

**The Ants of the Genus *Anochetus* (*Stenomyrmex*) in Brazil
(Hym., Formicidae)**

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(With 16 text-figures)

The group *Stenomyrmex* in the pantropical Ponerine genus *Anochetus* Mayr (cf. Wheeler, 1922: 97, map 16) is confined to the Neotropical region. According to available records for this otherwise poorly collected group, its territory now extends from Costa Rica to eastern and western Brazil, and includes most, if not all, of the West Indies. So far, three species have come to light. Only *emarginatus* (F.) is relatively common and widespread. The other two species — *inca* Wheeler from Peru and *haytianus* Wheeler & Mann from Haiti — are known from type material only.

In the present paper I give the description of three new species from Brazil. Although all three are unfortunately based on very few specimens, their description was deemed desirable for both morphological and zoogeographical reasons. Moreover, I propose a new synonym for *emarginatus*, offer an up-to-date list of the known forms and give a key to the Brazilian species in the subgenus *Stenomyrmex*.

The specimens referred to in this study are deposited either in my private collection (WWK), including the Borgmeier collection (CTB), or in that of the Departamento de Zoologia da Secretaria de Agricultura do Estado de São Paulo (DZSP). The work was supported by a fellowship granted by the Conselho Nacional de Pesquisas, whose continued and generous help is gratefully acknowledged.

List of the species in subgenus *Stenomyrmex* Mayr, 1862

1. *emarginatus* (Fabricius, 1804). — Amazon valley and N. South America.
= *quadrispinus* (Fr. Smith, 1858).
= *e. rugosus* Emery, 1890. — NEW SYNONYMY.
e. striatulus Emery, 1890. — Costa Rica
e. testaceus Forel, 1893. — West Indies.
e. testaceus var. *micans* Forel, 1908. — Costa Rica.
2. *haytianus* Wheeler & Mann, 1914. — Haiti.
h. longispina Wheeler, 1936. — Haiti.
3. *horridus* n. sp. — Brazil: Pará.
4. *inca* Wheeler, 1925. — N. Peru.
5. *oriens* n. sp. — Brazil: Espírito Santo.
6. *vexator* n. sp. — Brazil: Mato Grosso.

Anochetus (Stenomyrmex) horridus n. sp.

(Figs. 4, 8, 12, 14)

Gynecoid worker (holotype). — Total length 7.0 mm; head length 1.41 mm; head width 1.12 mm; mandibular length 1.25 mm; scape length 1.57 mm; maximum diameter of eye 0.28 mm; thorax length 2.27 mm; petiole length 0.45 mm. Ferruginous; mandibles, apex of funiculus, coxae and femora more or less testaceous.

Head as shown in Fig. 4. Mandibles smooth and shining; intercalary tooth of apical fork (Fig. 8) not much shorter than apical and subapical tooth; preapical dentition consisting of three long, spiniform and widely separated teeth, with one to two small denticles basad; basal third of mandibular shaft without minute denticles. Clypeus finely and irregularly rugulose but shining. Rest of head, except the finely striate frontal lobes and the fan-shaped frontal space, smooth and shining. Limits of sculptured frontal space shown in Fig. 4. Frontal area and suture vestigial. A single ocellus present on vertex. Scape finely and superficially punctate. First and third funicular segments longer than second, apical segment more than twice as long as subapical, which, in turn, is subequal to second.

Thorax show in Fig. 14. Pronotum finely striate-rugose, the costo-rugulae forming concentric circles on disc, running in a longitudinal direction on sides. Mesonotum neatly divided in an anterior, broader, transversely striate scutum and a posterior, narrower, longitudinally striate scutellum. On each side of mesonotum there is a low projecting ridge representing vestigial wing bases. Mesopleura smooth and shining, except dorsal fourth of sides and a narrow stripe along posterior border, which are horizontally striate. Mesopleural tooth small but distinct. Metanotal groove deeply impressed. Basal face of epinotum straight and flat, transversely striate-rugose with fine punctulae in interrugal spaces; rugae continuing obliquely downward and forward on sides. Epinotal spines oblique, rather delicate, shorter than their interbasal distance. Declivous face transversely striate. Legs smooth and shining; mid and hind coxae, extensor face of femora, all tibiae and tarsi, finely and superficially punctate and subopaque.

