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NEW SPECIES OF *TROPICUS* FROM SOUTH AMERICA
(COLEOPTERA: HETEROCERIDAE)

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ABSTRACT

Seven new species of *Tropicus* are described from South America. Brief notes on the genus and its species are also included.

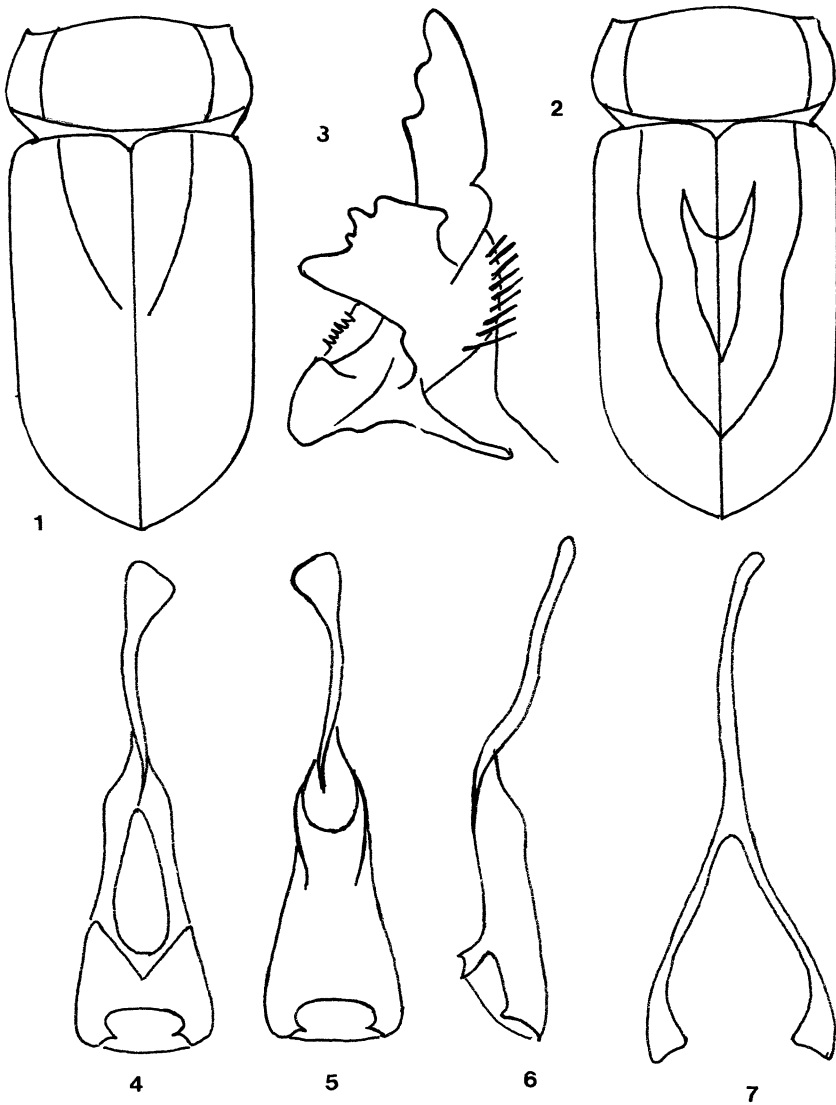
The genus *Tropicus* is apparently a genus of the Americas with species unknown elsewhere. The genus appears to have its highest development in the tropical or semi-tropical areas of the Americas. However, the species *T. pusillus* (Say) has been recorded as far north as southern Canada (Ontario) and other species as far south as the northern areas of Argentina.

