

## The Mesitiinae of China (Hymenoptera, Bethyridae)

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**Abstract** Ten species belonging to three genera of the subfamily Mesitiinae are recorded from China: *Metriorotus hongkongensis* MÓCZÁR, 1974 from Hong Kong, *Heterocoelia brevicula* sp. nov. from Zhejiang, *Sulcomesitius impressus* sp. nov. from Guangxi, *S. haemorrhoidalis* (MAGRETTI, 1897) from Hong Kong and Taiwan, *S. punctulatus* sp. nov. from Fujian, *S. moczari* sp. nov. from Shandong, *S. rectus* sp. nov. from Zhejiang and Guangxi, *S. borneoensis* MÓCZÁR, 1976 from Shandong, *S. vechti* MÓCZÁR, 1979 from Zhejiang and *S. laosensis* MÓCZÁR, 1976 from Henan and Zhejiang.

The subfamily Mesitiinae contains 179 described species belonging to 13 genera, and known from the Old World. Two species belonging to two genera have been known from China up to the present (GORDH and MÓCZÁR, 1990). This is the most rarely collected subfamily in Bethyridae in China. Recently we have examined 14 specimens of Mesitiinae from China in the course of our systematic study on this subfamily. After careful examination, we have recognized 10 species of which 5 are new to science.

In this paper the following abbreviations are used for descriptions: LH, length of head; WH, width of head; WF, width of frons; LM, length of mesosoma; LPD, length of propodeal disc; WPD, width of propodeal disc; LFW, length of fore wing; TL, total body length; LE, length of eye; POL, distance between posterior ocelli; WOT, distance across and including posterior ocelli; OL, distance between anterior ocellus and posterior ocellus; OOL, distance from posterior ocellus to nearest eye margin; DOO, distance between posterior ocelli and occipital carina; DAO, diameter of anterior ocellus; LLS, length of lateral spines of propodeum.

All the types are deposited in the Department of Plant Protection, Zhejiang University, China.

### Subfamily Mesitiinae BERLAND, 1928

Mesitiinae BERLAND, 1928. Faune de Fr., 19: 108.

Type genus: *Mesitius* SPINOLA, 1851.

Mesitiinae BERLAND, 1928; NAGY, 1969, Lucr. Sta. Zool. Marit. Agigea, 3: 276; MÓCZÁR, 1970, Acta Zool. Hung., 16:176; GORDH and MÓCZÁR, 1990, Mem. Amer. Ent. Inst., 46: 172.

### Key to the Genera of Mesitiinae in China

- 1 Head and pronotum only superficially punctured; scutum and scutellum smooth, finely shagreened and granulated; scutum with a weakly impressed longitudinal furrow. .... *Metriorotus* MÓCZÁR
- Head and pronotum densely, coarsely or deeply punctured; scutum and scutellum partly punctured; scutum with a distinctly impressed longitudinal furrow. .... 2

- 2 Anterior corner of clypeus rectangular laterally; scutum rarely with longitudinal furrow; lateral spine of propodeum stumpy or moderately long, usually with a dull apex. .... *Heterocoelia* DAHLBOM
- Anterior corner of clypeus obtuse laterally; scutum with a longitudinal furrow which is usually well developed; lateral spine of propodeum generally long and with a sharp apex in dorsal view. .... *Sulcomesitius* MÓCZÁR

### Genus *Metrionotus* MÓCZÁR, 1970

*Metrionotus* MÓCZÁR, 1970. Acta Zool. Hung., 16: 177, 201.

Type species: *Metrionotus pappi* MÓCZÁR, 1970, by original designation.

*Metrionotus*: MÓCZÁR, 1984, Folia Ent. Hung., 45(1): 113.

*Remarks.* Twenty-eight species of *Metrionotus* have been known in the world. One species has been known in this genus from China.

### *Metrionotus hongkongensis* MÓCZÁR, 1974

*Metrionotus hongkongensis* MÓCZÁR, 1974. Acta Biol. Szeged, 20: 175, 176.

*Metrionotus hongkongensis*: MÓCZÁR, 1984, Folia Ent. Hung., 45(1): 116; GORDH and MÓCZÁR, 1990, Mem. Amer. Ent. Inst., 46: 183.

*Distribution.* China (Hong Kong).

*Material examined.* None in this study.

### Genus *Heterocoelia* DAHLBOM, 1854

*Heterocoelia* DAHLBOM, 1854. Hym. Eur. Borealia, 2: 9, 21.

Type species: *Cleptes nigriventris* DAHLBOM, 1845, by subsequent designation (BODENSTEIN, 1939).

*Heterocoelia*: MÓCZÁR, 1971, Acta Zool. Hung., 17: 304; NAGY, 1972, Mem. Soc. Ent. Ital., 51: 12; MÓCZÁR, 1975, Acta Zool. Hung., 21: 109; MÓCZÁR, 1984, Folia Ent. Hung., 45(1): 142; GORDH and MÓCZÁR, 1990, Mem. Amer. Ent. Inst., 46: 174.

*Remarks.* Twenty-nine species of *Heterocoelia* have been known to occur in the world. One species has been known in this genus from China.

### *Heterocoelia brevicula* sp. nov.

(Figs. 1–4)

*Male (holotype).* LH 1.08 mm; WH 1.13 mm; WF 0.65 mm; LE 0.46 mm; WE 0.39 mm; LPD 0.50 mm; WPD 1.10 mm; LLS 0.10 mm; LFW 3.40 mm; TL 5.10 mm.

Body black excepting reddish translucent posterior margins of abdominal tergites; mandible testaceous; antennal segments 1–6 and ventral faces of segments 7–9 testaceous; dorsal faces of segments 7–9 and segments 10–13 entirely dark brown; clypeus, coxae and femora reddish; trochanters, tibiae and tarsi testaceous; fore wing entirely grey, with veins brown.

Head and thorax covered with white hairs; lateral parts of abdominal tergite 1, lateral and posterior parts of tergite 2, and tergites 3–6 extensively covered with hairs; abdominal sternites covered with rather dense hairs.