Petiole as shown in Figs. 12 and 14; subopaque; finely horizontally striate-rugose on all sides, sculpture becoming more superficial towards apex. Gaster smooth and shining, with sparse

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piligerous punctures. Constriction between 1st and 2nd segment relatively pronounced. First segment nearly as long as broad, the sides strongly and continuously convex, when seen from above.

Pubescence dense on antennae and legs, sparser on mandibles, minute, sparse and inconspicuous on head and thorax. Mandibles with short, oblique hairs on outer border of apical tooth and two long, oblique ones on inner border of distal half of shaft. Sparse, scattered, standing hairs on pronotal disc, mesonotum, anterior face and bottom of petiole. Subpetiolar tooth with a tuft of short hairs. Gaster with relatively abundant oblique, long hairs, interspersed with much shorter, sub-appressed hairs.

Type. A lone gynecoid worker from Belém, Pará State, Brazil, collected in soil cover by K. Lenko, August 12-19, 1962, n. 2272 (DZSP).

The present species is quite outstanding by its long, narrow mandibles, bearing only a few long and widely spaced spiniform teeth on apical half of inner border of shaft. It differs from *emarginatus* in smaller size, mandibular shape, shorter and higher petiole, and sculpture of thorax. The other two new species, also described in this paper, are even closer. Their differences from *horridus* will be given further below.

This is the best developed gynecoid known so far in subgenus *Stenomyrmex*, on account of the presence of an anterior ocellus, the modification of the mesonotum, showing a distinct scutum, scutellum and wing bases, and the broad and deeply impressed metanotal groove.

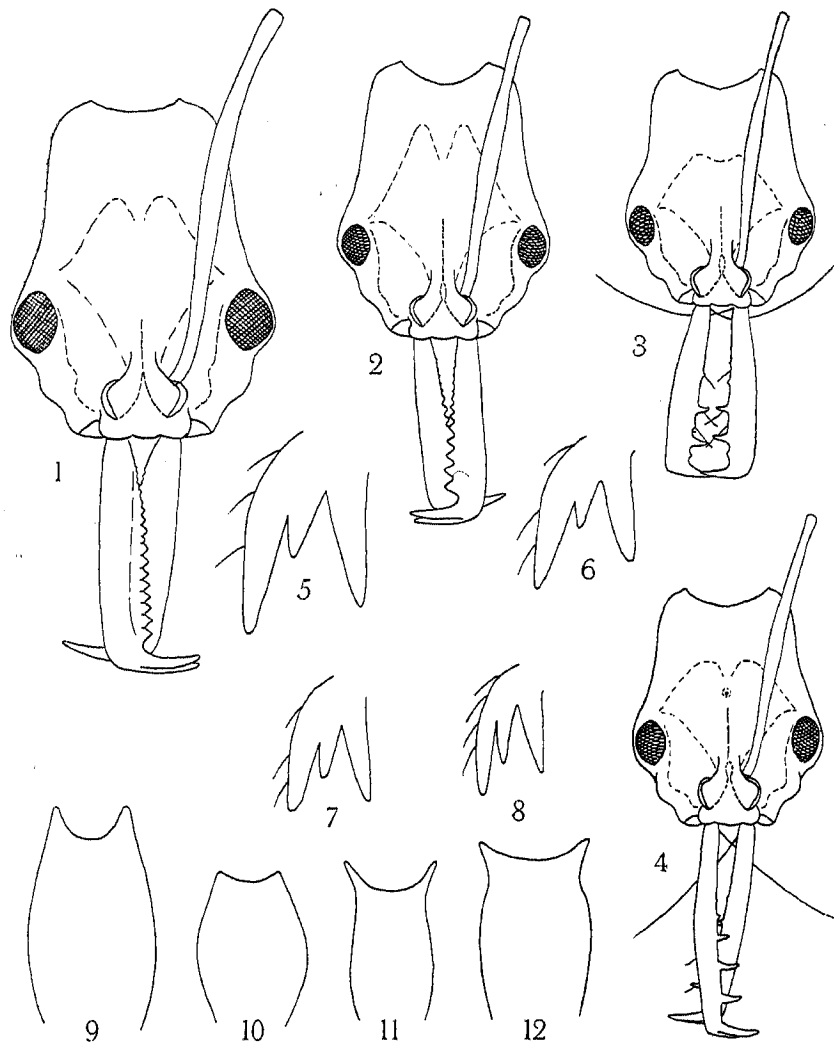
Note. — After finishing the manuscript, upon a short visit to Cornell University, Dr. W. L. Brown, Jr. showed me a small series of workers, evidently belonging to the same species. They were taken by Dr. Brown on the Manaus-Itacoatiara road, km 49, Amazonas State, Brazil, on August 24, 1962 (M-65). These specimens represent the true worker caste of *horridus* and are proposed as paratypes. A single worker is deposited in my collection (WWK) and differs from the preceding gynecoid holotype as follows:

Total length 6.3 mm; head length 1.25 mm; head width 0.93 mm; mandibular length 1.22 mm; scape length 1.52 mm; eye length 0.21 mm; thorax length 2.05 mm. The intercalary tooth on apical fork of mandibles is a bit shorter. The thorax resembles that of the *vexator* worker, i. e. the mesonotum is simple and slopes downward to a deeply impressed metanotal groove; basal face of epinotum with two convexities in profile. Petiole more delicate, slightly pedicellate in front, pair of apical spines even longer and more delicate than those of the *vexator* workers. Pilosity much scarcer, similar to that of *vexator*.

Anochetus (Stenomyrmex) oriens n. sp.

(Figs. 2, 6, 10, 13)

Worker (holotype). — Total length 7.1 mm; head length 1.57 mm; head width 1.20 mm; mandibular length 1.09 mm;



Anochetus (*Stenomyrmex*): Workers. Figs. 1-4, head. Figs. 5-8, apical fork of mandible. Figs. 9-12, petiole in front view. Figs. 1, 5, 9, *A. emarginatus* (F.). Figs. 2, 6, 10, *A. oriens* n. sp. Figs. 3, 7, 11, *A. vexator* n. sp. Figs. 4, 8, 12, *A. horridus* n. sp. (Kempf del.).

scape length 1.65 mm; maximum diameter of eye 0.27 mm; thorax length 2.40 mm; petiole length 0.43 mm. Uniformly ferruginous; legs lighter, more yellow. Differs from *horridus* as follows:

Mandibles (Fig. 2) of the *emarginatus*-type, inner border of shaft serially dentate, teeth diminishing in size basad, minute denticles nearly attaining base. Intercalary tooth of apical fork

much shorter than apical tooth (Fig. 6). Mandibular blades shorter than maximum head width, gradually broadening towards apex. Finely striate fan-shaped frontal space more elongate, reaching further backwards (outline given in Fig. 2). Funicular segment I and II of antennae subequal in length.