Pacheco (1964) erected the genus *Tropicus* to contain 13 species. Eight species were named by Pacheco and the others by various other workers. Seven of the species named by Pacheco were known from single specimens. In fact none of the species had very many specimens except for *T. pusillus* (Say), which is very common. It and *T. minutus* (Fall), based on 3 specimens, are the only 2 members of the genus found in the United States. *T. minutus* (Fall), so far, has been taken only in a few areas of southern Texas while *T. pusillus* (Say) can be found as far north as southern Canada and as far south as Panama (5 specimens recorded by Pacheco). To the list of Pacheco can be added *T. bilineatus* (Chevrolat), found in Cuba but recently recorded from Costa Rica by Mascagni (1989). Furthermore, Mascagni (1989) described the new species, *T. alicicornis* from Paraguay and Venezuela. Ivie and Stribling (1984) described the new species, *T. ladonnae* from Trinidad. They also synonymized *Heterocerus pumilio* Kiesenwetter and *T. cithara* Pacheco, as being identical of *H. lituratus* Kiesenwetter, all members of the genus *Tropicus*. To this list of 16 species can be added the following new species.

Tropicus excellens Miller, new species
(Figs. 1-7)

DESCRIPTION. Light brown with elytra paler except for darker markings as illustrated (Figs. 1, 2), pronotum dark with lighter laterals, legs pale. Labrum of male elongate, narrow; labrum of female shorter and broader with wider apex. Pronotum wider than long, as wide as elytra at base; sides nearly parallel, converging slightly apically; surface finely sculptured, rough-appearing; setae fine and generally sparse. Elytra surface shining, sculptured, punctures very small; setae fine, short, upright; elytra surface at 100× with very small punctures widely spaced, at least 2× their diameters; microsetae denser; punctures with setae and microsetae denser in areas of darker markings; longitudinal darker sensory spots easily noticed. Surface beneath similar to above but finer, not as sculptured. Fore tibiae with 8 stout spines. Length 2.5-2.75 mm.

MALE. Process of dorsal ridge of mandible large and well developed (Fig. 3); ninth abdominal sternite not well sclerotized, with posterior arms expanded at tips into well-developed apodemes (Fig. 7); genitalia small, gradually broadening to a blunt posterior, posterior having two small but noticeable horns (Figs. 4, 5), apical end with small flat



Figs. 1-7. *Tropicus excellens*, n. sp. 1, elytral markings (holotype). 2, variant of elytral markings. 3, right mandible showing mandibular process. 4-6, male genitalia. 4, dorsal view. 5, ventral view. 6, lateral view. 7, 9th abdominal sternite.

lamella, and a rather strong tubercular process located on ventral side which can be seen readily from a lateral view (Fig. 6).

TYPE MATERIAL. Male holotype and female allotype from *Suriname*, Paramaribo, L'Hermitage, male collected on 25 VI 1970 and female collected on 10 VIII-8 IX 1969, collected by N. Nieswar at light trap. In addition there are

84 paratypes, including 13 males with the same locality data but collected on 10 VIII-8 IX 1969 (80) and on 25 VI 1970 (4). The primary types and 60 paratypes were returned to Dr. C. Br. van Nidek at the Zoologisch Museum, Universiteit van Amsterdam, Amsterdam, Netherlands. The remaining paratypes are in the author's collection.

DISCUSSION. The elytral markings are variable with the markings as illustrated being the most common (Fig. 2). The second most common form has the diagonal stripe interrupted at mid elytron (Fig. 1). With the variability of the elytral markings this species could be mistaken for *T. ladonnae* Ivie & Stribling of Trinidad or *T. imperator* Pacheco of Brazil, or with some specimens of *T. pusillus* (Say) (Fig. 36), which is usually found in northern Central America up into the United States. However, all of the above have the pronotum unicolorous while this species has pale margins on the pronotum. Without a male and especially having only a few specimens identification could be difficult.

Tropicus infidus Miller, new species
(Figs. 12, 23-25)

DESCRIPTION. Uniform light reddish brown, pronotum darker. Labrum wider than long, sides converging to small apex, about $\frac{1}{4}$ width of labrum; setae dense. Pronotum with fine, small individual punctures, separated by 1-2 diameters; setae dense, fine but rather long; wider than long, as wide as elytra at base. Elytra surface rough appearing, sculptured; setae short, fine, white in color, easily seen; striations noticeable. Fore tibiae with very stout spines. Length 2.5 mm.