Head dull, slightly wider than long, with slightly convex posterior margin and rounded posterolateral corners in full face view; lateral margins of head strongly converging behind eye; some distinct pits present along occipital carina. Eye convex, with

whitish erect hairs sparsely; setulae on eyes ca. 0.06 mm in length; length and width of eye as 18.5 : 15.5; malar space shorter than eye (7.0 : 18.5); distance between posterior margin of eyes and occipital carina shorter than the length of antennal segment 3 (9.5 : 13.5). Antenna long, tapered gradually toward the apex, segments 4–12 nearly parallel-sided; relative length (and width) of antennal segments as measured from first to apical segment: 13.0 (6.0) : 7.0 (5.0) : 13.5 (6.0) : 10.5 (6.0) : 11.0 (6.0) : 12.0 (5.5) : 11.5 (5.0) : 11.0 (4.5) : 10.0 (4.0) : 9.5 (3.5) : 9.0 (3.0) : 8.0 (2.8) : 11.0 (2.5); flagellar pubescence suberect and short, ca 0.06 mm long; clypeus with anterolateral cornere rectangular, and a median longitudinal keel which is strongly raised. Frons densely and coarsely but not deeply punctate; interspaces smaller than punctures; frontal sulcus absent; DAO=4.0; POL=7.0; OL=4.0; OOL=10.0; DOO=9.0; vertex with a deep shining groove along the anterior margin of anterior ocellus, and a similar groove along the outer margin of each posterior ocellus.

Pronotum dull; disc shorter than wide in dorsal view (17.0 : 31.5), densely and coarsely punctate; punctures more scattered than on head; pronotum with nearly rectangular anterolateral corners, not protruding laterally; lateral margin slightly concave behind the corners; posterior margin slightly concave in dorsal view; pronotal disc with a longitudinal furrow that is deeper and narrower than punctures on pronotum, almost reaching posterior margin of the disc.

Scutum somewhat shining, scattered with fine punctures; parapsidal furrow developed; notauli very deep and sharply margined; longitudinal furrow obscure, represented by two pits located close to the posterior margin of scutum; suture between scutum and

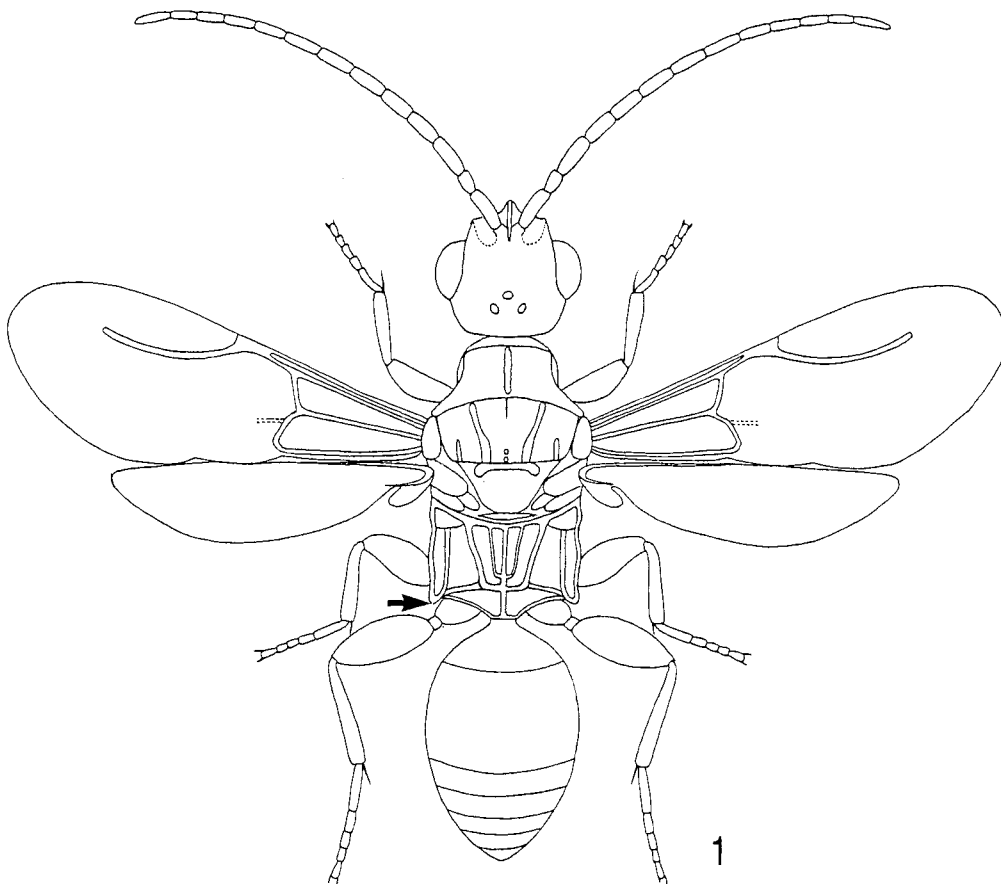
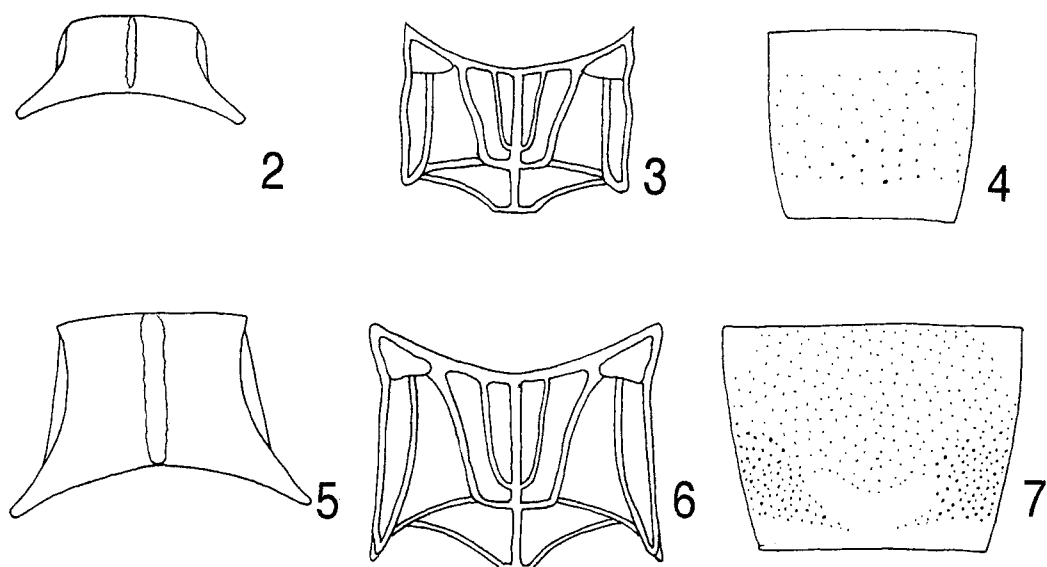