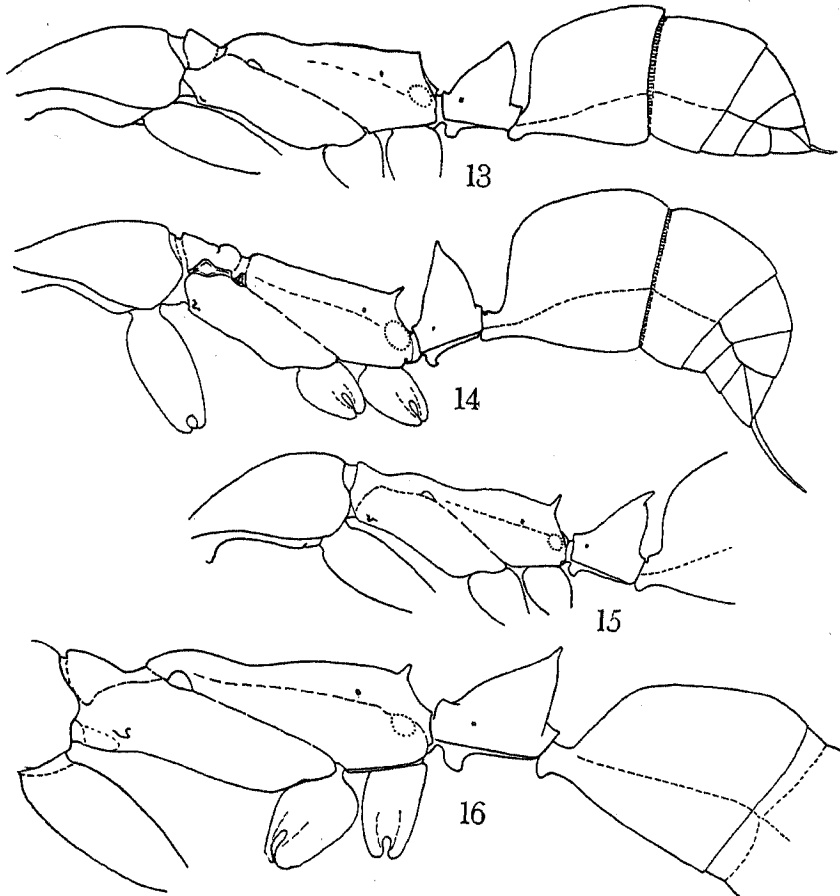
Thorax shown in Fig. 13. Pronotum and mesonotum finely reticulate-punctate, subopaque. Metanotal groove deeply impressed, smooth and shining. Basal face of epinotum with a prominent anterior convexity, which is coarsely reticulate-rugose, posterior convexity inconspicuous, rest of dorsum predominantly transversely rugulose, interrugal spaces punctulate. Epinotal corner practically unarmed, epinotal teeth at best vestigial, angulate in profile. Declivous face smooth and shining, superficially transversely rugulose. Sides of thorax subopaque, reticulate-punctate, except for the inferior half of mesopleura, which is smooth and shining. Mesopleural tooth weak, ill-developed. Legs practically smooth and shining, microsculpture as in *horridus*.

Petiole (Figs. 10 and 13) stout, with convex sides, its apex scarcely emarginate between the low and subobtuse teeth. Integument weakly sculptured with horizontal striae, rather shining; posterior face smooth and shining. Gaster smooth and shining. Constriction between first and second segment pronounced. First segment in dorsal view trapezoidal, sides nearly straight and converging cephalad.

Short, oblique hairs on outer border of apical tooth of mandibles, and at least two long hairs on apical third of inner border of shaft. Trigger hairs as usual, not shown in Fig. 2. Erect hairs otherwise scarce, none present on thorax and petiole (natural condition?), rather abundant on gaster. On the latter, the minute appressed hairs seem to be scarce and are hardly visible.

Type. — One worker (holotype), from Parque Sooretama, northern Espírito Santo State, Brazil, collected by F. M. de Oliveira, August 30, 1961 (WWK).

On account of the serrate inner border of the mandibular shaft, this species belongs to the *emarginatus*-group and is closest to *inca* Wheeler. The latter, according to the original description, is of much larger size, possesses a more undulated basal face of epinotum, with a prominent posterior convexity and a median longitudinal impression on posterior half. The petiolar scale, in *inca*, is said to be inclined caudad, its posterior face forming in profile an obtuse angle with the ventral face. The thorax is finely and evenly transversely striate throughout. Even though the possibility is not excluded that *oriens* will eventually prove



Anochetus (Stenomyrmex): Workers, thorax, petiole and gaster in profile. Fig. 13, *A. oriens* n. sp. Fig. 14, *A. horridus* n. sp. Fig. 15, *A. vexator* n. sp. Fig. 16, *A. emarginatus* (F.). (Kempf det.).

a nanitic form of *inca*, which itself may be just another peripheral variant of the dominant *emarginatus*, on presently available evidence both are best considered good and independent species.

