

NEW SERPHOID, BETHYLID, AND ANTEONID WASPS FROM
THE MARQUESAS AND SOCIETY ISLANDS*

By

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This paper is based upon material collected by the Pacific Entomological Survey in the Marquesas and the Society Islands. One new genus and eleven new species are described, two in the family Diapriidae, two in the Calliceratidae, two in the Scelionidae, two in the Bethylidae, and three in the Anteonidae. Type specimens are deposited in Bernice P. Bishop Museum.

FAMILY DIAPRIIDAE

Phaenopria lebronnecii, new species (fig. 1, *a*).

Female

Length 1.54 mm. Head slightly wider than thick, a little narrower than the thorax, scarcely longer than thick, viewed from in front rounded above and below, decidedly wider below than above, the eyes large, extending half way to the top; viewed from the side the head is subquadrate, slightly longer below than above, the lower face forming a right angle with the upper, the antennal projection only slightly produced; antenna as in fig. 1, *a*, without elongated sense organs as in *P. insulana*; thorax 1.84 times as long as wide, 1.13 times as high as wide, convex above, flattened laterally, widest above, narrowed toward center; mesonotum convex, like the scutellum with a few scattered hairs; scutellum convex, with a low rounded keel down the middle, margined laterally, immargined posteriorly, without a fovea basally; propodeum with a sharp median keel down the middle; seen from the side this keel is raised about as high as the scutellum into a sharp triangular projection anteriorly; pronotum, propodeum laterally, and petiole thickly covered with short whitish pubescence; wings with a faint brownish tinge, extending about two-thirds the length of the abdomen past its apex; abdomen 1.85 times as long as wide, 1.1 times as wide as the thorax, convex dorsally, wider than high; petiole transverse, convex above; second tergite 1.27 times as long as wide, three times as long as the following segments combined; black; basal seven antennal joints yellowish-brown, apical joints dark brown; propodeum and legs a rich golden brown color.

Marquesas Islands: Hivaoa, Kaava Ridge, altitude 2,000 feet, October 27, 1931, on *Glochidion ramiflorum*, LeBronnec.

Phaenopria insulana, new species (fig. 1, *b*).

Female

Length 1.29 mm. Head shaped as in *P. lebronnecii* except that it is oval in front view, scarcely wider below than above; head 1.22 times as wide as thick, as wide as the thorax, as long (from middle of lower face to vertex) as wide; antenna as in fig. 1, *b*, with a strongly differentiated 3-jointed club, and with a row of elongated sense organs around each of the first and second club joints; the last joint has apparently a double row of similar sense organs, but, due to the darker coloration of the joint, they could

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be discerned only on the outside edge as shown in the figure; thorax 1.72 times as long as wide, as high as wide, narrowed below and with the sides flattened as in *P. lebronncii*, but distinctly flattened above and without a median keel as in *P. lebronncii*; wings hyaline, extending to about the tip of the abdomen; abdomen 2.74 times as long as wide, elliptical viewed from above, pointed apically, widest at middle, 1.65 times as long as the thorax; petiole short, transverse; second tergite 1.6 times as long as wide, widest before the apex, 1.6 times as long as the following segments combined; pronotum, propodeum laterally and petiole densely covered with silvery pubescence; black; scape and last joint dark brown; other antennal joints lighter brown; propodeum reddish-brown; legs brown, the tibiae and tarsi lighter.

Society Islands: Tahiti, Mataiea, December 19, 1928, on sugar cane, Mumford and Adamson, five females.

FAMILY CALLICERATIDAE

Calliceras obscurus, new species (fig. 1, c).

Male

Length 0.54 mm. Head thick and wide, 1.42 times as wide as thick, 1.25 times as long as thick, a little wider than the thorax; frontal impression deep, circular, im-margined, its surface smooth, without sculpture or pubescence; frons above impression, vertex, and occiput smooth, sparsely pubescent, without apparent sculpture; a median impressed line extends from the occipital foramen to the anterior ocellus; antennae 11-jointed (fig. 1, c); thorax 1.4 times as long as wide, 1.17 times as long as high, 1.25 times as wide as the abdomen; mesonotum convex with the median impressed line distinct, otherwise with a faint indeterminate sculpture; frena not reaching mesonotum; scutellum sub-convex, longer than wide, sparsely pubescent, finely reticulate, polished and narrowly rounded posteriorly; thorax laterally and abdomen smooth, without sculpture; metanotum with a short, acute tooth medially; wings hyaline, the posterior pair with long marginal cilia, the fringe more than half as long as the width of the wing; abdomen 1.83 times as long as wide; body dark reddish-brown; legs light brownish.