Fig. 1. *Heterocoelia brevicula* sp. nov., dorsal view (arrow indicates lateral spine of propodeum).



Figs. 2–7. *Heterocoelia brevicula* sp. nov. (2–4) and *Sulcomesitius impressus* sp. nov. (5–7). — 2, 5, Pronotum, dorsal view; 3, 6, propodeum, dorsal view; 4, 7, abdominal tergite 2.

scutellum deep and with a pair of deep pits laterally; scutellum weakly shining, scattered with 18 larger punctures posteriorly; episternum coarsely, irregularly and deeply punctate, with a small microreticulated area just below tegulae and with a deep transversal groove below the small microreticulated area.

Propodeum slightly shorter than half of its width (0.50 : 0.55); lateral spine stumpy (Fig. 1, arrow), 0.2 times as long as propodeum medially (0.10 : 0.50), slightly acute in dorsal and lateral view; carinae well developed; central and lateral areas scattered with coarse and transverse wrinkles; sublateral area finely and transversally wrinkled anteriorly and finely irregularly wrinkled posteriorly; sublateral carina extending to the lateral spine.

Wings fully developed, without modification.

Abdomen smooth and shining; tergite 1 impunctate; tergite 2 distinctly and deeply punctate posteriorly except anterior quarter impunctate; tergites 3–6 sparsely punctate anteriorly and impunctate posteriorly.

*Variation.* Total body length varies from 5.10 to 5.50 mm.

*Distribution.* China (Zhejiang).

*Holotype.* Female, 1992. VIII. 22, Mt. Gutian (29.16°N, 118.06°E), Kaihua, Zhejiang Province, Hong WU leg., No. 949066.

*Paratypes.* 1 female, 1992. VIII. 22, Mt. Gutian, Kaihua, Zhejiang, Hong WU leg., No. 949082; 1 female, 1992. VII. 17, Mt. Gutian, Kaihua, Zhejiang, Yuan MA leg., No. 923783.

*Etymology.* Referring to the propodeum with rather short lateral spines.

*Remarks.* This species resembles *H. hungarica* (KIEFFER, 1906) from Hungary, Germany, Italy, Romania, Czechoslovakia and Yugoslavia, but differs from it in the short malar space (much shorter than LE), the scutellum with 18 larger punctures posteriorly, and the tergite 2 without punctures anteriorly.

Genus *Sulcomesitius* MÓCZÁR, 1970

*Sulcomesitius* MÓCZÁR, 1970. Acta Zool. Hung., 16: 177, 199.

Type species: *Sulcomesitius longispinus* MÓCZÁR, 1970, by original designation.

*Sulcomesitius*: NAGY, 1972, Mem. Soc. Ent. Ital., 51: 16; MÓCZÁR, 1977, Acta Zool. Hung., 23: 139; MÓCZÁR, 1984, Folia Ent. Hung., 45(1): 119; GORDH and MÓCZÁR, 1990, Mem. Amer. Ent. Inst., 46: 187.

*Topcobius* NAGY, 1972. Mem. Soc. Ent. Ital., 51:17 (Synonymy by MÓCZÁR, 1984).

Type species: *Mesitius punctaticollis* FOUTS, 1930, by original designation.

*Remarks.* Seventy-eight species of *Sulcomesitius* have been recorded in the world, of which one species has been known from China. In this study we recognize the following seven species from China, of which four are new to science.

Key to the Species of *Sulcomesitius* in China

- 1 Female. .... 2
- Male. .... 4
- 2 Lateral spine of propodeum short, ca. 0.6 times as long as propodeum; abdominal tergites 3–5 each with 3 semicircular impressions on posterior margin. .... *S. impressus* sp. nov.
- Lateral spine of propodeum long, as long as propodeum or nearly so; abdominal tergites 3–5 without semicircular impression on posterior margin. .... 3
- 3 Lateral spine of propodeum equal to length of propodeum; abdominal tergite 2 finely granulate basally, very densely and deeply punctate over posterior four-fifths of tergite medially, with two kinds of punctures laterally, i.e., larger punctures and smaller ones in interspaces. .... *S. haemorrhoidalis* (MAGRETTI)
- Lateral spine of propodeum ca. 0.85 times as long as propodeum; abdominal tergite 2 with dense and distinct punctures medially, and denser and deeper punctures laterally; a triangular area along the ventrolateral margin anteriorly and a small nearly V-shaped area in the posteromedian part unsculptured, smooth and polished. .... *S. punctulatus* sp. nov.
- 4 Lateral spine of propodeum short, 0.3–0.4 times as long as propodeum. .... 5
- Lateral spine of propodeum longer, 0.5–0.6 times as long as propodeum. .... 6
- 5 Eye ca. twice as long as malar space; distance between posterior margin of eye and occipital carina slightly longer than the length of antennal segment 3 (9.0 : 8.5); lateral margins of propodeum parallel before lateral spines and slightly diverging backwards. .... *S. moczari* sp. nov.
- Eye ca. 3 times as long as malar space; distance between posterior margin of eye and occipital carina slightly shorter than the length of antennal segment 3 (10.0 : 11.0); lateral margin of propodeum straight. .... *S. rectus* sp. nov.
- 6 Eye less than 2 times as long as malar space; in full face view lateral margins of head strongly converging behind eye ..... *S. borneoensis* MÓCZÁR
- Eye ca. 3 times as long as malar space; in full face view lateral margins of head parallel. .... 7
- 7 OOL : DOO = 12.0 : 10.0; in dorsal view lateral margins of propodeum slightly diverging backwards. .... *S. vechti* MÓCZÁR
- OOL : DOO = 9.5 : 10.0; in dorsal view lateral margins of propodeum slightly convex. .... *S. laosensis* MÓCZÁR

*Sulcomesitius impressus* sp. nov.

