202.
- Achterberg C. van. 1989. Four new genera of Braconinae and Rogadinae from Oriental region (Hymenoptera: Braconidae). *Zoologische Mededelingen*. 63(9): 79–95.
- Achterberg C. van. 1993. Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea). *Zoologische Verhandlungen*. 283: 1–189.
- Achterberg C. van., Sigwalt B. 1987. Three new genera of Braconinae from the Afrotropical region (Hymenoptera: Braconidae). *Zoologische Mededelingen*. 61(31): 443–458.

- Ashmead W.H. 1906. Descriptions of new Hymenoptera from Japan. *Proceedings of the United States National Museum*. 30: 169–201. DOI: 10.5479/si.00963801.30-1448.169
- Belokobylskij S.A., Tobias V.I. 2000. 54. Family Braconidae. In: *Opredelitel' nasekomykh Dal'nego Vostoka Rossii*. T. 4. Setchatokryloobraznye, skorpiionitsy, pereponchatokrylye. Ch. 4 [Key to the insects of Russian Far East. Vol. 4. Neuropteroidea, Mecoptera, Hymenoptera. Pt 4.]. Vladivostok: Dal'nauka: 8–571 (in Russian).
- Belshaw R., Lopez-Vaamonde V., Degerli N., Quicke D.L.J. 2001. Paraphyletic taxa and taxonomic chaining: evaluating the classification of braconine wasps (Hymenoptera: Braconidae) using 28S D2-3 rDNA sequences and morphological characters. *Biological Journal of the Linnean Society*. 73(4): 411–424. DOI: 10.1111/j.1095-8312.2001.tb01370.x
- Cameron P. 1903. Descriptions of new genera and species of Hymenoptera taken by Mr. Robert Shelford at Sarawak, Borneo. *Journal of the Straits Branch of the Royal Asiatic Society*. 39: 89–181.
- Cameron P. 1906. Descriptions of new species of parasitic Hymenoptera chiefly in the collection of the South African Museum, Cape Town. *Annals of the South African Museum*. 5: 17–186.
- Cameron P. 1910. On some African species of the subfamilies Exothecinae, Aphrastobraconinae, Cheloninae, Doryctinae, Cardiochilinae and Microgasterinae in the Royal Berlin Zoological Museum. *Zeitschrift für Naturwissenschaft*. 81: 433–450.
- Chan M.L., Yeh J.Y., Jeng M.L., Tsai J.F., Chen Y.L., Chen L.H., Lin S.R. 2023. Specimen: *Microbracon hispae* Viereck, 1913. *Integrated insect types database of Taiwanese species*. Available at: <http://twinsecttype.nmns.edu.tw/specimen/?id=NMNS-USNM-00058> (accessed 8 November 2023).
- Chen J.H., Yang J.Q. 2006. Systematic studies on Braconinae of China (Hymenoptera: Braconidae). Fuzhou: Fujian Science and Technology Publishing House. 304 p. (in Chinese).
- Chen X.X., van Achterberg C. 2019. Systematics, phylogeny, and evolution of braconid wasps: 30 years of progress. *Annual Review of Entomology*. 64(1): 335–358. DOI: 10.1146/annurev-ento-011118-111856
- Enderlein G. 1920. Zur Kenntnis aussereuropäischer Braconiden. *Archiv für Naturgeschichte*. 1918. 84(11): 51–224. DOI: 10.5962/bhl.part.13627
- Granger C. 1949. Braconides de Madagascar. *Mémoires de l'Institut Scientifique de Madagascar (A)*. 2: 1–428.
- Gupta A., Naveen V. 2014. A new species of genus *Cassidibracon* Quicke (Hymenoptera: Braconidae: Braconinae) with new host record from India. *Journal of Biological Control*. 28(3): 122–125.
- Gupta A., van Achterberg C., Chitrala M. 2016. A new species of *Crinibracon* Quicke (Hymenoptera: Braconidae) parasitic on pupae of *Hasora chromus* (Cramer) (Lepidoptera: Hesperidae) from India. *Zootaxa*. 4158(2): 281–291. DOI: 10.11646/zootaxa.4158.2.9
- International Commission on Zoological Nomenclature. 1999. International Code of Zoological Nomenclature. Fourth edition. London: International Trust for Zoological Nomenclature. xxix + 306 p.
- Kittel R.N., Quicke D.L.J. 2015. *Platybracon* Yang et al. (2008) (Hymenoptera: Braconidae), a junior homonymy and subjective synonymy – a systematic and nomenclatural note. *Zootaxa*. 4032(2): 197–198. DOI: 10.11646/zootaxa.4032.2.4
- Li Y., He J.-h., Chen X.-x. 2020. The subgenera *Glabrobracon* Fahringer, *Lucobracon* Fahringer and *Uncobracon* Papp of the genus *Bracon* Fabricius (Hymenoptera, Braconidae, Braconinae) in China, with the description of eleven new species. *Deutsche Entomologische Zeitschrift*. 67(2): 209–252. DOI: 10.3897/dez.67.57668
- Long K.D., van Achterberg C., Dzuong N.V., Oanh N.T., Mai P.Q. 2023. The identity of *Chivinia* Shestakov (Hymenoptera: Braconidae, Braconinae), with description of a similar species from the Oriental region. *Zootaxa*. 5343(6): 531–538. DOI: 10.11646/zootaxa.5343.6.3
- Maetó K. 1991. Braconid parasitoids (Hymenoptera) of the gall-making Cecidomyiidae (Diptera) in Japan. *Japanese Journal of Entomology*. 59(2): 295–313.
- Mai P.Q., Long K.D., Hiep N.D., Hoa D.T., Duong T.D. 2023. First record of the genus *Testudobracon* Quicke, 1986 (Hymenoptera: Braconidae: Braconinae) in Vietnam, with description of four new species. *Zootaxa*. 5244(5): 485–500. DOI: 10.11646/zootaxa.5244.5.5
- Narendran T.C., Rema C.G., Madhavikutty M. 1994. Three new species of *Cassidibracon* Quicke (Hymenoptera: Braconidae) from India. *Bioed*. 5(2): 125–132.
- Noort S. van. 2023. WaspWeb: Hymenoptera of the Afrotropical region. Available at: www.waspweb.org (accessed 28 September 2023).