Marquesas Islands: Eiao, uplands toward north end, east side, altitude 1,855 feet, September 29, 1929, on *Hibiscus tiliaceus*, A. M. Adamson (type).

Calliceras robusta, new species (fig. 1, d).

Female

Length 1.16 mm. Head 1.83 times as wide as thick, as wide as the thorax; frons, vertex, genae, and malar space with impressed reticulation; occiput more finely reticulate, a sharply defined groove, interrupted by the blunt ridge separating vertex and occiput, extends from occipital foramen to anterior ocellus; the groove extends forward from the anterior ocellus to the upper margin of the frontal impression; it is deeper and wider here, as large as the median groove on the mesonotum; frontal impression deep and wide, occupying lower three-fifths of frons, mostly transversely rugulose, smooth below; lateral ocelli closer to anterior ocellus than to eye margins; eyes thickly set with short white hairs; thorax 1.12 times as long as wide, 1.10 times as wide as the abdomen, convex dorsally; pronotum visible from above only as a narrow collar; mesonotum, axillae, and anterior half of scutellum with impressed reticulation, the mesonotum anteriorly less strongly sculptured; a median impressed line extends the length of the mesonotum; scutellum subconvex, without distinct sculpture on posterior half; metanotum extended behind as a roughly sculptured triangular projection about one-fourth the

length of the scutellum; propodeum with a short acute tooth on each side posteriorly; abdomen twice as long as wide, a little wider than high, 1.6 times as long as the thorax, narrowed posteriorly from about the middle, terminating in a point; second tergite 1.17 times as long as wide, smooth, without sculpture except numerous longitudinal carinae on basal fourth; terminal segments united 0.64 the length of the second; head and thorax dorsally thickly set with short whitish hairs; abdomen ventrally with sparse white hairs; wings hyaline; black; scape reddish-brown; flagellum dark-brown, lighter proximally; legs light-brown, the coxae black.

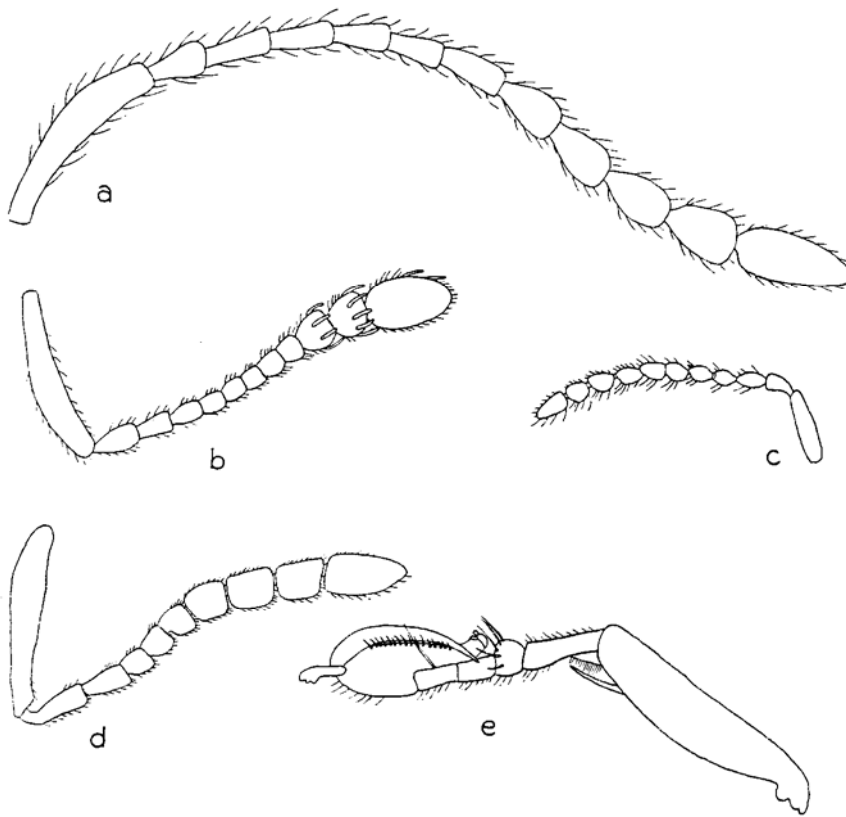


FIGURE 1.—Marquesan and Society Islands wasps: a, antenna of *Phaenopria lebronccii* (female); b, antenna of *Phaenopria insulana* (female); c, antenna of *Calliceras obscurus* (male); d, antenna of *Calliceras robusta* (female); e, front tibia and chelate tarsus of *Anteon dubius* (female).

