

## The African species of *Mecynotarsus* (Coleoptera: Anthicidae) and a World checklist of the genus

### Africké druhy *Mecynotarsus* (Coleoptera: Anthicidae) a světový seznam rodu

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**Coleoptera, Anthicidae, *Mecynotarsus*, new species, new synonymy, taxonomy, faunistics, checklist, Afrotropical region**

**Abstract.** The Afrotropical species of *Mecynotarsus* LaFerté-Sénéctère, 1849 are revised. Three species are newly described: *Mecynotarsus antipoda* sp. nov. (South Africa), *M. coachei* sp. nov. (Benin, Ivory Coast), and *M. okavango* sp. nov. (Namibia, South Africa, Zambia). Eleven new synonyms are proposed: *Mecynotarsus bison* (A. G. Olivier, 1811) (= *Mecynotarsus semicinctus* var. *basalis* Pic, 1950, syn. nov.), *Mecynotarsus casperi* Pic, 1913 (= *Mecynotarsus jebali* Kejval, 2017, syn. nov.), *Mecynotarsus nigronotatus* Pic, 1914 (= *Mecynotarsus sellatus* Brancsik, 1914, syn. nov.), *Mecynotarsus subangulicollis* Pic, 1914 (= *Mecynotarsus simplicicornis* Pic, 1914, *M. adumbratus* Krekich-Strassoldo, 1923, *M. bredoi* Pic, 1952, *M. paulosignatus* Pic, 1951, and *M. paulosignatus* var. *innotatus* Pic, 1951, syn. nov.), *Mecynotarsus subparallelus* Pic, 1895 (= *Mecynotarsus franzi* Bonadona, 1962, syn. nov.), *Mecynotarsus truquii* Marseul, 1879 (= *Mecynotarsus longipennis* Pic, 1949 and *M. punctatus* Pic, 1952, syn. nov.). Lectotypes are designated for the following taxa: *Mecynotarsus apicalis* Pic, 1939, *M. casperi* Pic, 1913, *M. longipennis* Pic, 1949, *M. nigronotatus* Pic, 1914, *M. paulosignatus* Pic, 1951, *M. sellatus* Brancsik, 1914, *M. sellatus* var. *evanescens* Brancsik, 1914, *M. simplicicornis* Pic, 1914, *M. subangulicollis* Pic, 1914, and *M. subparallelus* Pic, 1914. A key to species occurring in Africa and Madagascar and a world checklist of the species of the genus are provided.

## INTRODUCTION

*Mecynotarsus* LaFerté-Sénéctère, 1849 is a moderate-sized genus of horned, psammobiont anthicids of the subfamily Notoxinae Stephens, 1829, comprising 105 species strictly associated with sandy habitats of the Palaearctic, Nearctic, Afrotropical, Oriental, and Australian Regions (Kejval 2011, 2013, 2017, present checklist). This paper aims to revise the *Mecynotarsus* species of Africa and Madagascar. It is the last contribution in a series that completes the revision of all known species, and thus also includes an updated World checklist of the genus.

Fourteen species are restricted to the Afrotropical Region (an additional four species from northern Africa are also Palaearctic), which is relatively low number for such a large area. For example, the much smaller territory of the Indian subcontinent is inhabited by eight species. The Afrotropical *Mecynotarsus* are, moreover, rather uniform (except for the very distinctive *M. antipoda* sp. nov. from the Western Cape Province), and exhibit considerable infraspecific variation in colouration, body shape, and detailed morphology of pronotal horn (described below, under each species). All these characteristics make their identification rather difficult, especially for female specimens; this is also shown by the numerous newly proposed synonymy in this paper.

## MATERIALS AND METHODS

Specimens were examined with a Leica MZ 9.5 stereomicroscope; morphological measurements were taken using an ocular graticule (body length is measured from the apex of the pronotal horn to the elytral apices, proportions of pronotum include the horn). Male genitalia were examined after being cleared in a hot 10% KOH solution and then placed in water-soluble dimethyl hydantoin formaldehyde resin (DMHF) on the same card. Illustrations were made by using a drawing tube attached to an Olympus CH-2 compound microscope. Photographs were taken with a Nikon Coolpix 4500 digital camera attached to a Leica MZ 9.5 trinocular stereomicroscope; images of the same specimen at different focal planes were combined with Helicon Focus 5.2 Pro and edited with Adobe Photoshop 9.0.2. software.

The world checklist includes all the synonymized names associated with each species, but they are only provided for the Afrotropical species in the main body of the paper.

Separate labels are indicated by double slash (//) and comments on specimens and label data are placed in square brackets. Exact label data are quoted for the type specimens only. The terminology of body setae follows Werner & Chandler (1995) and that of the rugules/lobules of the pronotal horn is adopted from Kejval (2011).

The following abbreviations are used: alt. – altitude; prov. – province; distr. – district; [p] – printed; [h] – hand-written; spec. – specimen; env. – environs of; leg. – collected by; coll. – collection; LU Exped. – Lund University Expedition (Cederholm, Danielsson, Larsson, Mireström, Norling & Samuelsson leg.); HN – homonym.

Acronyms of depositories: ACBC – Alain Coache collection, La Brillanne, France; ADBC – Augusto Degiovanni collection, Bubano, Italy; AMGS – Albany Museum, Grahamstown, South Africa; BMNH – Natural History Museum (formerly British Museum, Natural History), London, UK; DCDC – Donald S. Chandler collection, Durham, New Hampshire, USA; FMNH – Field Museum of Natural History, Chicago, USA; JSOC – Jiří Stanovský collection, Ostrava, Czech Republic; KOOC – Kamil Orszulik collection, Ostrava, Czech Republic; MHNL – Muséum d'Histoire Naturelle de Lyon, Lyon, France; MNHN – Muséum National d'Histoire Naturelle, Paris, France; MRAC – Musée royal de l'Afrique centrale, Tervuren, Belgium; MZLU – Biological Museum, Lund University, Lund, Sweden; NHMW – Naturhistorisches Museum, Wien, Austria; TMSA – The Ditsong National Museum of Natural History [former Transvaal Museum], Pretoria, South Africa; ZFMK – Zoologisches Forschungsmuseum Koenig, Bonn, Germany; ZKDC – Zbyněk Kejval collection, Domažlice, Czech Republic; ZMHB – Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung [former Museum für Naturkunde der Humboldt Universität], Berlin, Germany; ZSMC – Zoologische Staatssammlung München, Germany.