- Papp J. 1965. New species of *Bracon* F. from Hungary and Roumania (Hymenoptera, Braconidae). *Acta Zoologica Hungarica*. 11: 403–416.
- Papp J. 1996. Braconidae (Hymenoptera) from Korea, XVIII. *Annales Historico-Naturales Musei Nationalis Hungarici*. 88: 145–170.
- Papp J. 1998. Braconidae (Hymenoptera) from Korea. XIX. *Acta Zoologica Academiae Scientiarum Hungaricae*. 43(2): 93–110.
- Quicke D.L.J. 1986. Seven new genera and species of Braconinae (Hym., Braconidae) from Australasia and Indonesia. *Entomologist's Monthly Magazine*. 122: 9–30.
- Quicke D.L.J. 1987. The Old World genera of braconine wasps (Hymenoptera: Braconidae). *Journal of Natural History*. 21: 43–157. DOI: 10.1080/00222938700770031
- Quicke D.L.J. 1988. Four new genera of the *Plesiobracon* Cameron group (Insecta, Hymenoptera, Braconidae). *Zoologica Scripta*. 17: 411–418. DOI: 10.1111/j.1463-6409.1988.tb00116.x
- Quicke D.L.J. 1989. Three new genera of Braconini from Australasia and Malaysia (Insecta, Hymenoptera, Braconidae). *Zoologica Scripta*. 18: 295–302. DOI: 10.1111/j.1463-6409.1989.tb00455.x
- Quicke D.L.J., Broad G.R., Butcher B.A. 2012. First host record for the Palaeotropical braconine wasp genus *Cassidibracon* Quicke (Hymenoptera, Braconidae) with the description of a new species from India. *Journal of Hymenoptera Research*. 28: 135–141. DOI: 10.3897/jhr.28.3192
- Quicke D.L.J., Butcher B.A., Ranjith A.P., Belokobylskij S.A. 2017. Revision of the non-Afrotropical species of *Trigastrotheca* Cameron (Hymenoptera: Braconidae: Braconinae) with descriptions of four new species. *Zootaxa*. 4242(1): 95–110. DOI: 10.11646/zootaxa.4242.1.5
- Quicke D.L.J., Ingram S.N. 1993. Braconine wasps of Australia. *Memoirs of the Queensland Museum*. 33(1): 299–336.
- Quicke D.L.J., Jasso-Martinez J.M., Ranjith A.P., Sharkey M.J., Manjunath R., Naik S., Hebert P.D.N., Priyadarsanan D.R., Thurman J., Butcher B.A. 2023. Phylogeny of the Braconinae (Hymenoptera: Braconidae): a new tribal order! *Systematic Entomology*: 1–26. DOI: 10.1111/syen.12608
- Quicke D.L.J., Koch F. 1990. Die Braconinae-Typen der beiden bedeutendsten Hymenopteransammlungen der DDR (Hymenoptera). *Deutsche Entomologische Zeitschrift*. 37: 213–227.
- Quicke D.L.J., Stanton M.L. 2005. *Trigastrotheca laikipiensis* sp. nov. (Hymenoptera: Braconidae): A new species of brood parasitic wasp that attacks foundress queens of three coexisting Acacia-ant species in Kenya. *Journal of Hymenoptera Research*. 14(2): 182–190.
- Quicke D.L.J., van Achterberg C. 1990. The type specimens of Enderlein's Braconinae (Hymenoptera: Braconidae) housed in Warsaw. *Tijdschrift voor Entomologie*. 133: 251–264.
- Quicke D.L.J., Walker A. 1989. A new Indo-Australian genus of Braconinae (Hym., Braconidae) parasitic on Hispidae (Col.). *Entomologist's Monthly Magazine*. 125: 19–24.
- Ranjith A.P., Santhosh S., Nasser M. 2017. Range extension of the rare braconine genus, *Lyricebracon* Quicke (Hymenoptera: Braconidae), with the description of a new species from India. *Zootaxa*. 4227(3): 422–430. DOI: 10.11646/zootaxa.4227.3.8
- Raweearamwong M., Quicke D.L.J., Butcher B.A. 2020. A new species of *Trigastrotheca* Cameron (Hymenoptera: Braconidae: Braconinae) from Thailand. *Zootaxa*. 4801(1): 179–184. DOI: 10.11646/zootaxa.4801.1.10
- Roman A. 1912. Die Ichneumonidentypen C.P. Thunbergs. *Zoologische Bidrag från Uppsala*. 1: 229–293.
- Samartsev K., Ku D.S. 2020. New species of the genera *Bracon* Fabricius and *Syntormenus* Enderlein (Hymenoptera, Braconidae, Braconinae) from South Korea. *ZooKeys*. 999: 1–47. DOI: 10.3897/zookeys.999.58747
- Samartsev K., van Achterberg C. 2021. Afrotropical species of the genus *Sculptolobus* Yang, van Achterberg & Chen (Hymenoptera, Braconidae, Braconinae). *Journal of Hymenoptera Research*. 84: 301–325. DOI: 10.3897/jhr.84.68702
- Samartsev K.G. 2018. New species of the subfamily Braconinae (Hymenoptera: Braconidae) from the Russian Far East. *Zootaxa*. 4388(2): 238–254. DOI: 10.11646/zootaxa.4388.2.6
- Samartsev K.G. 2019. To the knowledge of the subfamily Braconinae (Hymenoptera: Braconidae) of Russia. In: Trudy Russkogo entomologicheskogo obshchestva. Tom 90. Novye faunisticheskie dannye po paraziticheskim pereponchatokrylym nasekomym Rossii [Proceedings of the Russian Entomological Society. Vol. 90. New faunistic data on the parasitic Hymenoptera of Russia]. St Petersburg: Zoological Institute of the Russian Academy of Sciences: 54–85. DOI: 10.47640/1605-7678_2019_90_54
- Sheeba M., Ranjith A.P., Narendran T.C. 2017. Review of *Testudobracon* Quicke (Hymenoptera: Braconidae) with descriptions of four new species from south India. *Zootaxa*. 4232(3): 331–346. DOI: 10.11646/zootaxa.4232.3.3
- Szépligeti G. 1900. Braconiden aus New-Guinea in der Sammlung des Ungarischen National Museums. *Természetráji Füzetek*. 23: 49–65.
- Szépligeti G. 1914. Afrikanische Braconiden des Königl. Zoologischen Museums in Berlin. *Mitteilungen aus dem Zoologischen Museum in Berlin*. 7: 153–230.