MALE. Process of dorsal ridge of mandible small and not well developed (Fig. 23); ninth abdominal sternite quite peculiar in that no posterior arms exist; instead the arms have been modified as an envelope that surrounds and protects the genitalia (figs. 24, 25); genitalia small, finely rounded posteriorly (Fig. 12).

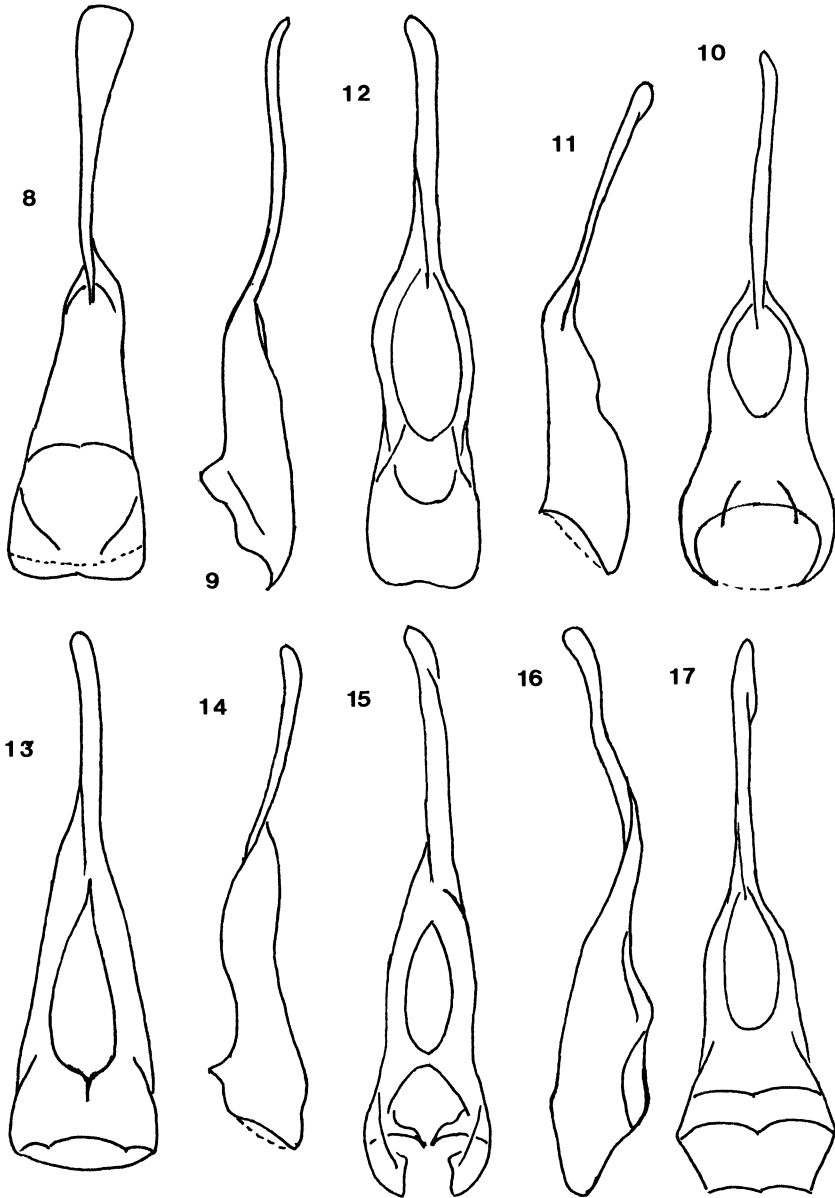
TYPE MATERIAL. Male holotype and female allotype from **BRAZIL**, 20 km SW Itapiranga, **Amazonas**, XI-9-1969. Collected by J. M. & B. A. Campbell. Fourteen of the 16 paratypes have the same collection data. The other two are from **BRAZIL**, **Para** Faz. Taperinha, XI-16-18-1969. Collected by J. M. & B. A. Campbell. The primary types and 10 paratypes returned to the Canadian National Collection, Ottawa, Canada. The retained specimens are in the author's collection.