## TAXONOMIC PART

### Characters, variation, species-groups

The Afrotropical *Mecynotarsus* species are rather uniform and exhibit considerable infra-specific variation. For example, colour pattern is almost useless as a distinguishing character. It is essentially the same for most species (body pale yellowish to reddish, elytra unicolorous or with darker, vaguely outlined markings, Figs 41–48) and its strong variation is evident. It may correlate (at least partly) with the most effective camouflage for a particular colour of sand within the respective area, as stated by Chandler (2001) for another psammobiontic notoxine genus, *Squamantoxus* Chandler, 2001. It seems, for example, that specimens originating from white sandy shores are very pale yellowish brown and always unicolorous, while those from inland localities are more or less darker coloured, and frequently have dark markings on the elytra.

Koch (1935) probably first noted a reduction of humeri for *Mecynotarsus* in his key to the species of Egypt, and included this in a description of *M. truquii* var. *alatus* Koch, 1935. This variation was later discussed by Heberdey (1942) and is now well-known. Some desert species may be entirely apterous, with fused elytra (see below).

Pronotal horn characters were found to be useful for distinguishing Australian species (Kejval 2013) which are generally very diverse. They are also utilized in the key below, but should be used with caution. Not only horn details (such as the number, size, and shape of its rugules/

lobules), but also the proportions and overall shape of the horn are typically variable. Moreover, the pronotal horn is used for digging in sand (Hashimoto & Hayashi 2012), and its apical portion may be somewhat deformed/abraded and thus degraded for identification purposes, as noted for some specimens. For these reasons, species identity should be confirmed by examination of male characters for most species. For Afrotropical species the valuable male characters concern the development of the ventral lamina of male tergum VIII, shape of the apical portion of the median lobe of the aedeagus (both in dorsal and lateral view), and shape and setation of the parameres. The aedeagi of these species are very small (about 0.3 mm), weakly sclerotized, and some discriminating differences are visible only by using a compound microscope. In addition, the exact shape of the aedeagal structures strongly depends on the angle of view and can be deformed by compression under the coverslip of a slide, etc. All this information should be taken into account when using the key and line drawings in this paper.

The possible relationships within the fauna of Africa and Madagascar are as follows (for shared characters see the key). Nearly all Afrotropical species appears to be very uniform, forming a single species-group, with a few exceptions:

*Mecynotarsus antipoda* sp. nov. from the Western Cape Province is a very distinctive species, and may possibly belong to the Australian *M. ziczac* species-group (Kejval 2017). It is based on a single female, and the issue of relationships can only be resolved by examination of a male specimen using characters of the aedeagus.

*Mecynotarsus coachei* sp. nov., *M. coronatus* Chobaut, 1898 and *M. truquii* Marseul, 1879 are close species, that can be placed in the somewhat heterogeneous Oriental/Palaearctic *M. dorsovarius* species-group. Most species of this group display setation of the mesotibiae similar to that in Fig. 18, and *M. fragilis* LaFerté-Sénéctère, 1849 also has a similar modification of the ventral lamina of male tergum VIII, see Figs 38 and 41 by Kejval (2011).

*Mecynotarsus viberti* (Bonadona, 1964) from the Sahara Desert is rather isolated, appearing to form a small, very distinctive group with another two apterous, desert species, *M. salam* Kejval, 2017 from Arabia and *M. karukumensis* Semenov, 1890 from Central Asia.

### **Key to the *Mecynotarsus* species of Africa and Madagascar** (*M. maculatus* Pic, 1916 not included)

- 1(2) Elytra nearly ovoid, humeri always indistinct (apterous species); eyes with conspicuously long interfacetal setae; crest of pronotal horn at most slightly indicated, dorsal side rather evenly, moderately convex and with randomly scattered rugules (Fig. 32); posterior margin of male tergum VIII with paired projections (Fig. 20). ..... ***M. viberti*** (Bonadona)
- 2(1) Elytra more longitudinal, humeri more or less developed (at most being brachypterous species); eyes at most with very short interfacetal setae (usually indistinct); crest of pronotal horn always well-developed, more or less raised; posterior margin of male tergum VIII simply rounded.
- 3(4) Margins of pronotal horn conspicuously crenulate along entire length; margins of crest of pronotal horn discontinuous, formed by separate rugules (Fig. 21); elytral setae distinctly swirled (Fig. 41); female abdominal sternum VII modified, with distinct apical emargination (Fig. 37). ..... ***M. antipoda* sp. nov.**
- 4(3) Margins of pronotal horn moderately crenulate, especially on posterior half; margins of crest of pronotal horn largely continuous (except *M. insignatus*); elytral setae evenly ordered; female sternum VII simple.
- 5(10) Pronotum mostly with some additional tactile setae antero-laterally; apical setose fringe of mesotibiae with several, densely spaced, coarse setae medially near terminal spur (Fig. 18); male sternum VII simple and ventral lamina of male tergum VIII always reduced to short paired rows of peg-like spines or simple protrusions.