Marquesas Islands: Eiao, altitude 1,700 feet, April 16, 1931, on *Premna tahitensis*, LeBronnec and Tauraa (type); Uahuka, Hitikau Ridge, altitude 2,900 feet, March 3, 1931, on ferns, LeBronnec and Tauraa (paratype).

Figure 1, *d* presents a lateral view of the antenna in which the joints appear widest. The joints being somewhat compressed any other view would show, particularly for the terminal joints, a greater relative length. For example, a slide mount of the type antenna shows the last joint to be twice as long as thick. A mount of the paratype antenna, on the contrary, shows the same joint nearly three times as long as thick, a difference apparently due only to the fact that the flagellum has been twisted and does not present its broadest aspect. In view of the magnitude of the variation shown, depending on whether the antenna does or does not lie flat and the difficulty of determining whether either condition exists, it would seem that exact measurement, in microns for instance, would involve just so much wasted time and effort. I have encountered the same difficulty in other groups of Serphoidea and have been forced to the conclusion that a drawing or photograph of the antenna in such a position that the joints present what is presumably their greatest widths and lengths is the best that can be done. If all the joints were straight and cylindrical and were horizontally disposed then more exact measurement might be of considerable value in a study of variation and specific differentiation. In the males of many Belytines, e. g., in the genera *Xenotoma* and *Ancctata*, the joints are very nearly cylindrical and approximately straight. More precise measurement might be of value in such a group.

FAMILY SCELIONIDAE

Telenomus mumfordi, new species.

Female

Length 0.73 mm. Head 1.36 times as wide as thick, as wide as the thorax, a little wider than the abdomen, full behind the eyes, the genae broad, convex; frons polished, faintly aciculate below, with a few hairs laterally and below; vertex and occiput not separated by a carina, broad, subconvex, reticulate; lateral ocelli touching eye margin; genae polished, faintly reticulate above; antennae clavate, the club 4-jointed; scape a little longer than following three joints combined; pedicel nearly as long as joints three and four combined, twice as long as wide; third and fourth joints subequal, longer than the fifth, 1.5 times as long as thick; joints five, six and seven moniliform, subequal, about as thick as the fourth; eighth joint triangular, as wide as long, wider than the seventh, narrower than the ninth; joints nine and ten transverse; last joint as thick as the ninth, a little longer than thick, blunt at tip; all flagellar joints with short whitish pubescence; thorax 1.47 times as long as wide, convex above, evenly covered above with longitudinally disposed rows of short whitish hairs; thorax apparently reticulate above, but sculpture indistinct; scutellum convex, polished, transverse; abdomen 1.88 times as long as wide, widest at apex of second tergite, pointed apically, the ovipositor exerted; petiole transverse, with about seven longitudinal grooves on anterior two-thirds, polished posteriorly; second tergite as wide as long, widest apically, with short striae basally, these striae not as long as the petiole; otherwise the second tergite is polished, without sculpture, 1.63 times as long as the following tergites combined; wings fully developed, hyaline, extending nearly the length of the second tergite past the tip of the abdomen; black; antennae piceous; legs dark-brown; tibiae lighter brown; tarsi yellowish-brown.

Marquesas Islands: Hivaoa, Tahauku, July 10, 1929, Mumford and Adamson (type).

Telenomus mataieaensis, new species.