(Figs. 5–8)

*Female (holotype)*. LH 1.48 mm; WH 1.40 mm; WF 0.80 mm; LE 0.58 mm; WE 0.48 mm; LPD 0.63 mm; WPD 1.38 mm; LLS 0.38 mm; LFW 3.75 mm; TL 6.60 mm.

Body black excepting reddish brown posterior half of abdominal segment 3 and abdominal segments 4–6; antennal segments 1–4 reddish brown, other segments being black; mandible, clypeus and legs reddish brown; fore wing infuscated dark brown, with a rather narrow dark band near mid length of the wing; tip of wing slightly lighter; veins brown; pterostigma yellow.

Head and thorax covered with white hairs; lateral parts of abdominal tergites 1–2, and posterior margin of tergite 2 with a row of white hairs; tergites 3–6 covered with hairs; abdominal sternites covered with rather dense hairs.

Head nearly dull, almost as long as wide, with a straight posterior margin in full face view, with a row of distinct pits along occipital carina; lateral margins of head strongly converging behind eyes. Eye convex, with erect white hairs sparsely; setulae on eyes ca. 0.08 mm long; length and width of eyes as 23.0 : 19.0; malar space shorter than eye (13.0 : 23.0); distance between posterior margin of eye and occipital carina longer than the length of antennal segment 3 (13.0 : 10.0). Antenna short, flagellum thickened medially; relative length (and width) of antennal segments as measured from first to apical segment: 28.0 (7.5) : 8.0 (5.5) : 10.0 (6.5) : 6.0 (7.0) : 5.0 (8.0) : 5.0 (8.0) : 5.5 (7.5) : 5.5 (7.0) : 5.0 (7.0) : 4.5 (6.0) : 4.5 (5.5) : 4.5 (5.0) : 7.0 (4.5); flagellar pubescence suberect, very short, ca 0.02 mm long. Clypeus semicircularly protruding only medially, on both sides with obtusely angled corners. Frons densely and coarsely punctate, interspaces smaller than punctures. DAO = 5.5; POL = 6.0; OL = 5.0; OOL = 12.0; DOO = 12.0; a deep shining groove just in front of each ocellus.

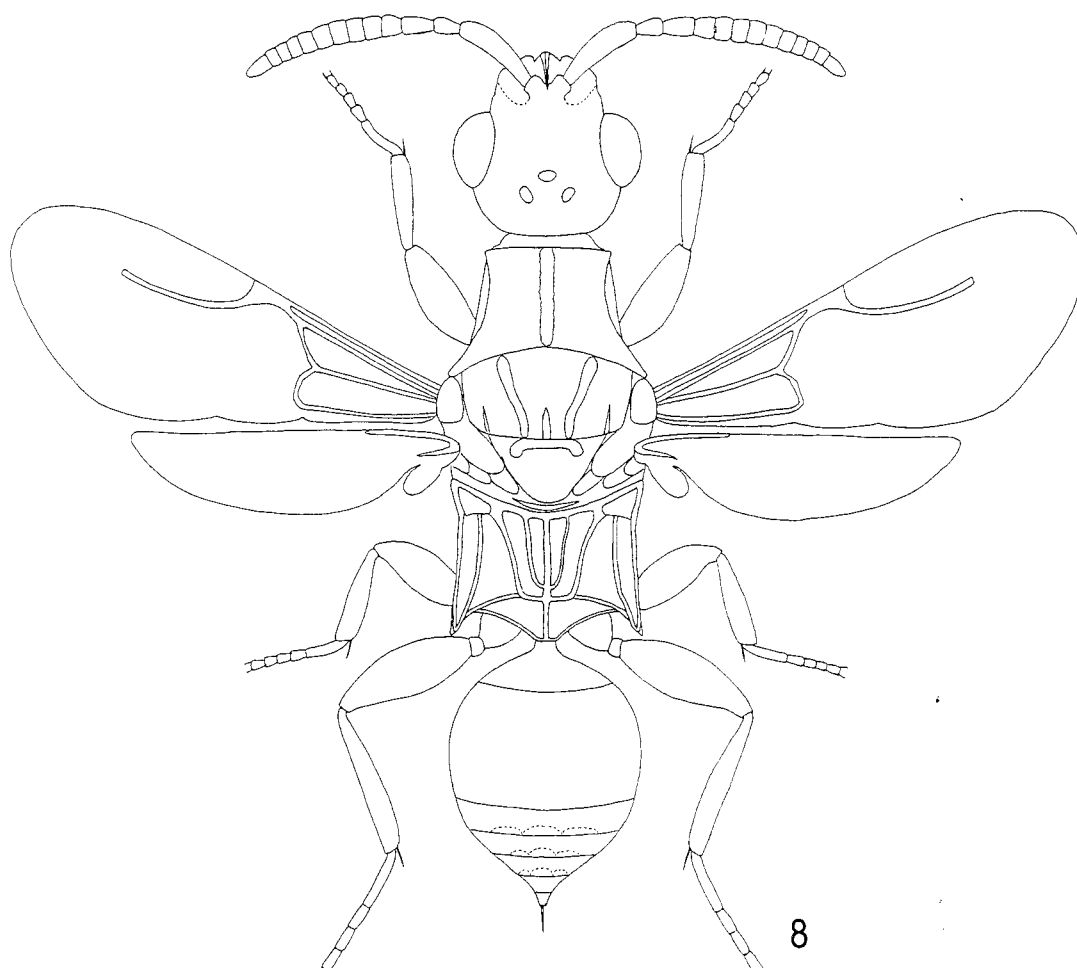
Pronotum dull; collar with a row of large foveae anteriorly and irregularly wrinkled posteriorly; disc densely and coarsely punctate; the punctures larger and more scattered than those on head; pronotum with anterior corner sharp, protruding laterally; lateral sides slightly concave behind corners up to middle, then diverging backwards; posterior margin slightly concave in dorsal view; pronotal disc shorter than wide in front (30.0 : 37.0); longitudinal furrow broad and deep, reaching posterior margin.