- 6(7) Elytral setation comprised of short and some distinctly longer, semierect setae; ventral lamina of male tergum VIII modified into paired, simple projections (Fig. 34); aedeagus (Fig. 17). ..... *M. truquii* Marseul
- 7(6) Elytral setation rather uniformly long and at most subdecumbent; ventral lamina of male tergum VIII reduced to short paired rows of 6–7 peg-like spines (Fig. 33).
- 8(9) Pronotum with numerous additional tactile setae, tubercles near antebasal tactile setae slight to lacking; elytral punctation sparser and simple; elytral setation moderately long and somewhat raised (Fig. 43); median lobe of aedeagus strongly concave ventrally on apical half and with rounded apex, parameres with some scattered setae (Fig. 7). ..... *M. coronatus* Chobaut
- 9(8) Pronotum with at most few additional tactile setae (0–1 antero-laterally on each side), tubercles near antebasal tactile setae distinct; elytral punctation very dense and double (larger punctures variably distinct); elytral setation uniformly short and nearly appressed (Fig. 44); median lobe of aedeagus only moderately concave ventrally on apical half, with distinct dorso-apical point, parameres setose only on/at apical margins (Fig. 6). ..... *M. coachei* sp. nov.
- 10(5) Pronotum lacking additional tactile setae; apical setose fringe of mesotibiae with separate setae, those on median margin near spur only moderately thick (Fig. 19); male sternum VII more or less distinctly modified (impressed and emarginate apically) and ventral lamina of male tergum VIII mostly entirely lacking or fully developed (complete row of peg-like spines).
- 11(12) Head with small eyes and rather long tempora (Fig. 38); ventral lamina of male tergum VIII well-developed, with nearly complete row of peg-like spines, similar to Fig. 35; aedeagus (Fig. 5); darker coloured species from Madagascar. .... *M. caroli* Pic
- 12(11) Head with medium-sized eyes and rather short tempora (Fig. 39); ventral lamina of male tergum VIII usually lacking (well-developed in *M. bison*, *M. casperi*, *M. insignatus*, and *M. subparallelus*; all absent in Madagascar).
- 13(30) Submarginal rugules of pronotal horn roundly shaped and separated (Figs 25, 27, 30), rarely nearly contiguous, never largely fused and forming continuous line.
- 14(19) Crest of pronotal horn always rather wide and median rugules randomly scattered.
- 15(16) Smaller species (body length 2.0–2.2 mm); margins of crest of pronotal horn formed by separate rugules (Fig. 25); posterior flange of male tergum VIII comparatively long and conspicuous, ventral lamina present, with evenly developed row of peg-like spines, similar to Fig. 35; aedeagus (Fig. 9), median lobe with slight subapical denticle. .... *M. insignatus* Pic
- 16(15) Larger species (body length 2.3–2.6 mm); margins of crest of pronotal horn largely continuous (Figs 23, 27); posterior flange of male tergum VIII rather short and inconspicuous, ventral lamina with row of peg-like spines slight to interrupted medially or entirely lacking.
- 17(18) Horn crest mostly parallel-sided on posterior half (Fig. 23); ventral lamina of male tergum VIII present, row of peg-like spines slight to widely interrupted medially; median lobe of aedeagus wider, curved in lateral view, with more robust apex, parameres distinctly narrowed and curved apically (Fig. 4). *M. casperi* Pic
- 18(17) Horn crest narrowing along entire length towards apex (Fig. 27); ventral lamina of male tergum VIII lacking; median lobe of aedeagus conspicuously slender, straight, with flattened apex, parameres elongate and straight, wider apically (Fig. 14). .... *M. okavango* sp. nov.
- 19(14) Crest of pronotal horn narrow to moderately wide, median rugules arranged as longitudinal row or narrow strip (Figs 22, 30).
- 20(21) Larger species (1.9–3.3 mm); ventral lamina of male tergum VIII fully developed and conspicuous; aedeagus (Fig. 3). .... *M. bison* (A. G. Olivier)
- 21(20) Smaller species (1.7–2.4 mm); ventral lamina of male tergum VIII lacking or at least strongly reduced, similar to Fig. 33.
- 22(27) Median lobe of aedeagus with simple apex, parameres distinctly angled laterally on apical half in dorsal view.
- 23(24) Median lobe evenly narrowing towards apex and parameres more distinctly curved, narrowly rounded apically in dorsal view (Figs 1, 2). .... *M. apicalis* Pic
- 24(23) Median lobe more strongly narrowing on apical third, with narrowed, elongate apex, and parameres moderately curved, more widely rounded apically in dorsal view (Figs 8, 11, 12).
- 25(26) Crest of pronotal horn usually rather narrow; metatibiae and tarsi comparatively wide and somewhat flattened (Fig. 29); median lobe nearly evenly convex on apical third and rather rounded apically in lateral view (Figs 11, 12). .... *M. lacustris* van Hille

- 26(25) Crest of pronotal horn usually moderately wide; metatibiae and tarsi slender (Fig. 28); median lobe straight to slightly upturned on apical third and pointed apically in lateral view (Fig. 8). ..... *M. dorsiger* Fairmaire
- 27(22) Median lobe of aedeagus with hooked apex, parameres slender, evenly and moderately arcuate or at most slightly angled laterally at about midlength in dorsal view.
- 28(29) Median lobe of aedeagus wider, rather abruptly narrowed on apical half and strongly hooked apically (Fig. 15), lateral margin of parameres evenly arcuate in dorsal view. .... *M. subangulicollis* Pic
- 29(28) Median lobe of aedeagus narrower, more smoothly narrowed on apical half and moderately hooked apically (Fig. 10), lateral margin of parameres slightly angled in dorsal view. .... *M. jocquei* Bonadonna
- 30(13) Submarginal rugules of pronotal horn mostly elongate and at least partly fused (Figs 22, 26, 31), sometimes narrowly separated (contiguous).
- 31(32) Crest of pronotal horn wider and median rugules randomly scattered (never ordered as row); ventral lamina of male tergum VIII well-developed, with complete row of peg-like spines (Figs 35, 36); median lobe of aedeagus strongly/abruptly narrowed on apical half in dorsal and strongly curved in lateral view (Fig. 16). .... *M. subparallelus* Pic
- 32(31) Crest of pronotal horn usually narrower and median rugules ordered as row or narrow strip (if present); ventral lamina of male tergum VIII lacking or at least strongly reduced, similar to Fig. 33.
- 33(36) Median lobe of aedeagus evenly narrowing towards apex in dorsal view.
- 34(35) Dark markings of elytra (if present) situated at about midlength; pronotal horn and especially its crest usually moderately wide (Fig. 26); parameres moderately curved, their lateral angulation less prominent and distant from rounded apex (Fig. 13). .... *M. nigronotatus* Pic
- 35(34) Dark markings of elytra (if present) situated more posteriorly on apical third; pronotal horn and especially its crest comparatively narrow (Fig. 22); parameres nearly obliquely truncate apically, their lateral angulation prominent and closer to nearly pointed apex (Figs 1, 2). .... *M. apicalis* Pic
- 36(33) Median lobe of aedeagus unevenly narrowing (lateral margins distinctly concave) towards apex in dorsal view.
- 37(38) Crest of pronotal horn usually rather narrow; metatibiae and tarsi comparatively wide and somewhat flattened (Fig. 29); median lobe nearly evenly convex on apical third and rather rounded apically in lateral view (Figs 11, 12). .... *M. dorsiger* Fairmaire
- 38(37) Crest of pronotal horn usually moderately wide; metatibiae and tarsi slender (Fig. 28); median lobe straight to slightly upturned on apical third and pointed apically in lateral view (Fig. 8). .... *M. lacustris* van Hille

*Mecynotarsus antipoda* sp. nov.