DISCUSSION. This species, while similar in color and lack of elytral markings to several known species, *T. insidiosus* (Gr.), *T. plaumanni* Pacheco and *T. sagittarius* Pacheco, has the shape of the ninth abdominal sternite of the male unique in that it is shaped to encompass the genitalia. Only the ninth sternite of *T. tuberculatus* Pacheco partially resembles that of this new species.

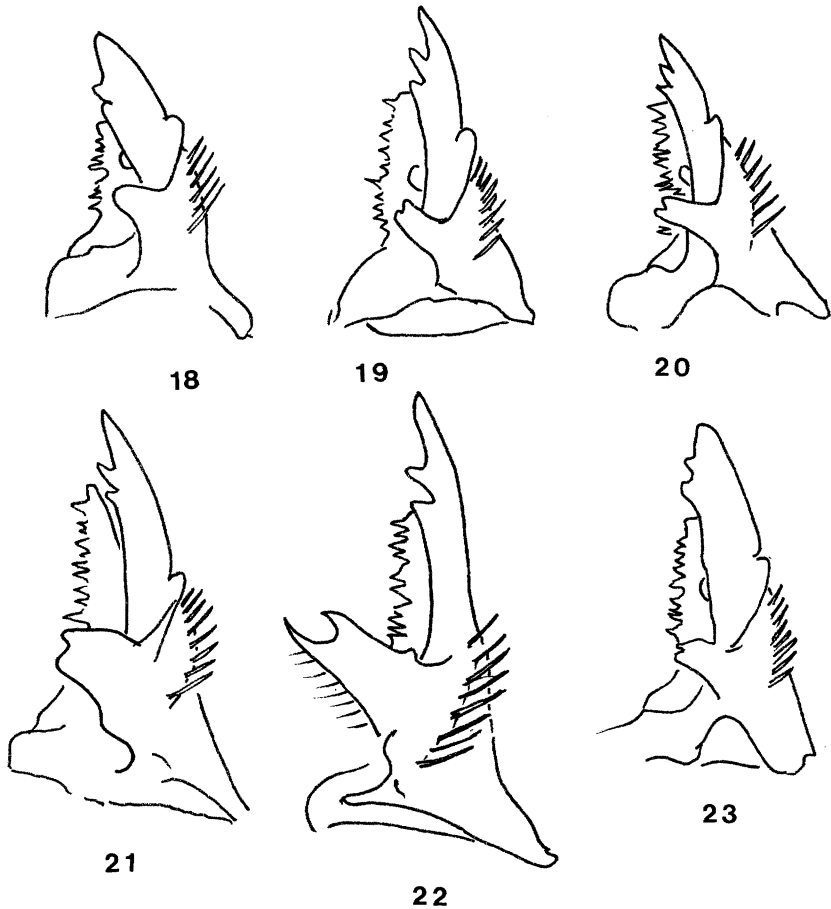
Tropicus vicinus Miller, new species
(Figs. 10-11, 21, 29, 33)

DESCRIPTION. Generally light tan with a yellowish cast, pronotal disc and elytral markings darker (Fig. 33), beneath slightly darker tan. Labrum about as wide as long, sides diverging to blunt apex; setae dense. Pronotum wider than long, sides parallel; slightly wider than base of elytra in both sexes; surface finely pebbled, setae sparse and fine. Elytra densely punctate, fine, crinkled between punctures; setae fine, dense and very short with whitish color which is quite noticeable. Length 2 mm.