Female

Length 0.65 mm. Head twice as wide as thick, 1.15 times as wide as the thorax, 1.44 times as wide as the abdomen, viewed from above convex anteriorly, deeply and broadly concave posteriorly, the genae wide and flat but very oblique; head polished, without sculpture except a few faint aciculae on the occiput; scape about as long as the five following joints combined; pedicel as long as joints three and four combined, about 1.5 times as long as thick, thicker than any of the following four joints, about as thick as the seventh; joints three-five subequal in length and width, about as wide as long; joint six as wide as five but shorter, transverse; seven as wide as long, a little thinner than the following club joints; joints eight to ten subequal in width, the eighth shorter; nine as long as ten, a little thicker than long; last joint about 1.5 times as long as thick, longer than the tenth, acute apically, thickest basally; club 5-jointed; flagellar joints with short pubescence; thorax scarcely longer than wide, strongly convex above; mesonotum convex, distinctly although finely reticulate, rather thickly clothed with short whitish hairs posteriorly inclined; pronotum not visible from above; scutellum convex, smooth, without distinct sculpture; abdomen about twice as long as wide, subconvex above, without sculpture except longitudinal striae on petiole and very shortly at base of second tergite; second tergite about as wide as long, the striae at base extremely short and faint; abdomen pointed apically, widest before the middle, 1.5 times as long as the thorax; wings hyaline, with long cilia, extending a third the length of the abdomen past its apex; black; antennae dark-brown; legs also dark-brown, the trochanters, anterior tibiae, other tibiae proximally, and tarsi yellowish-brown; mandibles yellowish.

Male

Length 0.59 mm. Similar to the female. Scape and pedicel as in female; joints three-five about as long as wide, thinner than the pedicel; following joints about as thick as the pedicel, transverse, button-shaped; last joint longer than thick, about as long as the pedicel, pointed apically; abdomen a little shorter than the thorax, truncate apically, 1.47 times as long as wide; scape and legs, including coxae, yellowish-brown, tarsi paler.

Marquesas Islands: Eiao above Vaituha, altitude 800 feet, October 1, 1929, on *Melochia velutina*, A. M. Adamson, type, allotype, and paratype; Hivaoa, altitude 2,100 feet, February 15, 1930, on *Crossostylus biflora*, Mumford and Adamson.

Society Islands: Mataiea, sea level, December 19, 1928, on sugar cane, Mumford and Adamson, eight paratypes.

Anteromorpha dubiosa (Perkins).

Opisthacantha dubiosa Perk., Fauna Hawai., vol. 2, p. 623, 1910. Kieff., Das Tier., Lief. 48, p. 401, 1926.

Anteromorpha dubiosa, Dodd, Proc. Roy. Soc. Queen., vol. 40, p. 38, 1928.

Originally described from Oahu. I have received specimens from Bernice P. Bishop Museum labeled as follows: Honolulu, Oahu, O. H. Swezey; Lahaina, Maui, December 5, 1922, Swezey. Society Islands, Tahiti, Mataiea.

December, 19, 1928, sugar cane, Mumford and Adamson. Marquesas Islands: Mohotani Island, August 13, 1929, A. M. Adamson.

Dodé suggests that his species *A. australica* may be a synonym of this species. A comparison of his description and the specimens of *A. dubiosa* at hand indicates that he is correct.

FAMILY BETHYLIDAE

Cephalonomia unicolor, new species.

Differs from *C. gallicola* Ashmead in having the head 1.48 times as long as wide, rounded behind on the sides, not subquadrate behind as shown in Ashmead's figures¹, and in having the propodeum narrowed medially. *Gallicola* has been reported by Bridwell² as having been found at Haiku, Maui, in rolled barley imported from California.

Female

Length 2 mm. Clypeus with a high, sharp, longitudinal carina; frons finely reticulate, the sculpture having a longitudinal trend, with a few small scattered punctures, finely longitudinally aciculate medially; eyes and ocelli absent; pronotum strongly convex, longitudinally reticulate; mesonotum faintly reticulate, impunctate; propodeum flat above, reticulate, the sculpture much stronger than that on head or pronotum, without a longitudinal trend, with several scattered punctures laterally; wings absent; femora strongly thickened; abdomen 0.85 of length of head and thorax combined, 1.3 times as wide as the head, flattened, pointed apically, polished, without sculpture; body smooth, shining, the sculpture as described above delicate, without pubescence except a few short hairs laterally on head and abdomen; body and appendages brownish, the head and tarsi yellowish-brown.

Marquesas Islands: Hivaoa, Mount Temetiu, altitude 3,660 feet May 27, 1929, Mumford and Adamson (type).