(Figs 21, 37, 41)

**Type locality.** South Africa, Western Cape Province, Botrivier, Bot River near Highway N2 bridge, 34°14'12"S 19°12'54"E.

**Type material.** Holotype ♀ (legs partly and antennae nearly completely lacking, Fig. 41), "South Africa, Western Cape, Botrivier, Bot Riv. near Hwy N2 bridge, 34°14.2'S 19°12.9'E, 17.x.2013, P. Bulirsch lgt. [p]" (TMSA).

**Description. Female** (holotype). Body length 2.8 mm. Body largely yellowish-brown, pronotum moderately darker, horn reddish, elytra nearly unicolorous (dark marking vaguely indicated); legs yellowish-brown.

Head with medium-sized, convex eyes; interfacetal setae distinct, very short; vertex with some longer suberect setae medially; gular rugules small, largely scattered.

Pronotum 1.8 times as long as wide, disc globose, lateral margins nearly evenly rounded in dorsal view; basal constriction distinct, rather short, sharply indented. Pronotal horn rather long, moderately wide, triangular, its posterior angles distinct; horn margins completely fringed and deeply crenulate, with 6 lateral lobules on each side, apical lobule widely rounded (Fig. 21); horn crest moderately wide, its margins formed by distinctly separated oval rugules; about 6 median rugules arranged in median line and nearly contiguous; about 14 minute submarginal rugules rather randomly scattered. Pronotal disc minutely and densely punctate;

setation longer, coarse, silvery and appressed; paired antebasal tactile setae conspicuous, adjacent tubercles indistinct, and numerous additional tactile setae present antero-laterally; pronotal horn dorsally only scantily setose, with scattered raised setae.

Elytra 1.7 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices evenly rounded. Surface slightly glossy, rather distinctly and densely punctate, especially on basal third; punctation double, larger basal punctures conspicuous, deep and distinctly separated; setation silvery, rather long, appressed and coarse, especially on basal half; setae distinctly swirled, divergent on basal third, pointing medially as narrow strip at about midlength and then moderately divergent medially (Fig. 41); erect tactile setae lacking.

Legs long and slender; both meso- and metatibiae with some short, coarse and subdecumbent setae (besides appressed setae), scattered on outer margin, and with apical fringe of coarse, unevenly long setae.

Abdominal sternum VII with distinct apical emargination/notch (Fig. 37).

**Male.** Unknown.

**Differential diagnosis.** *Mecynotarsus antipoda* sp. nov. is a very distinctive species that can be easily recognized by the swirled coarse setae of the elytra and modified female sternum VII. There is a single species showing a similar modification of the elytral setation, *M. mastersii* MacLeay, 1872 from Australia; the female character is, as far as I know, unique within the genus.

**Distribution.** South Africa (Western Cape Province).

**Bionomy.** Unknown.

**Etymology.** From Latin *antipoda* (antipodes); named in reference to its distribution at the southernmost tip of Africa, which is opposite to that of the type species, *M. serricornis* (Panzer, 1796), in Europe; noun in the nominative case, standing in apposition.

**Remarks.** The single specimen of *Mecynotarsus antipoda* sp. nov. was collected by Petr Bulirsch, Czech specialist in carabids of the subfamily Scaritinae. Although he never visited Australia, he was busy around the time sorting material from light traps from Northern Territory (70 km SW of Mataranka, 15°19'S 132°50'E). This fact, along with the resemblance of the new species to some Australian species, and the poor condition of the type specimen, leaves some doubt about its type locality. On the other hand, the Western Cape Province is well-known for its unique fauna, the sandy alluvia of the Bot River is an appropriate habitat for this genus, and the author received this specimen together with the whole locality sample, glued in bulk on larger cards. There were no other dubious species and the possibility of misplacement is almost completely excluded (P. Bulirsch, pers. comm.). Nevertheless, the occurrence of *M. antipoda* sp. nov. in southern Africa needs to be confirmed by new records.

### *Mecynotarsus apicalis* Pic, 1939

(Figs 1, 2, 22)