Scutum somewhat shining, scattered with fine punctures; parapsidal furrow well developed; notauli very deep and sharply margined; longitudinal furrow broad and deep, developed only in posterior third; suture between scutum and scutellum deep and with a pair of deep pits laterally; scutellum weakly shining, scattered with 12 larger punctures posteriorly; episternum coarsely punctate, with a rather deep and broad transversal groove consisting of some larger punctures below tegulae.

Propodeum longer than its 1/3 width; lateral margins straight, gradually diverging backwards; lateral spines strong, ca. 0.6 times as long as propodeum medially (0.38 : 0.63), acute in dorsal view and rounded in lateral view; all carinae well developed and areas well defined; sublateral carina extending to the lateral spine; sublateral and lateral areas transversally wrinkled; lateral face of propodeum moderately shining above coxae, wrinkled towards posterior and upper margins, along upper margin with a strong carina parallel to it and only reaching vertical edge of disc and not spine.

Wings fully developed.

Abdomen smooth, shining; tergite 1 nearly impunctate; medial part of tergite 2 with small punctures in anterior 3/5, with a nearly V-shaped impunctate and polished area in posterior 2/5; ventrolateral part of tergite 2 with small punctures in anterior 2/5, with larger and denser punctures in posterior 2/5 and with a broad impunctate and polished band along posterior margin; anterior half of tergite 3 punctate, posterior half



Figs. 8. *Sulcomesitius impressus* sp. nov., dorsal view.

being almost impunctate; tergites 3–6 almost impunctate; tergites 3–5 each with three semicircular impressions on posterior margin.

*Distribution.* China (Guangxi).

*Holotype.* Female, 1982. VI. 23, Huaping (25.39°N, 109.55°E), Longsheng, Guangxi Zhuang Autonomous Region, Jun-Hua HE leg., No.823323.

*Etymology.* The specific epithet, *impressus*, indicates the condition of abdominal tergites 3–5 each with 3 semicircular impressions on posterior margin.

*Remarks.* This species is very closely related to *S. nigroalatus* MÓCZÁR, 1984 from Sri Lanka, but differs from it mainly by the larger body, the fully reddish brown antennal segments 1–4 and legs, the brown fore wings, the more sharply angled anterior corners of pronotal disc which protrude laterally.

### *Sulcomesitius haemorrhoidalis* (MAGRETTI, 1897)

*Mesitius carcell* var. *haemorrhoidalis* MAGRETTI, 1897. Ann. Mus. Civ. Stor. Nat. Giacomo Doria, Ser.2, 17: 321.

*Sulcomesitius haemorrhoidalis*: MÓCZÁR, 1970, Acta Zool. Hung., 16: 415; MÓCZÁR, 1971, Acta Zool. Hung., 17(3–4): 327; MÓCZÁR, 1977, Acta Zool. Hung., 23(1–2):140; MÓCZÁR, 1979, Pacif. Ins., 21(2–3):241; MÓCZÁR, 1984, Folia Ent. Hung., 45(1): 127; GORDH and MÓCZÁR, 1990, Mem. Amer. Ent. Inst., 46: 191.

*Distribution.* China (Hong Kong and Taiwan), Burma and Italy.

*Material examined.* 1 female, 1968. III. 6, Yuchih, Nantou, Taiwan, T. OKADOME leg.

*Sulcomesitius punctulatus* sp. nov.

(Figs. 9–11)

*Female (holotype).* LH 1.35 mm; WH 1.25 mm; WF 0.78 mm; LE 0.45 mm; WE 0.38 mm; LPD 0.50 mm; WPD 1.20 mm; LLS 0.43 mm; LFW 3.10 mm; TL 6.00 mm.

Body black excepting reddish brown posterior half of abdominal segment 3 and abdominal segments 4–6; antenna black, with the segments 1–3 reddish brown; mandible, clypeus, and legs reddish brown; fore wing infuscated with brown, with lighter base and tip; veins brown; pterostigma partly lighter.

Head and thorax covered with white hairs; lateral parts of abdominal tergites 1 and 2, and posterior margins of tergites 2–6 covered with hairs; abdominal sternites covered with denser hairs.

Head almost dull, slightly longer than wide; lateral margins of head strongly converging behind eyes; posterior margin slightly concave in full face view, with a row of distinct pits along occipital carina. Eye convex, with white erect hairs sparsely, with setulae ca. 0.07 mm long; length and width of eye as 18.0 : 15.0. Malar space shorter than eye (14.0 : 18.0); distance between posterior margin of eye and occipital carina longer than the length of antennal segment 3 (15.0 : 9.5). Antenna short; flagellum thickened medially; relative length (and width) of antennal segments: 26.0 (7.0) : 8.0 (5.0) : 9.5 (6.0) : 5.0 (6.0) : 4.0 (6.0) : 4.5 (6.0) : 5.0 (6.0) : 5.5 (6.0) : 5.0 (6.0) : 5.0 (5.5) : 5.0 (5.0) : 5.0 (4.0) : 8.0 (3.5); flagellar pubescence suberect, very short, ca 0.02 mm long. Clypeus semicircularly protruding only medially, on both sides with an obtusely angled corner; frons densely and coarsely punctate; interspaces smaller than punctures; DAO=3.5; POL=7.0; OL=6.5; OOL=13.0; DOO=13.0; a deep shining groove present just in front of each ocellus.

