

THE PHILIPPINE JOURNAL OF SCIENCE

VOL. 41

JANUARY, 1930

No. 1

NEW BETHYLID AND SERPHOID PARASITES FROM BORNEO AND THE PHILIPPINE ISLANDS

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FOUR TEXT FIGURES

This paper is based on material submitted for determination by the late Prof. C. F. Baker and contains descriptions of twelve new species belonging to the families Bethylidæ, Scelionidæ, and Diapriidæ. The types of the new species are deposited in the collection of the United States National Museum. The manuscript was completed prior to the transfer of the Baker collection to the National Museum, and in order that there be no confusion of the specimens before the author no change in the records on the location of types has been made in the text.

BETHYLIDÆ

Genus MESITIUS Spinola

Key to Oriental species of Mesitius Spinola.

1. Pronotum with a distinct median longitudinal furrow; each lateral area of mesonotum traversed by a longitudinal groove..... 2.
- Pronotum at the most with a trace of a median furrow; lateral areas of the mesonotum without groove..... *M. indicus* Kieffer.
2. Terminal three abdominal segments red... *M. haemorrhoidalis* Magretti.
- Abdomen black (last segment dull red in *bakeri*)..... 3.
3. Second tergite strongly punctate..... 4.
- Second tergite finely punctate..... 5.
4. Antennal joints 4 to 13 twice as long as wide..... *M. luzonicus* Kieffer.
- Antennal joints 4 to 13 more than twice as long as wide.
M. philippinensis Kieffer.

5. Lateral anterior angles of the pronotum projecting slightly, acute.
M. punctaticollis sp. nov.
 Anterior angles of pronotum not projecting..... 6.
6. Legs dark brown *M. orientalis* sp. nov.
 Legs mostly rufous *M. bakeri* sp. nov.

MESITIUS PUNCTATICOLLIS sp. nov.

Male.—Length 3.0 millimeters. Head 1.1 times as wide as long, shagreened, very closely covered with large shallow circular punctures; scape about as long as the third joint; second joint a little over half as long as the third, less than twice as long as wide; thorax 1.15 times as wide as the head, 1.44 times as long as wide; pronotum very roughly sculptured, with many large deep pits which are several times larger than those on the head; lateral anterior margins of the pronotum acute, projecting; the pronotum anteriorly elevated on each side of the median line leaving a poorly defined median furrow; mesonotum on each side with a well-defined longitudinal groove; propodeum seen from above with five longitudinal ridges (not counting the lateral edge of the sclerite), the area between these ridges traversed by many fine carinæ; lateral angles of the propodeum fairly sharp but not especially prominent, not extending beyond the segment; abdomen slightly longer than the thorax, 0.8 as wide as the head, nearly twice as long as wide; first tergite polished, with small scattered punctures on anterior two-thirds; second tergite polished, also with numerous small scattered punctures on anterior two-thirds; following tergites without sculpture; wings normally developed, brownish, paler medially; black; mandibles, antennæ, and legs brownish.

Type locality.—Borneo, Sandakan (*Baker*), one male.

Type.—Catalogue No. 29203, United States National Museum.

MESITIUS ORIENTALIS sp. nov.

Male.—Length 3.30 millimeters. Pronotum with a moderately broad median groove; lateral grooves on pronotum distinct only on posterior half of the sclerite; wings normally developed, subhyaline, paler medially, reaching beyond the middle of the second tergite; head shagreened, closely covered with large shallow pits; pronotum as long as wide across the middle, smoother than the head, with the pits as large as on the head but fewer, more scattered, and with their margins less sharply indicated; propodeum as in *punctaticollis* but the lateral angles sharper, projecting as far as the apices of the hind coxæ; first tergite with only a few scattered punctures medially; second tergite

with many small scattered punctures on basal three-fourths; third tergite with a few punctures at extreme base; wings fully developed; black; mandibles reddish yellow; antennæ brownish to piceous; legs dark brown, the anterior tibiæ apically, and all the tarsi, yellowish.

Type locality.—Mindanao, Bukidnon, Tangkulan (*Baker*), one male.