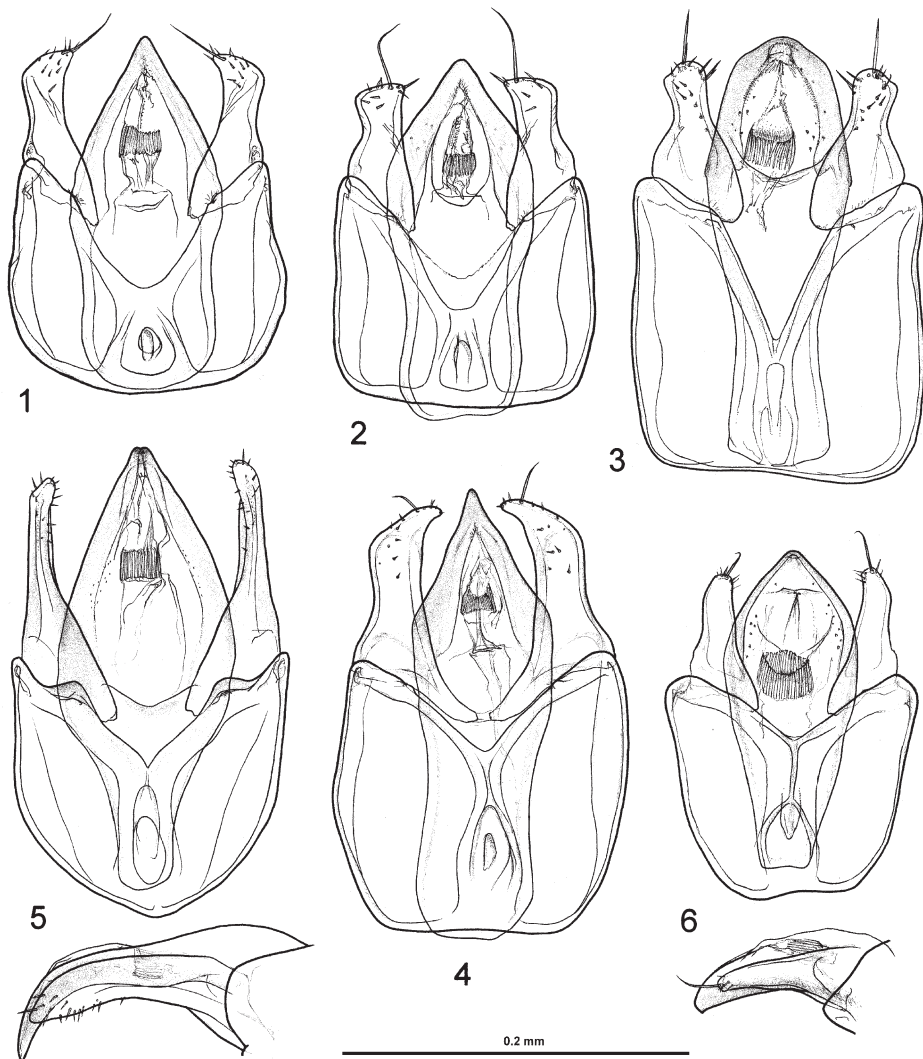
*Mecynotarsus apicalis* Pic, 1939: 159.

*Mecynotarsus apicalis*: Bonadona (1962): 338, figs 28–30 (male characters); Uhmman (1983): 197 (rec. Republic of the Congo).

*Mecynotarsus apicalis* var. *obliteratus* Pic, 1939: 159.

*Mecynotarsus apicalis* var. *obliteratus*: Telnov (2007): 35 (synonymy).

**Type locality.** Ethiopia, Nanoropus, Turkana Lake banks, alt. 565 m.



Figs 1–6. Aedeagus in dorsal view: 1 – *Mecynotarsus apicalis* Pic, 1939, Nanoropus; 2 – same species, Gunjur; 3 – *M. bison* (A. G. Olivier, 1811); 4 – *M. casperi* Pic, 1913, Gobabeb; 5 – *M. caroli* (Pic, 1913), Sambava (including apical part laterally, below); 6 – *M. coachei* sp. nov. (ditto). Fig. 3 modified after Kejval (2017).

Obr. 1–6. Aedeagus z horní strany: 1 – *Mecynotarsus apicalis* Pic, 1939, Nanoropus; 2 – stejný druh, Gunjur; 3 – *M. bison* (A. G. Olivier, 1811); 4 – *M. casperi* Pic, 1913, Gobabeb; 5 – *M. caroli* (Pic, 1913), Sambava (včetně apikální části z boku, níže); 6 – *M. coachei* sp. nov. (ditto). Obr. 3 upraven podle Kejval (2017).

**Type material.** Lectotype ♂ (herewith designated), “ÉTHIOPIE MÉRID. Nanoropus BORDS DU RODOLPHE 565 m. [p] // MUSÉUM DE PARIS Mission de l’Omo C. ARAMBOURG P.-A. CHAPPUIS & R. JEANNEL 1932-33 [p; bluish label] // TYPE [p; red label] // *apicalis* Pic [h]” (MNHN). Paralectotypes: 25 spec., bearing same locality labels, some of them

additionally: "PARATYPE [p; red label]" (MNHN, ZSMC); 1 ♀, same locality labels, in addition: "v. obliterated mihi [h]" (MNHN); 1 ♀, "ÉTHIOPIE MÉRID. Bourié BORD DE LA RIV. OMO 600m. [p] // MUSÉUM DE PARIS Mission de l'Omo C. ARAMBOURG P.-A. CHAPPUIS & R. JEANNEL 1932-33 [p; bluish label]" (MNHN); 1 ♂, "PARATYPUS [p; frame, red label] // ÉTHIOPIE MÉRID. Bourié BORD DE LA RIV. OMO 600m. [p] // MUSÉUM DE PARIS Mission de l'Omo C. ARAMBOURG P.-A. CHAPPUIS & R. JEANNEL 1932-33 [p; bluish label] // COLL. MUS. CONGO leg. M. Pic [p+h] // paratype [h; red label] // R. DET. C. 6579 [p+h] // *Mecynotarsus apicalis* Pic [h]" (MRAC).

**Additional material. Ethiopia:** 1 ♂, Shoa prov., Lake Langano, v.1989, K. Werner leg. (ZKDC); 2 ♀♀, same locality, 1600 m, vi.1990, K. Werner leg. (ZKDC). **Gambia:** 3 ♂♂ 1 ♀, Gunjur, about 5 km SSW, oil palm and mangrove vegetation close to the beach, at light, 22.ii.1977, LU Exped. (MZLU); 1 ♂ 2 ♀♀, same data, except: 13.xi.1977 (MZLU). **Kenya:** 1 ♂ 1 ♀, Sibiloi National Park, Koobi Fora, Turkana Lake, 13.iii.1988, A. Vojnits leg. (ZSMC); 1 ♀, South Nyanza prov., Rongo, at light, 5.iv.1988, H. J. Bremer leg. (ZSMC). **Senegal:** 43 ♂♂ 12 ♀♀, Sangalkam, vii.1971, A. Villiers leg. (MNHN, ZKDC).