Pronotum dull, collar with a row of large foveae anteriorly, and irregularly wrinkled posteriorly; disc densely and coarsely punctate with larger and more scattered punctures than on head; pronotum with rectangular anterior corners, hardly protruding laterally; its lateral margin slightly concave behind corner up to mid-length, then diverging backwards; posterior margin straight in dorsal view; pronotal disc shorter than wide in front (25.0 : 33.0); longitudinal furrow narrow and distinct, reaching posterior margin.

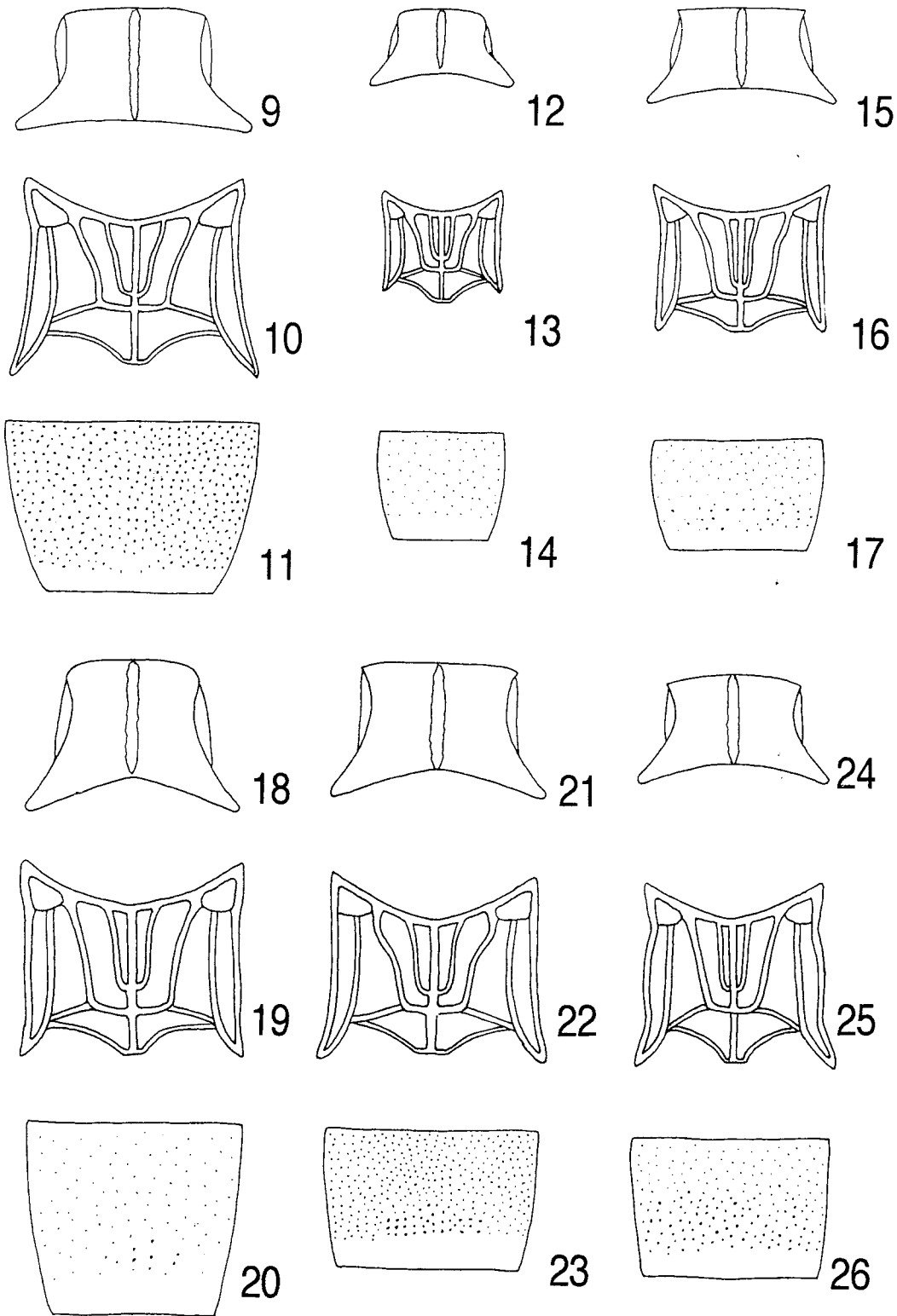
Scutum somewhat shining, scattered with fine punctures; parapsidal furrow well developed; notauli very deep and sharply margined; longitudinal furrow indistinct; suture between scutum and scutellum deep and with a pair of deep pits laterally; scutellum weakly shining, scattered with 14 large punctures posteriorly; episternum coarsely punctate, with a rather deep and broad transversal groove consisting of some larger punctures below tegula.

Propodeum longer than its 1/3 width; lateral margin straight, gradually diverging backwards in dorsal view; lateral spine strong, about 0.86 times as long as propodeum medially (0.43 : 0.50), acute in dorsal view and moderately sharp in lateral view; all carinae well developed and areas well defined; sublateral carina not extending to the lateral spine; sublateral and lateral areas transversally wrinkled; lateral face of propodeum irregularly wrinkled, along upper margin with a strong carina lateral to it and only reaching vertical edge of disc and not spine.

Wings fully developed.

Abdomen smooth and shining; tergite 1 nearly impunctate; tergite 2 with dense and distinct punctures medially and denser and deeper punctures laterally except a triangular





Figs. 9–26. *Sulcomesitius punctulatus* sp. nov. (9–11), *Sulcomesitius moczari* sp. nov. (12–14), *Sulcomesitius rectus* sp. nov. (15–17), *Sulcomesitius borneoensis* MÓCZÁR (18–20), *Sulcomesitius vechti* MÓCZÁR (21–23) and *Sulcomesitius laosensis* MÓCZÁR (24–26). — 9, 12, 15, 18, 21, 24, Pronotum, dorsal view; 10, 13, 16, 19, 22, 25, propodeum, dorsal view; 11, 14, 17, 20, 23, 26, abdominal tergite 2, dorsal view.

impunctate smooth polished area along the ventrolateral margin anteriorly and a small nearly V-shaped impunctate and polished area in posteromedial part; also some smaller punctures present among larger punctures; interspaces larger than the larger punctures in the median portion of tergite 2, and as large as the latter in lateral portion of the tergite; tergites 3–4 with anterior half weakly granulated and posterior half sparsely punctured.