Genus BETHYLOPSIS, new genus

Head longer than wide; mandibles long, tridentate, the inner edge oblique, the outer tooth acute, much the longer; a low convex semicircular protuberance between antennae; frons above this protuberance with a short median carina extending as far up as base of eye; clypeus very short, scarcely visible in a front view of head; eye less than a third the length of the head, about half its length distant from the base of mandible; ocelli small but distinct; antennae 12-jointed; pronotum longer than wide; mesonotum transverse, without notauli and without furrows near the lateral margins; scutellum separated from the mesonotum by a straight suture; propodeum margined only laterally, without a median longitudinal elevation as in *Bethylus*; mesopleurae protuberant, with a large deep pit above; wings narrow, reaching a

¹ Ashmead, William H., A monograph of the North American Proctotrypidae: U. S. Nat. Mus. Bull. 45, pl. 3, fig. 6, 1893.

² Bridwell, John Colburn, Some notes on Hawaiian and other Bethylidae (Hymenoptera) with descriptions of new species: Haw. Ent. Soc., Proc., vol. 4, p. 33, 1919.

little beyond tip of propodeum, the venation not distinct; legs rather slender, the femora only moderately thickened; spine of front tibia simple, pubescent on inner side; claws simple, without teeth; abdomen somewhat swollen, broader than thorax, gradually narrowing to a point apically.

Bethyloopsis fullawayi, new species.

Female

Length 3.54 mm. Head 1.35 times as long as wide, 1.31 times as wide as the thorax, seen from in front oblong in outline, slightly wider at base of mandibles, the sides straight nearly to top of head, almost parallel; head viewed from in front broadly rounded above at sides; head above eye a little longer than twice the length of eye; entire surface of head with dense impressed reticulation (occiput more finely reticulate) and covered with small scattered punctures; these small punctures are about 0.065 mm distant from one another (average) and this distance traverses five or six of the small areas on the reticulated surface; thorax 2.56 times as long as wide, widest across mesopleurae which are protuberant, visibly from above, convex above; pronotum sculptured like the frons but with the enclosed areas somewhat smaller and with the scattered punctures somewhat closer together; mesonotum reticulate like the frons and pronotum but with a few punctures only on posterior half; scutellum subconvex, more densely reticulate than the parts previously described, with about a dozen small scattered punctures; the enclosed areas are about half the size of those on the mesonotum; propodeum narrowed anteriorly, the sides curved, widest on posterior third of superior face; superior face of propodeum and mesopleurae uniformly reticulate like the frons but without punctures; pronotum laterally and propodeum laterally and behind reticulate like the superior face but the lines less strongly impressed; propodeum margined only laterally, the superior face separated from the inferior by a blunt angularity; no ridge extends from the posterior lateral angles down to the apex of the propodeum; wings narrow, extending a little past the apex of the propodeum, without distinct venation; abdomen 2.24 times as long as wide, 1.64 times as wide as the thorax, pointed apically, 0.90 the length of head and thorax combined, its entire surface reticulate, the lines not deeply impressed; black to brownish-black; antennae and legs dark-brown, the coxae black; mandibles rufous, darker basally.

Marquesas Islands: Nukuhiva, Ooumu, altitude 3,800 feet, September 10, 1928, Mumford and Adamson (type).

FAMILY ANTEONIDAE

Anteon dubius, new species (fig. 1, *e*).

Female

Length (exclusive of extended ovipositor) 1.70 mm. Head viewed from above 1.7 times as wide as thick, slightly convex in front and as slightly concave behind, 1.20 times as wide as the thorax, entirely with dense impressed reticulation; head viewed from in front broadly elliptical, 1.18 times as wide as high (clypeus to vertex), only 1.66 times as high as eye is long, projecting in a wide curve very little above top of eye; clypeus convex, without a ridge; frons convex, with a low ridge extending from clypeus to anterior ocellus; frons and genae with short sparse silvery pubescence; ocellular line equal to the post-ocellar, twice as long as the lateral ocellar, a little longer than the ocellioccipital; occipital carina sharp, extending to the mouth parts below; antennae filiform; scape three times as long as thick, seen from above of approximately equal width throughout, from the side strongly thickened distally, as long as two and three com-