**Redescription. Male** (*Nanoropus*, ZSMC). Body length 2.2 mm. Body largely yellowish to pale reddish, elytra vaguely brownish on apical third; legs yellowish, antennae pale reddish. Head with comparatively large, convex eyes; interfacetal setae indistinct; vertex and occiput largely short, setae appressed, with few raised setae at base; gular rugules minute and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 2.6 times as long as wide; antennomere X about 2.3 times, XI nearly 3.0 times as long as wide. Pronotum 1.6 times as long as wide, disc transversely globose, unevenly rounded laterally in dorsal view (moderately angled at widest place); basal constriction distinct, sharply indented. Pronotal horn moderately long and wide, robust, subtriangular, its posterior angles distinct; horn margins completely fringed and shallowly crenulate, apex widely rounded (Fig. 22); horn crest conspicuous, narrow, its margins continuous; 6 separated median rugules, nearly all arranged in median line; submarginal rugules longitudinal and fused. Pronotal disc minutely and densely punctate; setation very short and appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.7 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices unevenly rounded, with slight emargination. Surface nearly matt, densely punctate; punctuation indistinctly double, large basal punctures comparatively shallow and inconspicuous, narrowly separated; setation similar to that on pronotum, very short, appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, except sparse apical fringe of coarse and long setae.

Abdominal sternum VII distinctly impressed and emarginate apically; tergum VIII with moderately flanged and somewhat unevenly rounded posterior margin, ventral lamina lacking. Aedeagus as in Fig. 1; median lobe distinctly curved on apical half in lateral view, evenly narrowing towards simple apex; parameres nearly subtruncate in dorsal view, with strong lateral angle situated very near apex.

**Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, narrowly rounded apically.



**Variation.** Body length (♂♀) 2.0–2.3 mm; elytra unicolorous or with more or less distinct, brownish markings on apical third/fourth (vaguely brownish or with indication of oblique spots/bands); pronotal horn with 2–5 median rugules, that may be separate or fused; submarginal rugules mostly largely fused, rarely separate (a few specimens from Senegal: Sangalkam); elytra matte to moderately glossy. The specimens from Gambia and Senegal are all unicolorous and males are moderately aberrant in having a somewhat wider, more abruptly narrowed median lobe (cf. Figs 2 *versus* 1).

**Distribution.** Ethiopia, Gambia, Kenya, and Senegal.

**Remarks.** Pic (1939) described *Mecynotarsus apicalis* and its variety *obliteratus* from an unstated number of specimens (“plusieurs exemplaires”) originating from two localities in southern Ethiopia, Nanoropus and Bourillé. As the type labels are surely not original but added later by curators, the specimens examined are syntypes and thus a lectotype is designated herein for the male specimen from Nanoropus that was dissected and used for description of the male characters by Bonadona (1962); its aedeagus is mounted on a microscope slide and placed in a wooden box holding slides with dissections prepared from and stored next to the Bonadona Collection (MNHN).

*Mecynotarsus apicalis* var. *obliteratus* was synonymized by Telnov (2007), based on the original description and identified specimens (not specified); this was confirmed in this study by comparison of the type specimens.

Additional specimens from Gambia (MZLU) were identified as *M. subparallelus* and recorded as such by van Hille (1989). The records from Republic of Congo (Uhmann 1983) are placed as *M. insignatus* (see remarks under that species).

***Mecynotarsus bison*** (A. G. Olivier, 1811)  
(Fig. 3)

*Notoxus bison* A. G. Olivier, 1811: 394.

*Mecynotarsus bison*: Heberdey (1942): 460, 462, 484, figs 1, 2 (key, redescription, catalogue); Buck (1965): 262 (rec. Tanzania); Chandler et al. (2008): 451 (catalogue, distribution); Telnov (2008): 289 (rec. United Arab Emirates); Kejval (2017): 301, figs 19–22, 37 (key, male characters, variation, synonymy, rec. Algeria, Chad, Egypt, Iran, Jordan, Kuwait, Mauritania, Morocco, Oman, Pakistan, Saudi Arabia, Senegal, Spain, Tunisia, and Yemen).

*Mecynotarsus semicinctus* Wollaston, 1865: 65 (appendix).

*Mecynotarsus semicinctus*: Kejval (2017): 301 (synonymy).

*Mecynotarsus semicinctus* var. *basalis* Pic, 1950: 151, **syn. nov.**

*Mecynotarsus semicinctus basalis*: Kejval (2011): 169 (subspecies status).

*Mecynotarsus bison basalis*: Kejval (2017): 304 (note).

**Type locality.** *Notoxus bison* – Arabia (“desert de l’Arabie”); *Mecynotarsus semicinctus* var. *basalis* – Niger (“Monts Baguezans” see Remarks).

**Type material.** *Notoxus bison* – Syntypes, not examined (number unstated, deposited probably in MNHN); *Mecynotarsus semicinctus* var. *basalis* – Syntype, ♂: “M<sup>TS</sup> BAGUEZANS 1500–1600 31–VIII–4–IX [p] // IFAN–1947L. CHOPARD A. VILLIERS [p] // M bison basalis mihi [h]” (MNHN).

**Additional material.** **Algeria:** 1 ♂, Tassili n’Ajjjer, wadi ca 86 km NW of Djanet, 16.–17.iii.1980, R. Grimm leg. (ZFMK). **Chad:** 1 ♂ 1 ♀, Borkou Region, Bir Nazara, 5.viii.1958, J. Mateu leg. (DCDC); 8 ♂♂ 7 ♀♀, Kanem distr., N’Gouri, viii.–xi.1958, P. Renaud leg. (MRAC). **Djibouti:** 1 ♂, “Djibouti” [no locality], iii.1901, A. Bonheure leg. (MNHN). **Greece:**