*Distribution.* China (Fujian).

*Holotype.* Female, 1987. VII. 4, Zhangzhou (24.31°N, 117.39°E), Fujian Province, Nai-Quan LIN leg, No.984787.

*Etymology.* Referring to the abdominal tergite 2 with dense and distinct punctures.

*Remarks.* This species stands resembles *S. haemorrhoidalis* (MAGRETTI, 1897) from China (Hong Kong and Taiwan), Burma and Italy, but differs from it by the short propodeal spines, the abdominal tergite 2 not granulated basally and the partly black tergite 3.

### *Sulcomesitius moczari* sp. nov.

(Figs. 12–14)

*Male (holotype).* LH 0.79 mm; WH 0.79 mm; WF 0.48 mm; LE 0.28 mm; WE 0.25 mm; LPD 0.36 mm; WPD 0.63 mm; LLS 0.12 mm; LFW 2.20 mm; TL 3.62 mm.

Body black excepting ventral faces of antennal segments 2–7, mandible, trochanters, tibiae basally and apically, tarsal segments 1–2 reddish brown; fore wing entirely infuscated with light brown.

Head and thorax covered with white hairs; lateral parts of abdominal tergite 1, lateral parts and posterior halves of tergites 2–6 covered with hairs; abdominal sternites covered with rather dense hairs.

Head almost dull, as long as wide; lateral margins of head strongly converging behind eyes; posterior margin straight in full face view, with a row of distinct pits along occipital carina; posterolateral corner rounded. Eye convex, with erect white hairs sparsely; setulae on eyes ca. 0.05 mm long; length and width of eye as 11.0 : 10.0; malar space shorter than LE (6.0 : 11.0); distance between posterior margin of eye and occipital carina longer than the length of antennal segment 3 (9.0 : 8.5). Antenna long, tapered gradually; segments 4–12 nearly parallel-sided; relative length (and width) of antennal segments: 10.0 (5.0) : 5.0 (3.5) : 8.5 (4.0) : 7.5 (4.0) : 7.5 (4.0) : 8.0 (3.5) : 8.0 (3.5) : 8.0 (3.5) : 7.0 (3.0) : 7.0 (3.0) : 6.5 (2.5) : 6.0 (2.0) : 8.0 (2.0); flagellar pubescence short and suberect, ca 0.03 mm long; clypeus semicircularly protruding only medially, on both sides with an obtusely angled corner; frons densely and coarsely punctate, interspaces being smaller than punctures; frontal sulcus complete; DAO=3.0; POL=4.0; OL=3.0; OOL=6.0; DOO=7.0; a deep shining groove present just in front of each ocellus.

Pronotum dull; disc densely and coarsely punctate; the punctures larger and sparser than on head; pronotum with anterior corner slightly obtuse, not protruding laterally; its lateral margins slightly concave behind the corners up to mid-length, then diverging backwards in dorsal view; lateral face transversally wrinkled; posterior margin slightly concave in dorsal view; pronotal disc shorter than wide (14.5 : 20.0); longitudinal furrow deeper but not broader than nearby punctures, approximately reaching posterior margin of pronotum.

Scutum somewhat shining, scattered with fine punctures; parapsidal furrow well developed; notauli very deep and sharply margined; longitudinal furrow very shallow and indistinct, only present in posterior third of the scutum; suture between scutum and

scutellum deep and with a pair of deep pits laterally; scutellum weakly shining, scattered with 6 large punctures posteriorly; episternum coarsely, irregularly and deeply punctate, with a small microreticulated area just below tegula, a deep transversal groove below the microreticulate area, and another small microreticulate area near coxae.

Propodeum longer than its half width (0.36 : 0.32); its lateral margins parallel before lateral spines, and slightly diverging backwards; lateral spine strong, short, about 0.33 times as long as propodeum medially (0.12 : 0.36), acute apically in dorsal view and moderately sharp in lateral view; all carinae well developed; central and lateral areas of propodeal disc scattered with coarse transverse wrinkles; sublateral area only finely but densely wrinkled; sublateral carina extending to the lateral spines; lateral faces of propodeum wrinkled towards posterior and upper margins, along upper margin with a strong carina parallel to it and only reaching posterior edge of disc and not lateral spines.

Wings fully developed.

Abdomen smooth and shining; tergite 1 nearly impunctate; tergite 2 with distinct but finely and scattered punctures medially and laterally, the punctures being of the same size; a broad impunctate band present on posterior margin; tergites 3–6 weakly granulated anteriorly and impunctate posteriorly.

*Distribution.* China (Shandong).

*Holotype.* Male, 1995. VIII. 5, Mt. Laoshan (36.12°N, 120.33°E), Shandong Province, Ping CAI leg., No.958428.

*Etymology.* This species is named in honor of Dr. L. MÓCZÁR.

*Remarks.* This species is similar to *S. orientalis* (FOUTS, 1930) from the Philippines, but differs from it chiefly in the black propodeum, the very short lateral spines (about 1/3 times as long as propodeum) and the tergite 2 with fine and scattered punctures.

### *Sulcomesitius rectus* sp. nov.

(Figs. 15–17)

*Male (holotype).* LH 1.00 mm; WH 1.08 mm; WF 0.63 mm; LE 0.43 mm; WE 0.35 mm; LPD 0.50 mm; WPD 1.00 mm; LLS 0.20 mm; LFW 3.13 mm; TL 5.00 mm.

Body black; antennal segments 1–3, ventral sides of antennal segments 4–5 and tarsi testaceous; mandible, clypeus and other parts of legs reddish; posterior margins of abdominal tergites reddish and translucent; fore wing entirely grey with veins brown. Head and thorax covered with white hairs; lateral parts of abdominal tergite 1, lateral and posterior part of tergite 2, and tergites 3–6 entirely covered with hairs; abdominal sternites covered with rather dense hairs.