MALE. Process of dorsal ridge of mandible well developed (Fig. 21); ninth abdominal sternite with posterior arms well spread, ending in well-developed apodemes (Fig. 29);



Figs. 8–17. Male genitalia. 8–9, *Tropicus speciosus*, n. sp. 8, dorsal view. 9, lateral view. 10–11, *T. vicinus*, n. sp. 10, dorsal view. 11, lateral view. 12. *T. infidus*, n. sp., dorsal view. 13–14, *T. sparus*, n. sp. 13, dorsal view. 14, lateral view. 15–16, *T. aratus*, n. sp. 15, dorsal view. 16, lateral view. 17, *T. brazza*, n. sp., dorsal view.

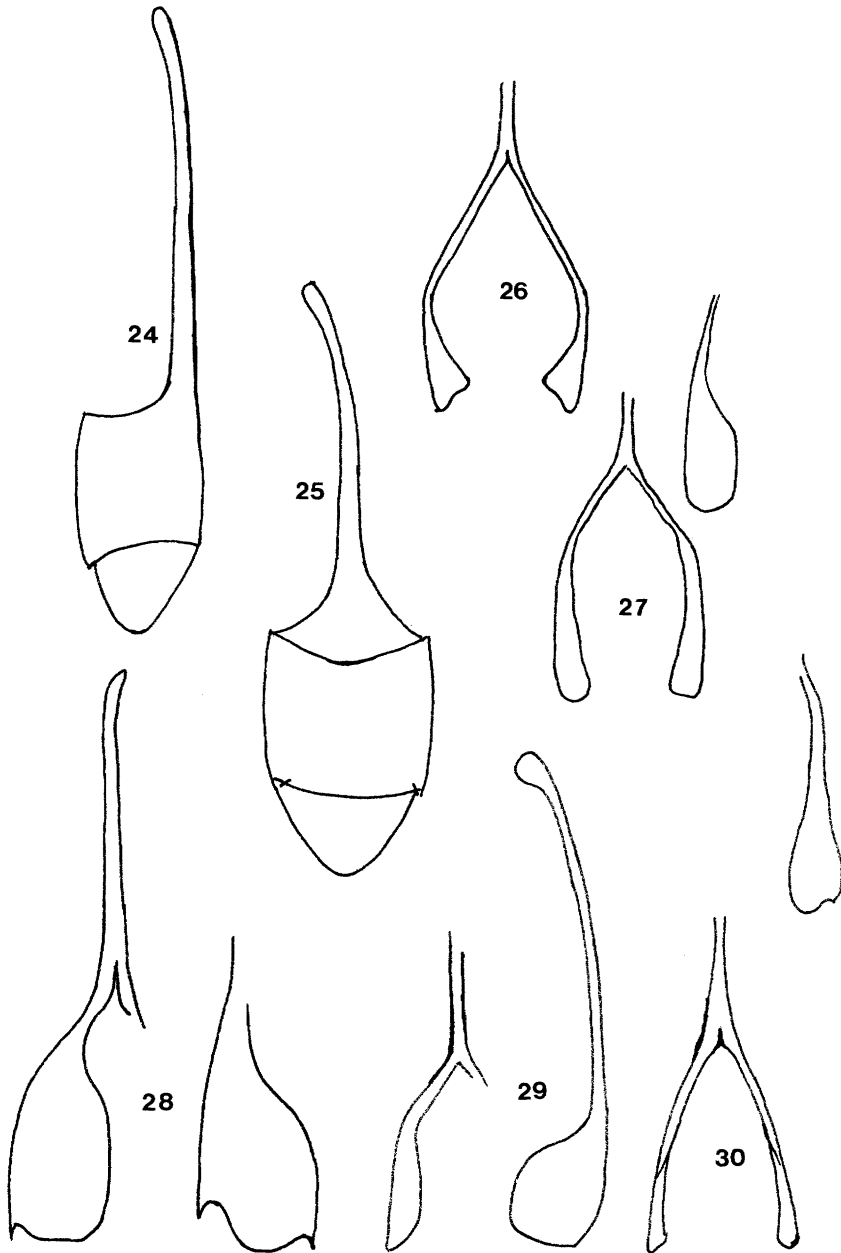


Figs. 18–23. Right mandible, showing mandibular process. 18, *Tropicus sparus*, n. sp. 19, *T. aratus*, n. sp. 20, *T. braza*, n. sp. 21, *T. vicinus*, n. sp. 22, *T. speciosa*, n. sp. 23, *T. infidus*, n. sp.

genitalia from a dorsal view shaped like a “bull fiddle,” posterior end broadly rounded with noticeable horns, anterior end slender with no lamella (Figs. 10–11).