***Anochetus (Stenomyrmex) vexator* n. sp.**

(Figs. 3, 7, 11, 15)

Worker (holotype). — Total length 6.5 mm; head length 1.41 mm; head width 1.09 mm; mandibular length 1.04 mm; scape length 1.52 mm; maximum diameter of eyes 0.25 mm; thorax length 2.13 mm; petiole length 0.40 mm. Very similar to *horridus* with the ensuing differences:

Mandibles (Fig. 3) shorter than maximum width of head, blades decidedly broader; shaft with only two spiniform teeth on apical half; small intercalary denticles; one between apical fork and distal spiniform tooth, one between proximal and distal spiniform tooth, one or two basad of proximal spiniform tooth; dentition of apical fork shown in Fig. 7.

Thorax as shown in Fig. 15. Sculpture on center of pronotal disc fading, quite shining. Mesonotum transversely rugose. Mesoepinotal suture at best vestigial. Basal face of epinotum in profile with two convexities, the anterior just behind the broad mesoepinotal impression, the second very low and separated from the first by a shallow impression, situated in front of the small, acute, oblique epinotal spines. Mesopleura more extensively horizontally striato-rugose, only the inferior half of lateral face is smooth and shining, and bordered below and behind by a stripe of short striae. Basal face of epinotum coarsely reticulate-rugose on convexities, predominantly transversely rugulose on impression. Declivous face of epinotum indistinctly transversely rugulose.

Spines of bicuspid petiolar apex long and delicate (Fig. 11).

Erect hairs on thorax scarcer, just one or two pair on pronotum, a few on posterior half of basal face. Vertex of head with a pair of erect hairs.

Type. — Two workers, one (holotype) from Barra do Tapirapé, north-eastern Mato Grosso State, Brazil, collected by Boris Malkin on November 20, 1960 (DZSP), the other (paratype) from the same locality and taken by the same collector on February 10, 1963 (WWK).

The paratype is slightly larger but otherwise completely identical with the holotype. Total length 6.8 mm; head length 1.49 mm; head width 1.17 mm; mandibular length 1.07 mm; scape length 1.57 mm; eye length 0.27 mm; thorax length 2.24 mm. The shorter and broader mandibles with only two, widely spaced, spiniform teeth on inner border of mandibular shaft separate at once this species from *horridus*, its closest relative.

Key to the Brazilian species of *Anochetus* (*Stenomymex*) (Workers)

1. Inner border of mandibular shaft serially dentate, teeth gradually diminishing in size basad, the small denticles almost reaching the base (Figs. 1, 2) 2
- Inner border of mandibular shaft with very few, widely spaced, spiniform teeth, basal third of shaft lacking even small denticles (Figs. 3, 4) 3

2. Epinotum merely angulate between basal and declivous face, lacking well-developed teeth (Fig. 13); mandibles shorter than maximum width of head; thorax length less than 2.5 mm..... *oriens* Kempf
- Epinotum with a pair of well-developed teeth between basal and declivous face (Fig. 16); mandibles as long as maximum width of head; thorax length as least 3.0 mm..... *emarginatus* (Fabricius)
3. Mandibles longer than maximum width of head; inner border of narrow blades with 3 long, spiniform teeth (Fig. 4)..... *horridus* Kempf
- Mandibles shorter than maximum width of head; inner border of broad blades with 2 long, spiniform teeth (Fig. 3).... *vexator* Kempf

Resumo

O presente trabalho oferece uma visão de conjunto das espécies brasileiras de *Anochetus* (*Stenomyrmex*) Mayr. Três espécies, a saber: *horridus* do Pará, *oriens* do Espírito Santo, e *vexator* do Mato Grosso, são descritas como novas para a ciência. A subespécie *rugosus* Emery é posta em sinonímia de *emarginatus* (Fabricius) típico. No fim apresenta-se uma chave dicotômica para a identificação das 4 espécies conhecidas do Brasil.

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