Head dull, slightly wider than long; lateral margins of head strongly converging behind eyes; posterior margin straight in full face view, with a row of distinct pits along occipital carina; posterolateral corner rounded. Eye convex, with erect white hairs sparsely; setulae on eye ca. 0.07 mm long; length and width of eye as 17.0 : 14.0; malar space shorter than eye (6.0 : 17.0); distance between posterior margin of eye and occipital carina slightly shorter than the length of antennal segment 3 (10.0 : 11.0). Antenna long, gradually tapered; segments 4–12 nearly parallel-sided; relative length (and width) of antennal segments: 11.0 (5.5) : 6.5 (4.0) : 11.0 (4.0) : 9.0 (4.0) : 9.0 (4.0) : 10.0 (3.7) : 10.0 (3.5) : 10.0 (3.2) : 9.0 (3.0) : 8.5 (2.8) : 8.0 (2.5) : 7.5 (2.0) : 9.0 (2.0); flagellar pubescence suberect and short, ca 0.04 mm; clypeus semicircularly protruding medially, on both sides with an obtusely angled corner; frons densely and coarsely punctate, interspaces being smaller than punctures; frontal sulcus complete; DAO=3.5; POL=6.0; OL=3.5; OOL=9.0; DOO=9.0; a deep shining groove just in front of each ocellus.

Pronotum dull; its disc densely and coarsely punctate; punctures on the disc larger and sparser than on head; pronotum with anterior corners sharp and protruding laterally; lateral margins concave behind the corners up to mid-length, then diverging backwards; lateral faces transversally wrinkled; posterior margin slightly concave in dorsal view; pronotal disc shorter than wide (17.5 : 30.0); longitudinal furrow deeper and broader than nearby punctures, approximately reaching posterior margin of pronotum.

Scutum somewhat shining, scattered with fine punctures; parapsidal furrow well developed; notaulices very deep and sharply margined; longitudinal furrow broad and deep, developed only in posterior third; surface between scutum and scutellum deep and with a pair of deep pits laterally; scutellum weakly shining, scattered with 6 large punctures posteriorly; episternum coarsely, irregularly and deeply punctate, with a small microreticulate area just below tegula and with a transversal groove below the microreticulate area.

Propodeum as long as its half width (0.50 : 0.50), with lateral margin straight in dorsal view; lateral spine strong, 0.40 times as long as propodeum (0.20 : 0.50), acute in dorsal view and rounded in lateral view; outer submedian and sublateral carinae much stronger than the wrinkles; inner submedian carina as strong as wrinkle; central and lateral areas scattered with coarse and transverse wrinkles; sublateral areas finely wrinkled; sublateral carina extending to the lateral spine; lateral face of propodeum wrinkled towards posterior and upper margins, along upper margin with a strong carina parallel to it and only reaching posterior edge of disc and not lateral spine.

Wings fully developed.

Abdomen smooth and shining; tergite 1 nearly impunctate; tergite 2 distinctly and posteriorly deeply punctate, except an impunctate broad band of posterior margin; tergites 3–6 sparsely punctate anteriorly and impunctate posteriorly.

*Variation.* Total body 5.30 mm in the paratype.

*Distribution.* China (Zhejiang, Guangxi).

*Holotype.* Male, 1982. VI. 9, Liuzhou (24.19°N, 109.24°E), Guangxi Zhuang Autonomous Region, Jun-Hua HE leg., No.822502.

*Paratype.* Male, 1985. VII. 26–27, Qingyuan (27.37°N, 119.04°E), Zhejiang Province, Quan-Cong WU leg., No.851898.

*Etymology.* Referring to the straight lateral margin of propodeum.

*Remarks.* This species most resembles *S. punctaticollis* (FOOTS, 1930) from Malaysia, but differs from it in the larger body size, the straight lateral margin of propodeum and the punctures on the abdominal tergite 2.

### *Sulcomesitius borneoensis* MÓCZÁR, 1976

(Figs. 18–20)

*Sulcomesitius borneoensis* MÓCZÁR, 1976. Acta Biol. Szeged, 22: 103.

*Sulcomesitius borneoensis*: MÓCZÁR, 1977, Acta Zool. Hung., 23: 146.

*Distribution.* China (Shandong), Malaysia, Brunei.

*Material examined.* 1 female, 1995. VIII. 3, Mt. Laoshan (36.12°N, 120.33°E), Shandong Province, Ping CAI leg., No.958281; 1 female, 1995. VIII. 3, Mt. Laoshan, Shandong, Jun-Hua HE leg., No.955913.

*Remarks.* This is the first record of this species from China.

***Sulcomesitius vechti* MÓCZÁR, 1979**

(Figs. 21–23)

*Sulcomesitius vechti* MÓCZÁR, 1979. Pacific Insects, 21(2–3):248–250.*Sulcomesitius vechti*: MÓCZÁR, 1984, Folia Ent. Hung., 45(1):124.*Distribution.* China (Zhejiang), Sri Lanka.*Material examined.* 1 male, 1994. VI. 27, Songyang (28.27°N, 119.29°E), Zhejiang Province, Han-Lin CHEN leg., No.954190.*Remarks.* This is the first record of this species from China.***Sulcomesitius laosensis* MÓCZÁR, 1976**

(Figs. 24–26)

*Sulcomesitius laosensis* MÓCZÁR, 1976. Ann. Hist.-Nat. Mus. Natn. Hung., 68:280.*Sulcomesitius laosensis*: MÓCZÁR, 1984, Folia Ent. Hung., 45(1):138.*Variation.* Body length varies from 5.40 to 5.80 mm.*Distribution.* China (Henan, Zhejiang), Laos.*Material examined.* 1 male, 1998. VII. 13–15, Baotianman, Neixiang (33.02°N, 111.50°E), Henan Province, Xue-Xin CHEN leg., No.991803; 1 male, 1988. VII. 27, Mt. Tianmu (30.26°N, 119.34°E), Zhejiang Province, Jun-Hua HE leg., No.940245.*Remarks.* This is the first record of this species from China.**Acknowledgements**

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