TYPE MATERIAL. Male holotype and female allotype from **BRAZIL**, 20 km SW Itapiranga, **Amazonas**, 1969 collected by J. M. & B. A. Campbell. Thirty-seven of the 59 paratypes are from the same locality as the primary types. The other 22 paratypes have the following collection data, all from **BRAZIL**, Parana do Esp. Santo, Parintins, XI-11-1969 (13), N. S. de Nazare, Parana da Eva, **Amazonas**, XI-8-1969 (2), Para Santarem, XI-14-1969 (4), Para Oriximina, XI-14-1969 (1), and São Sebastião da Boa Vista, **Amazonas**, XI-10-1969. All specimens were collected by J. M. & B. A. Campbell. The primary types and 37 paratypes, including 12 males, returned to the Canadian National Collection, Ottawa, Canada. The remaining paratypes are in the author’s collection.

DISCUSSION. The markings of the elytra vary from nearly the entire elytra



Figs. 24–30. Ninth abdominal sternite. 24–25, *Tropicus infidus*, n. sp. 24, lateral view. 25, dorsal view. 26, *T. sparus*, n. sp. 27, *T. braza*, n. sp. 28, *T. speciosa*, n. sp. 29, *T. vicinus*, n. sp. 30, *T. aratus*, n. sp.

dark except for the margins to markings that are pale and difficult to see. The markings as illustrated are the most common.

Tropicus aratus Miller, **new species**
(Figs. 15, 16, 19, 30)

DESCRIPTION. Dark chestnut to nearly black with underside paler chestnut. Labrum wider than long, sides sloping to blunt apex having small emargination; setae dense. Pronotum wider than long, as wide as elytra at base; surface with very small individual punctures; setae fine, short, not dense. Surface of elytra rough, individual punctures difficult to see, about 2 diameters apart, surface between sculptured; setae fine, short, white in color; no elytral markings; striations easily seen. Length 2.5 mm.

MALE. Dorsal process of ridge of mandible small and pointed, somewhat difficult to see (Fig. 19); ninth abdominal sternite small with posterior arms ending in elongated tear-shaped apodemes (Fig. 30); genitalia sloping into a rather narrow but rounded posterior, 2 very small teeth noticeable internally (Figs. 15, 16).

TYPE MATERIAL. Male holotype and female allotype from **BRAZIL, Para** Faz. Taperinha, XI-16-18-1968. Four paratypes with the same collection data and an additional 11 paratypes from **BRAZIL, 20 km SW Itapiranga, Amazonas, XI-9-1969.** All specimens collected by J. M. & B. A. Campbell. The primary types and 10 paratypes returned to the Canadian National Collection, Ottawa, Canada. The remaining paratypes are in the author's collection.

DISCUSSION. Externally this species resembles *T. lituratus* (Kiesenwetter), as well as *T. insidiosus* (Gr.) and *T. plaumanni* Pacheco, with its rather coarse elytral surface and uniform dark coloration. However, the genitalia and the ninth sternite of this new species bear no resemblance to any of the above species.

Tropicus sparus Miller, **new species**
(Figs. 13, 14, 18, 26, 34)

DESCRIPTION. Dark brown above, reddish brown below, legs and surface of elytra visibly paler, elytral markings as illustrated (Fig. 34). Pronotum wider than long, short sides narrowly converging; as wide as elytra at base; surface finely punctate, sculptured. Surface of elytra rough-appearing, punctures not distinguishable, setae fine and sparse, set in very small pimple-like projections, microsetae sparse. Body beneath sculptured as above; stridulatory ridge well developed. Length 2.5 mm.