bined, thicker than two or any joint following it; pedicel twice as long as thick, a little longer than three, about a third thicker than three; three and four subequal, about twice as long as thick, longer than five; following joints about 1.5 times as long as thick; last joint longer, acute at apex; thorax 1.5 times as long as wide, widest at the swollen episterna, 1.1 times as long as the abdomen; pronotum and mesonotum finely closely reticulate; notauli curved, present on anterior half of mesonotum; mesonotum about twice as long as the pronotum, 1.5 times as wide as long; propodeum with a low ridge separating the superior face from the inferior; this ridge is lost on the side in the rugose sculpture; superior face only about half as long as the inferior, irregularly traversed longitudinally by ridges, not reticulate; inferior face flat, sloping, its surface with dense impressed reticulation, the areas depressed below the separating lines (on the head and thorax the lines are impressed, the enclosed areas slightly elevated, convex); lateral ridges of propodeum not in evidence, the parts rounded; laterally the propodeum is rugose, the rugae having a longitudinal trend; wings hyaline, appearing whitish in certain illumination; second abscissa of radius a third the length of the first, the latter straight, as long as the inner surface of the stigma distad of it; ovipositor extended to a third the length of the abdomen; black; scape, mandibles (teeth red), and legs, except posterior femora, coxae, and last joint of each tarsus yellow; coxae dark-brown to black; posterior femora dark-brown; flagellum light-brownish, the second, third, and fourth joints darker.

Marquesas Islands: Nukuhiva, Teivipakeka; altitude 1,400 feet, October 16, 1929, Mumford and Adamson (type).

***Pseudogonatopus rufus*, new species.**

Female

Length 4.2 mm. Head 1.37 times as wide as long, 1.55 times as wide as thick (lateral view), 1.63 times as wide as the pronotum; frons depressed below the eyes, with a low carina from clypeus to anterior ocellus, polished, without distinct sculpture; vertex reticulate; occiput concave, polished, without sculpture; genae above reticulate, otherwise without sculpture; antennae long and thin; scape about 2.5 times as long as thick, a little longer and thicker than the pedicel which is a little less than three times as long as thick; third joint about ten times as long as thick, 2.5 times as long as the pedicel, thickened knob-like at tip; following joints to the last becoming progressively shorter and thicker, the last one three times as long as thick, 1.4 times as long as the ninth; number of palpal joints not determined; pronotum 1.25 times as long as wide, without sculpture above and on anterior half laterally, posteriorly on the sides strongly reticulate; transverse constriction on pronotum very weak, shallow; surface of mesonotum minutely granular; metanotum transversely rugulose above, covered with minute thimble-like depressions laterally and with about a dozen strong vertical carinae laterally, these carinae broken for the most part, not regular; propodeum 1.6 times as long as wide, evenly rounded above and on the sides, with minute punctures as on the metanotum, with about a dozen transverse carinae on posterior 2/3, these carinae extending down on the sides, all of them weaker anteriorly on the segment; inner claw of chela curved, with a double row of lamellae; outer claw with a single row of six lamellae; abdomen 2.5 times as long as wide, 0.9 times as long as the thorax; frons and thorax rufous; scape white; flagellum brownish, the joints eight and nine paler; tenth joint dark-brown; head, legs, and abdomen, for the most part, yellowish-brown.

Marquesas Islands: Nukuhiva, Teivipakeka, altitude 2,400 feet, October 16, 1929, Mumford and Adamson (type).

Pseudogonatopus rugosus, new species.

Female

Length of head and thorax combined 2.2 mm. Closely allied to *P. rufus* from which it differs in its smaller size, lighter coloring of head and legs, and stronger sculpture of the thorax. Head 1.3 times as wide as long, 1.7 times as wide as thick, 1.8 times as wide as the pronotum; head and pronotum sculptured as in *P. rufus* except that the constriction on the latter is more pronounced; pronotum 1.26 times as long as wide, a little wider than the metanotum; mesonotum and median area between and on both metanotum and propodeum with small shallow thimble-like punctures as in *P. rufus*; otherwise the metanotum and propodeum are strongly transversely rugose, the ridges high and sharp; chelae as in *P. rufus*, the outer claw with a small tooth before tip; abdomen missing; thorax rufous as in *P. rufus*; lower frons, clypeus, mandibles (except tips), scape, and pedicel whitish; head, antennae and legs stramineous, the hind coxae basally and the swollen parts of femora brownish.

Marquesas Islands: Nukuhiva, Ooumu, altitude 3,600 feet, Nov. 10, 1929, Mumford and Adamson (type).