Type.—Catalogue No. 29202, United States National Museum.

MESITIUS BAKERI sp. nov.

Male.—Length 5.00 millimeters. Punctures on head very close, circular, deep; pronotum shaped as in *orientalis*, fairly smooth, with the punctures scattered and shallower than those on the head; lateral grooves on the mesonotum narrow, reaching nearly to the anterior margin; scutellum smooth, with a few small scattered punctures; propodeum as in *orientalis*; first tergite without punctures; second tergite closely punctulate on anterior three-fourths; third tergite punctulate on basal one-half; wings normally developed, yellowish; black; scape, mandibles, tegulæ, and legs rufous.

Type locality.—Luzon, Mount Maquiling (*Baker*), one male.

Type.—Catalogue No. 29201, United States National Museum.

Genus MISEPYRIS Kieffer

Key to Oriental species of Misepyris Kieffer.

1. Pronotum and mesonotum longitudinally striate.... *M. exaratus* Kieffer.
- Pronotum and mesonotum polished, punctate..... 2.
2. Part of head behind eyes about as long as the eyes..... 3.
- Part of head behind eyes distinctly shorter than the eyes..... 4.
3. Head with punctures closely set..... *M. longiceps* Kieffer.
- Head with punctures not close together and not well defined.
M. flavipes sp. nov.
4. Transverse carina dividing the anterior and posterior faces of the propodeum straight, not interrupted medially..... 5.
- Transverse carina curving upward medially, angulate or interrupted medially by pits *M. mindanaensis* sp. nov.
5. Anterior face of propodeum about as long as the mesonotum; posterior femora dark brown *M. politus* sp. nov.
- Mesonotum two-thirds the length of the propodeum; posterior femora yellow *M. luzonicus* sp. nov.

MISEPYRIS FLAVIPES sp. nov.

Male.—Length 4.5 millimeters. Head longer than wide, as wide as the thorax, polished; punctures on frons numerous but not very closely set, not as close together as in *luzonicus*, for instance; the edges of the punctures not well defined, part of

head behind the eyes about as long as the eyes; pronotum polished, with a few indistinct punctures laterally and anteriorly; notauli complete; propodeum as long as the mesonotum and pronotum united, with three longitudinal carinæ dorsally, one median and two oblique ones on either side; posterior face of propodeum shining, sparsely punctate, not rugose; mandibles rufous; antennæ reddish yellow, the terminal four joints brown, legs yellow to reddish yellow, the posterior femora brown.

Type locality.—Luzon, Mount Maquiling (*Baker*), two males.

Type.—Catalogue No. 29197, United States National Museum; paratype in Baker collection.

MISEPYRIS MINDANAENSIS sp. nov.

Male.—Length 5.30 millimeters. Head seen from in front almost circular; punctures on frons numerous, small, many times their diameters distant from one another; pronotum smooth, with scattered small punctures; notauli present; anterior face of propodeum a little over half as long as the mesonotum and scutellum united, with a strong median longitudinal ridge, and with many interrupted transverse carinæ; posterior face shining, with a number of large shallow pits above and on the sides, finely transversely wrinkled medially; black, mandibles rufous; antennæ light brown, darker on apical half; legs yellow to light brown, the posterior femora darker.

Type locality.—Mindanao, Butuan (type) and Surigao (paratype) (*Baker*), two males.

Type.—Catalogue No. 29198, United States National Museum; paratype in Baker collection.

MISEPYRIS POLITUS sp. nov.

Male.—Length 3.80 millimeters. Head longer than wide, as wide as the thorax; punctures on frons widely scattered, very shallow, poorly defined; pronotum polished, with several poorly defined punctures anteriorly; notauli complete; anterior face of propodeum with only one longitudinal carina; lateral areas on anterior face finely wrinkled on apical half; posterior face reticulate, the areas large, well defined; mandibles rufous; antennæ brown, the scape and pedicel lighter; legs yellow, the posterior femora brown.

Type locality.—Mindanao, Surigao (*Baker*), one male.

Type.—Catalogue No. 29199, United States National Museum.