MALE. Dorsal process of ridge of mandible small and knobby (Fig. 18); ninth abdominal sternite with widely spread and curved posterior arms that end in small apodemes (Fig. 26); genitalia broadening to wide but blunt posterior, 2 small teeth seen internally (Figs. 13, 14).

TYPE MATERIAL. The 5 specimens have the following collection data:

Holotype male. **BRAZIL, Chapada, Acc. No. 2966.**

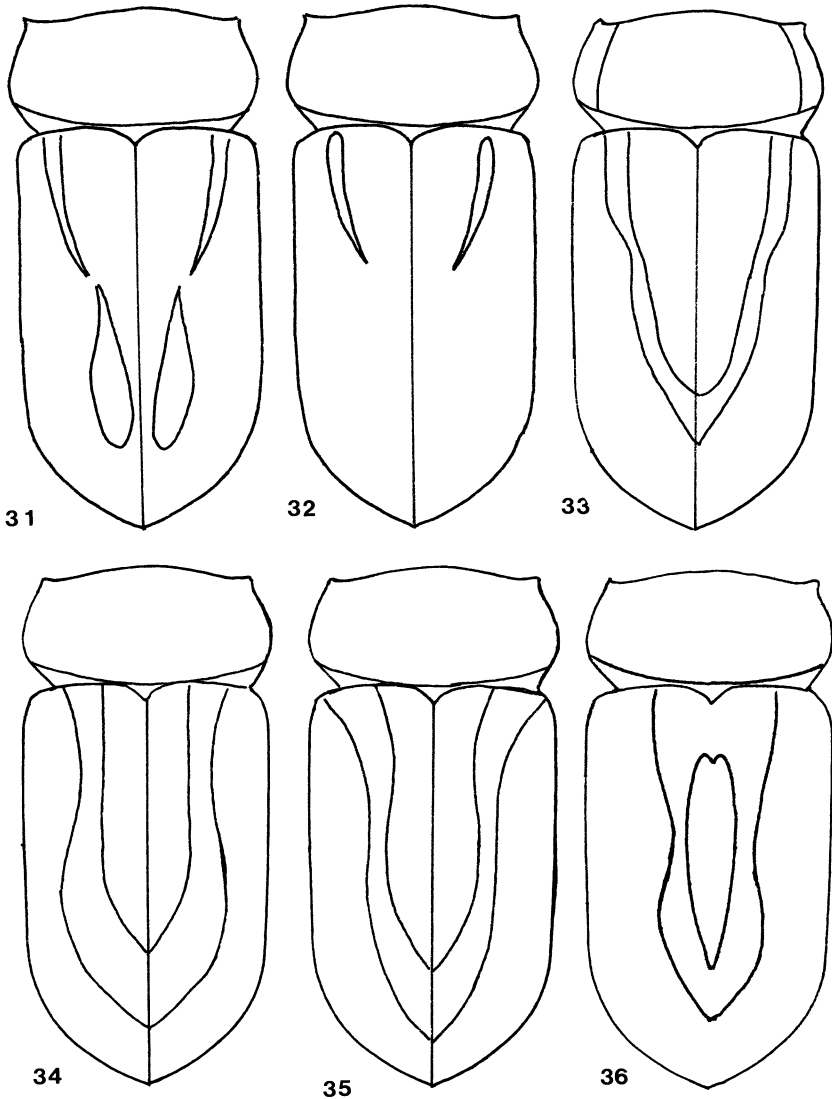
Allotype female. **BRAZIL, Pernambuco, Acc. No. 2966.**

Paratype female. **BRAZIL, Santarem, Dec. 11, 1909, Acc. No. 4043.**

Paratype female. **BRAZIL, Santarem, Acc. No. 2966.**

Paratype male. **BRAZIL, Santarem, Dec. 10, 1909, Acc. No. 4043.**

The primary types and 2 paratypes returned to the Carnegie Museum of Natural History and the remaining paratype is in the author's collection.