1 ♂ 1 ♀, Crete Island, Kalamaki, vii.2013, Fancello leg. (ADBC). **Mauritania:** 1 ♂ 1 ♀, Adrar Region, Atar, i.1949, P. Bruneau de Miré leg. (MNHN); 2 spec., Akjout, 19°36'N 14°03'W, xi.1993–ii.1994, J. Tabel leg. (ZSMC). **Niger:** 1 spec., Tamesna In – Abangharhit, 18°03'N 6°02'E, ix/x.1990, Peveling & Weyrich leg. (ZSMC). **Saudi Arabia:** 3 ♂♂ 1 ♀, Wadi Jizan, 20.xi.1978, Filipponi leg. (ADBC). **Senegal:** 1 ♂, Richard Toll, black-light, 8.x.1978, G. Hevel & J. Fortin leg. (DCDC). **Sudan:** 1 spec., Darfur prov., El Fasher, 730 m, 31.viii.1976, H. J. Bremer leg. (ZSMC); 2 spec., same data, except 2.ix.1976 (ZSMC); 1 spec., Ed Damer, Hudeiba, 21.vii.1962, R. Remane leg. (ZSMC); 1 spec., same data, except 30.xii.1969 (ZSMC); 1 spec., Khartoum North, at light, 22.vii.1977, H. J. Bremer leg. (ZSMC); 5 ♂♂ 16 ♀♀, Wad Madani, at light near Blue Nil River, 15.x.1979, F. Hieke leg. (ZMHB, ZSMC); 3 spec., Kassala prov., Sinkat, at light, 840 m, 12.–20.iii.1978, W. Krökel leg. (ZSMC, ZFMK). **Tunisia:** 1 ♂ 1 ♀, Hammamet, Yasmine, sandy beach near Cyclamens Hotel, 36°21'15"N 10°31'48"E, alt. 2 m, 23.ix.2018, J. Růžička leg. (ZKDC); 1 ♀, Kebili, no date, Normand leg. (MRAC). **Western Sahara:** 2 ♂♂, Pozo Yelua, 13.v.1943, J. Mateu leg. (MRAC); 1 ♂ 1 ♀, Smara, 3.v.1942, E. Morales leg. (MRAC); 3 ♂♂ 3 ♀♀, same locality, 9.viii.1943, J. Mateu leg. (MRAC). **Yemen:** 65 spec., Tihama, 3 km N of Bayt al Faqih, 14°30'N 43°13'E, 4.xi.1996, H. Hacker leg. (ZMHB, ZKDC).

**Diagnosis.** Body elongate and matt; pronotal disc nearly evenly globose in dorsal view; pronotal horn triangular, with completely fringed and usually distinctly crenulate margins, horn crest well-developed, narrow, its margins continuous, median rugules arranged in median line, submarginal rugules minute, separated and usually numerous; pronotum lacking additional long tactile setae; elytra minutely, densely and simply punctate (or at least indistinctly double); elytral setation uniformly short and appressed, tactile setae lacking. Male sternum VII impressed medially, with posterior margin somewhat unevenly rounded; male tergum VIII evenly rounded posteriorly, with fully developed ventral lamina; female sternum VII simple. Aedeagus as in Fig. 3; median lobe arcuately curved on apical half in lateral view, with rounded to subtruncate apex; parameres short, distinctly angled laterally near apex.

**Variation.** Body length (♂♀) 1.9–3.3 mm. Rather variable in colouration, pronotal characters, and shape of elytra (distinctness of humeri); for details see Kejval (2017).

**Distribution.** Algeria, Canary Islands, Chad, Cyprus, Egypt, Greece (Crete and Lesbos Islands), Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Mauretania, Morocco, Niger, Oman, Pakistan, Saudi Arabia, Senegal, Spain, Tunisia, United Arab Emirates, Western Sahara, and Yemen (including Socotra Island).

**Remarks.** Pic (1950) described *Mecynotarsus semicinctus* var. *basalis* from an unstated number of specimens collected at two localities in the Baguezans Mountains. It was raised to subspecies level (Kejval 2011), based on the International Code of Zoological Nomenclature, and recently assigned to *M. bison*, owing to new synonymy (Kejval 2017). The male syntype examined is only a darker coloured specimens of *M. bison*, which is regarded as common, widespread and externally rather variable species (Kejval 2017); there are no doubts about the newly proposed synonymy.

*Mecynotarsus bison* in Africa seems to be restricted to northern regions, with southernmost records originating from Chad, Niger, and Senegal. The very distant record from Namibia (Uhmann 1984) is undoubtedly erroneous (specimen not examined); the record from Tanzania (Buck 1965) is placed as *M. subangulicollis* (listed below).

***Mecynotarsus caroli* Pic, 1902**  
(Figs 5, 38, 42)

*Mecynotarsus Caroli* Pic, 1902: 336.

*Mecynotarsus Caroli*: Bonadona (1958): 21, figs 6c–g (redescription, rec. Madagascar).

**Type locality.** Madagascar (see Remarks).

**Type material.** Syntypes, not examined, see Remarks (MNHN).

**Additional material. Madagascar:** 1 ♂, Tsanerena, 3 km NE (30 km SE of Betroka), 900 m, 15.xii.1998, J. Janák leg. (ZKDC); 1 ♀, same data, except: 2 km NE, 31.xii.1998 (ZKDC); 2 ♂♂, Sambava distr., Sambava env., sandy beach, 0–20 m, 4.iii.1996, J. Janák & P. Moravec leg. (ZKDC); 1 ♂, Toliara II district, Saint Augustin, iii.1956, A. Robinson leg. (MNHN).

**Diagnosis.** Small species, largely dark coloured (Fig. 42); head with conspicuously small eyes (Fig. 38); pronotal disc somewhat unevenly globose in dorsal view; pronotal horn robust, with completely fringed, at most slightly crenulate margins, horn crest well-developed, usually narrow, its margins continuous, few median rugules arranged in uneven row, submarginal rugules longitudinal, contiguous to fused; vertex and occiput rather glossy, very sparsely punctate; pronotum lacking additional long tactile setae; elytral punctation double and rather dense; elytral setation uniformly short and appressed, tactile setae lacking. Male sternum VII slightly impressed and emarginate posteriorly; male tergum VIII with very slightly flanged, evenly rounded posterior margin, ventral lamina distinct and nearly complete (strongly narrowed medially); female sternum VII simple. Aedeagus as in Fig. 5, comparatively large and well-sclerotized; median lobe strongly curved at apical half/third, its apical portion with longitudinal furrow dorsally, reaching bluntly pointed apex.

**Variation.** Body length (♂♀) 1.8–2.2 mm; elytra largely dark brown, unicolorous or with reddish, very vaguely outlined subhumeral spots, varying in size, sometimes also with paler apex; elytra 1.5–1.6 times as long as wide, humeri more or less angulately protruding; horn crest narrow to moderately wide; 1–5 median rugules.