MISEPYRIS LUZONICUS sp. nov.

Male.—Length 5.5 millimeters. Head longer than wide, smooth, moderately closely covered with rather small punctures,

the punctures distinct, sharply indicated; pronotum only slightly longer than the mesonotum, with a small furrow basally, and with punctures similar to those on the head; anteriorly the pronotum is slightly transversely wrinkled, the punctures at this place indistinct, confluent; notauli complete, nearly parallel; mesonotum with a few scattered punctures; propodeum as long as the mesonotum and scutellum united, transversely wrinkled, with a delicately impressed median carina; posterior transverse carina delicate but distinct; posterior face of propodeum finely transversely wrinkled; abdominal tergites extremely delicately shagreened; black; mandibles, basal, four antennal joints, and legs yellowish; first and second tergites at extreme apices rufous.

Type locality.—Luzon, Mount Maquiling (*Baker*), two males.

Type.—Catalogue No. 29200, United States National Museum; paratype in Baker collection.

Genus PRISTOCERA Klug

PRISTOCERA PUNCTICEPS sp. nov.

Female.—Length 5.0 millimeters. Head one and one-fifth times as long as wide, thickly covered with large deep pits which are about their diameter distant from one another; narrow line down center of frons without punctures; pronotum with a row of large deep pits laterally and with a few above on the sides anteriorly; two pits posteriorly on the dorsal surface of the pronotum; pronotum otherwise polished, without sculpture; thorax a little less than twice as long as the head, slightly more than three times as long as wide; propodeum dorsally without sculpture, posteriorly shagreened, with a few large scattered punctures, the hairs issuing from these punctures erect; abdomen one and one-fifth times as long as the thorax, 1.7 times as wide as the thorax, one-fourth times as long as wide.

Head and thorax black; abdomen black, brownish toward the apex above; abdomen laterally and ventrally brownish; mandibles, antennæ, and legs reddish brown.

Type locality.—Mindanao, Dapitan (*Baker*), one female.

Type.—Catalogue No. 29205, United States National Museum.

SCELIONIDÆ

Genus SCELIO Latreille

SCELIO BICOLOR sp. nov. Fig. 1.

Male.—Length 5.50 millimeters. Runs to *macrotomus* Kieffer in Kieffer's key.¹ Differs as follows: Head and last five ab-

¹Das Tier., Lief. 48 (1926) 310.

dominal segments black; thorax and first two abdominal segments rufous; frons carinate anteriorly on the sides; cheeks not carinate; antennæ (see fig. 1) reddish, the scape and pedicel yellow; mesonotum traversed longitudinally by many ridges; almost any

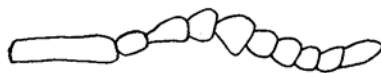


FIG. 1. *Scelio bicolor* sp. nov., antenna of male.

of the furrows thus formed might be taken as the notauli; wings brownish, the venation pale brown; legs rufous, the anterior coxæ and all femora and tibiæ at base yellowish.

Abdomen as long as the head and thorax united; as wide as the thorax, two and one-fifth times as long as wide; all abdominal segments transverse, carinate.

Type locality.—Mindanao, Surigao (*Baker*), one male.

Type.—Catalogue No. 29209, United States National Museum.

Genus SPARASION Latreille

SPARASION PHILIPPINENSIS Kieffer.

Four females and sixty-two males from the following localities: Tangkulan, Bukidnon; Surigao, Mindanao; Kolambugan, Mindanao; Cuernos Mountains, Negros; and Mount Maquiling, Luzon.

Specimens of both sexes vary in length from 4.8 to 6.0 millimeters. Other variations are as indicated by Kieffer.²

Genus PROSPARASION Kieffer

PROSPARASION COERULEUM Kieffer.

I have before me ten females and fourteen males belonging to this species.

Some variation in punctuation and color is evident in both sexes. Seven males from Surigao have the scape reddish to reddish brown and the hind tibiæ light brown (always blackish at apex) to entirely dark brown or blackish. The frons may be nearly black with purplish or coppery reflections or bright greenish. The punctures on the frons and sides of pronotum vary slightly in density and size. Five males from Butuan and two from Surigao have the scape pale yellow to light brown and the hind tibia mostly light brown (always darker at apex). Variation in the color of the frons and in the punctuation in this series is as in the one just mentioned.