Figs. 31–36. Elytral markings. 31–32, *Tropicus speciosa*, n. sp. 31, holotype. 32, variant. 33, *T. vicinus*, n. sp. 34, *T. sparus*, n. sp. 35, *T. braza*, n. sp. 36, *T. pusillus* (Say) variant.

Tropicus braza Miller, new species
(Figs. 17, 20, 27, 35)

DESCRIPTION. Reddish brown with pronotal disc and markings of the elytra darker (Fig. 35). Labrum longer than wide with sides converging to a rather sharp apex; setae short but longer near margins. Pronotum with surface very finely punctate, surface roughened between punctures; setae sparse; broader than long, as wide as elytra at base;

sides narrowly diverging apically. Elytral surface similar to that of pronotum but not as finely punctate, surface crinkled between punctures; setae sparse, fine, short, white in color and easily noticed. Length 1.75–2.0 mm.

MALE. Dorsal process of ridge of mandible small, narrow and cleft at apex (Fig. 20); ninth abdominal sternite with rather large posterior arms that end in elongated apodemes (Fig. 27); genitalia broadening posteriorly to a wide blunt end (Fig. 17).

TYPE MATERIAL. Holotype male from **BRAZIL**, São Sebastião da Boa Vista, Amazonas, XI-10-1969. Female allotype from **BRAZIL**, 20 km SW Itapiranga, Amazonas, XI-9-1969. Nine of the 13 paratypes have collection data same as female allotype. Three paratypes from **BRAZIL**, Parana do Esp. Santo Parintins, XI-11-1969 and 1 paratype from **BRAZIL**, 18 km NE Oriximina, XI-13-14-1969. All specimens collected by J. M. & B. A. Campbell. The primary types and 8 paratypes returned to the Canadian National Collection, Ottawa, Canada. The remaining paratypes are in the author's collection.

DISCUSSION. The elytral markings are similar to other species common to the area and without a male identification could be difficult.

Tropicus speciosa Miller, **new species**

(Figs. 8, 9, 22, 28, 31, 32)

DESCRIPTION. Rather dark chestnut, elytra with markings as illustrated (Figs. 31, 32), pronotum dark, nearly black with pale apical corners, the color of the elytra on the underside, legs paler. Pronotum much broader than long, sides short, narrowly diverging apically; slightly wider than base of elytra; surface finely punctured, area between punctures sculptured. Elytra finely sculptured, punctures not clearly distinguishable; setae fine and sparse. Body beneath sculptured as above, punctures fine but rougher appearing; stridulatory ridge well developed. Length 2.5 mm.

MALE. Labrum longer than wide with sharp apical point; process of ridge of mandible large and pointed at apex with a rather deep hook (Fig. 22); posterior arms of ninth abdominal sternite nearly entirely in form of large apodemes (Fig. 28); genitalia ending posteriorly in a flat blunt end, apical end narrowly expanded into a flat lamella (Figs. 8, 9).

TYPE MATERIAL. Male holotype and female allotype from **BRAZIL**, Rio de Janeiro, Murundu Campos, VIII-1978, collected by M. Alvarenga. Thirteen paratypes, 3 males and 10 females, from the same locality. The primary types and 8 paratypes were returned to the Carnegie Museum of Natural History. In addition there are two paratypes that were returned to the Canadian National Collection that are from **BRAZIL**, SP Faz. Campininas, Mogi Guacu, I-1-8-1970, collected by J. M. & B. A. Campbell.

DISCUSSION. The elytral markings, while easily noted, could lead to some confusion in identification. In a large series of specimens some of the markings could consist of a rather short and narrow dark stripe from the outer third of the basal margin, ending in a point at approximately the middle of the elytron. The ninth sternite of the male resembles that of *T. tuberculatus* Pacheco, but in this new species the apodemes are larger and more pronounced. The apex in *T. speciosa*, new species, is not expanded into a lamella.

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