- Tan J.-L., Sheng M.-L., van Achterberg K., Sun S.-P. 2012. The first record of the genus *Uncobracon* Papp from China (Hymenoptera: Braconidae). *Zootaxa*. 3323(1): 64–68. DOI: 10.11646/zootaxa.3323.1.5
- Telenga N.A. 1936. Fauna SSSR. Nasekomye pereponchatokrylye. T. 5, vyp. 2. Sem. Braconidae (Ch. 1) [Fauna of the USSR. Insects, Hymenoptera. Vol. 5, Iss. 2. Family Braconidae. (Part 1)]. Moscow – Leningrad: Academy of Sciences of the USSR. 403 p. (in Russian).
- Viereck H.L. 1913. Descriptions of six new genera and twelve new species of ichneumon-flies. *Proceedings of the United States National Museum*. 44(1974): 639–648. DOI: 10.5479/si.00963801.1974.639
- Wang Y.-P., Chen X.-X., Wu H., He J.-H. 2010. Two genera of Braconinae (Hymenoptera, Braconidae) in China, with descriptions of four new species. *ZooKeys*. 61: 47–62. DOI: 10.3897/zookeys.61.450
- Watanabe C. 1933. On two new species of Braconidae bred from some curculionid larvae in Japan. *Insecta Matsumurana*. 7(4): 180–181.
- Yang J.-Q., Chen J.-H., Liu J.-J. 2008. A new genus and a new species of Braconinae (Hymenoptera, Braconidae) from China. *Acta Zootaxonomica Sinica*. 33(1): 61–64.
- Yu D.S., van Achterberg C., Horstmann K. 2016. Taxapad 2016, Ichneumonoidea 2015. Database on flash-drive. Nepean (Ontario), Canada.

Received / Поступила: 31.10. 2023

Accepted / Принята: 19.11.2023

Published online / Опубликована онлайн: 27.12.2023