Variation in the female is very similar to that in the male. Two specimens from Butuan, one from Kolambugan, and one

² Das Tier., Lief. 48 (1926) 294.

from Surigao have the hind tibia dark only at extreme apex, and the frons greenish or blackish with purple reflections. Three specimens from Surigao have the hind tibia dark at apex and brownish otherwise. The frons is likewise greenish or blackish with purple reflections. Two specimens from northwestern Panay have the frons dark with violet reflections and the hind tibiæ entirely dark brown. The punctuation on the frons is somewhat less dense than in the other specimens.

Distribution.—Luzon, Mindanao, and Panay.

Genus MACROTELEIA Westwood

MACROTELEIA TERMINALIS sp. nov. Figs. 2 and 3.

Male.—Length 6.0 millimeters. Runs to *philippinensis* Kieffer in Kieffer's key.³ Black; scape rufous; flagellum dark brown; legs yellow to reddish yellow, the last two joints of the hind tarsi brown; tegulæ rufous; wings brownish.

Head one and one-third times as wide as long, one and one-thirteenth times as wide as the thorax, slightly excavated posteriorly; antennæ (see fig. 2) covered with short semierect white hairs; facial impression deep, polished, margined laterally, about four times as wide as its distance from eye; frons and cheeks



FIG. 2. *Macroteleia terminalis* sp. nov., antenna of male.

thickly and deeply punctate; vertex and occiput polished, with a few small scattered punctures; lateral ocelli less than their diameter distant from margin of eye; thorax shining, about one and one-half times as long as wide, slightly more than one and one-third times as wide as the abdomen (third segment), rather thickly covered with short white decumbent hairs; pronotum with a row of large punctures laterally; mesonotum sparsely covered with very small shallow punctures; notauli complete; propodeum pubescent, more thickly so laterally, with two high ridges which diverge anteriorly from the posterior margin of the segment; these two ridges are united posteriorly by a somewhat lower transverse ridge, this ridge coinciding with the posterior margin of the segment; propodeum emarginate posteriorly, the lateral angles more or less prominent; metacarpa a little over twice as long as the marginal vein, the latter distinctly longer

³ Das Tier., Lief. 48 (1926) 521.

than the stigmal; wings not quite attaining the apex of the fifth abdominal segment; abdomen (see fig. 3) about two and one-third times as long as the thorax, with a median ridge extending from its base to the apex of the fifth tergite, and with a ridge on each side extending to the apex of the fourth tergite; first tergite with seven ridges, the five middle ones equidistant, the lateral ones farther away; second tergite with nine ridges, the seven middle ones about equidistant, the lateral ones somewhat farther away; the area just inside the lateral ridge on each side is somewhat wrinkled; third tergite also with nine ridges arranged as in the preceding segment except that the three on either side of the median one are more irregular and the outside one is not complete; the area just inside the lateral ridge on each side is as in the preceding segment, wrinkled; following segments longitudinally wrinkled and punctate, the punctures arranged more or less in lines; last tergite with two acute spines at the lateral posterior angles.



FIG. 3. *Macroteleia terminalis* sp. nov., dorsal view of abdomen of male.

Type locality.—Mindanao, Surigao (*Baker*), one male.

Type.—Catalogue No. 29196, United States National Museum.

MACROTELEIA INERMIS sp. nov. Fig. 4.

Male.—Length 4.5 millimeters. Runs to section 8 in Kieffer's key.⁴ Black; scape brownish yellow; front coxæ rufous; trochanters yellow; rest of legs mostly brownish; tarsi darker; wings brownish.

Head one and one-half times as wide as long, one and one-thirteenth times as wide as the thorax, truncate posteriorly; facial impression as in *terminalis* sp. nov.; head punctured as in *terminalis* except that the vertex and occiput are provided with large scattered punctures; these punctures are arranged in a row just behind the posterior margin of the eye; antennæ (see fig. 4) covered with short semierect white hairs; lateral ocelli less than their diameter from the eye margin; thorax one and two-thirds times as long as wide, one and one-third times as wide as the abdomen (third tergite), pubescent as in *terminalis*; pronotum impunctate, with six large longitudinal ridges on each side; notauli complete, mesonotum shining, impunctate; propodeum emarginate posteriorly, with two low longitudinal ridges

⁴Das Tier., Lief. 48 (1926) 521.

running into the lateral posterior angles; these ridges are horizontal and parallel on basal one-third but slope downward and diverge from that point; there is no transverse carina or ridge connecting the longitudinal ones; metacarpa about twice as long as the marginal vein, the latter longer than the stigmal; abdomen in outline as in *terminalis*, a little over twice as long as the thorax, about four and one-half times as long as wide; first tergite as wide as long, as wide as the sixth; second tergite one and one-ninth times as long as

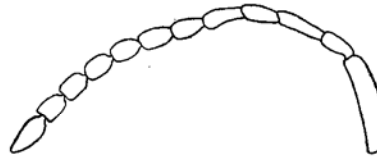


FIG. 4. *Macroteleia inermis* sp. nov., antenna of male.

wide, about one and three-seventh times as long as the first; third as wide as long, as long as the fourth is wide, slightly longer than the second or fourth; fourth a little wider than long, somewhat wider than the fifth, about as long as the second; fifth about one and two-fifths times as wide as long, as long as the first, as wide as the second; sixth very nearly twice as wide as long, about half as long as the fifth, four times as long as the seventh; seventh four times as wide as long, truncated at apex, without projections; a median ridge or carina extends from the base of the first tergite to the apex of the sixth; a ridge on each side (as in *terminalis*) extends from the base of the abdomen to a little beyond the middle of the fifth tergite; sculpture on the first and second tergites as in *terminalis*; third and fourth tergites each with nine more or less complete and regular longitudinal carinae, the intervals not distinctly sculptured; fifth tergite also carinate but the intervals slightly roughened; sixth tergite rugose; last tergite without distinct sculpture.

Type locality.—Mindanao, Surigao (*Baker*), one male.

Type.—Catalogue No. 29195, United States National Museum.

DIAPRIIDÆ

Genus BELYTA Jurine

BELYTA MINDANAENSIS sp. nov.

Male.—Length 3.70 millimeters. Head 1.45 times as wide as long, as high as long; antenna of about the same width throughout, the joints becoming gradually shorter and thinner distally; scape about three times as long as wide, a little shorter than the third joint, thicker than the third; second joint as wide as the

third, transverse; third joint about five times as long as wide, about seven times as long as the second, shallowly excavated on one side at base; antennal joints closely covered with short, white hairs; thorax 1.35 times as wide as long, 1.22 times as wide as high, 1.25 times as wide as the head, 1.13 times as wide as the abdomen; thorax sparsely covered with long whitish hairs; abdomen 2.40 times as long as wide; petiole smooth, not carinate, 2.35 times as long as wide; second tergite 1.47 times as long as wide, 2.38 times as long as the petiole; second tergite polished, with two shallow foveæ basally; abdomen moderately densely covered with long white hairs; wings subhyaline, extending a little over 0.5 millimeter beyond the tip of the abdomen; radial cell open distally; first abscissa of the radius about half as long as the second; disco-cubitus present as a faint brownish line; black; mandibles rufous; tarsi yellow; antennæ piceous; legs brown.

Type locality.—Mindanao, Dapitan (*Baker*), one male.

Type.—Catalogue No. 29204, United States National Museum.

This seems to be the first species of *Belyta* described from the Oriental Region.

ILLUSTRATIONS

TEXT FIGURES

- FIG. 1. *Scelio bicolor* sp. nov., antenna of male.
2. *Macroteleia terminalis* sp. nov., antenna of male.
3. *Macroteleia terminalis* sp. nov., dorsal view of abdomen of male.
4. *Macroteleia inermis* sp. nov., antenna of male.