**Distribution.** Madagascar.

**Remarks.** Pic (1902) described *Mecynotarsus caroli* from an unstated number of specimens, collected by Charles Alluaud at three localities in southern Madagascar (“Fort-Dauphin, Andrahomana, Pays Androy-sud”), and deposited them in his and the Alluaud Collection (both presently in MNHN). Bonadona (1958) examined at least a part of syntypes (Androy Region) and described the male characters; the specimen from Saint Augustin mentioned above was identified by P. Bonadona and is listed in his paper.

***Mecynotarsus casperi* Pic, 1913**  
(Figs 4, 23)

*Mecynotarsus Casperi* Pic, 1913: 380.

*Mecynotarsus casperi*: Uhmman (1995b): 345 (rec. Namibia).

*M. jebali* Kejval, 2017: 305, figs 23–25, 38, **syn. nov.**

**Type locality.** *M. casperi* – Namibia, Okahandja; *M. jebali* – United Arab Emirates, 35 km SW of Dubai, Jebel Ali.

**Type material.** *M. casperi* – Lectotype ♀ (herewith designated, pinned specimen), “DSW Afrika Okahandya Casper S.G. [p; bluish label] // Pic det. [p] // Type [p; reddish label] // Mecynotarsus casperi Pic\* [h] // SYNTYPUS Mecynotarsus casperi Pic, 1913 labelled by MNHUB 2005 [p; red label]” (ZMHB). Paralectotypes: 1 ♀, “DSW Afrika Okahandya Casper S.G. [p; bluish label] // type [h] // désiré [h] // Mecynotarsus casperi n.sp. [h]” (coll. Pic, MNHN). *M. jebali* – Holotype ♂: “United Arab Emirates, 27.IV.1996, Jebel Ali Hotel, leg. J. Wiesner & I. Worm [p] // Mecynotarsus bison Olivier det. G. Uhmman 2002 [p]” (NMPC).

**Additional material. Democratic Republic of the Congo:** 1 ♂, South Kivu prov., Kavimvira (Uvira), at light, xii.1954, G. Marlier leg. (MRAC); 1 ♀, Sanghe, Plaine Ruzizi, at light, xii.1951, H. Bomans leg. (MRAC). **Namibia:** 1 ♀, Gobabeb, 23°18'S 15°00'E, 408 m, 22.ii.1969, H. Roer leg. (ZFMK); 6 ♂♂ 6 ♀♀, same data, except: ii.–iv.1972 [various dates] (ZFMK); 5 ♂♂ 5 ♀♀, Gobabeb, Kuisibbett, 20.iii.1964, W. Kühnelt leg. (ZSMC, ZKDC); 1 ♂ 1 ♀, Gobabeb, 50 km N, 28.viii.1990, V. Schüle leg. (ZSMC); 1 ♀, Hakosberge, Gamsberg Pass, 23°15'S 16°18'E, 1400–1700 m, 19.–20.iii.2014, A. Kudrna leg. (ADBC); 1 ♀, Kamanjab, 4.–12.ii.1979, H. Roer leg. (ZFMK); 1 ♀, Okahandja, 43 km N, Otjiamongombe West 44 (Erichsfelde), 21°36'12"S 16°56'16"E, thornbush savannah, at light, 16.iv.2001, Uhlig, Deckert & Ebert leg. (ZMHB); 2 ♂♂, Rooisand, 23°17'40"S 16°06'53"E, automatic light trap, 20.i.2007, J. Deckert leg. (ZMHB). **Zambia:** 1 ♂, Kapiri Mposhi, 15 km S, 16.–17.i.2003, J. Halada leg. (ZKDC).

**Redescription. Female** (syntype, ZMHB). Body length 2.6 mm. Body largely yellowish to pale reddish, elytra with brownish, vaguely outlined longitudinal spot on suture; legs and antennae yellowish.

Head with large, moderately convex eyes; interfacetal setae very short; vertex medially and occiput with longer, raised setae; gular rugules small and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 2.7 times as long as wide; antennomere X about twice, XI nearly 3.0 times as long as wide.

Pronotum 1.8 times as long as wide, globose, somewhat unevenly rounded laterally in dorsal view (at most slight angulation indicated); basal constriction rather wide, sharply indented, evenly punctate and minutely rugulose. Pronotal horn rather long, moderately wide, subtriangular, its posterior angles distinct; horn margins completely fringed and distinctly crenulate, especially at apical half, small apical lobule simple, widely rounded (Fig. 23); horn crest conspicuous, rather long and wide, its margins parallel on posterior half, formed largely by contiguous to fused longitudinal rugules, with 2–3 separate rugules anteriorly forming median line; about 11 minute, rounded submarginal rugules, usually distinctly separated; about 11 minute median rugules that are randomly scattered. Pronotal disc minutely, densely punctate; setation short, comparatively coarse, appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.7 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices evenly rounded. Surface slightly glossy, densely punctate; basal punctation double, larger punctures comparatively shallow and inconspicuous, narrowly separated; setation short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation mostly short and appressed, tibiae additionally with sparsely scattered, slightly coarser, decumbent setae (more numerous on metatibiae), and apical, sparsely fringed, longer setae.

Abdominal sternum VII simple; tergum VII subtriangular, evenly rounded apically.

**Male.** Elytral apices unevenly rounded, slightly emarginate; abdominal sternum VII moderately impressed and emarginate apically; tergum VIII with moderately flanged and widely rounded posterior margin, ventral lamina present, narrow, interrupted medially. Aedeagus as in Fig. 4; median lobe slightly sinuously narrowing towards apex, apical portion nearly straight in lateral view; parameres narrowed and rather strongly curved apically mediad.

**Variation.** Body length (♂♀) 2.3–2.6 mm; dark markings of elytra conspicuous to entirely lacking (median longitudinal spot more or less widened posteriorly, sometimes nearly triangular); crest of pronotal horn parallel-sided to slightly widening posteriorly; 5–11 median rugules; 8–14 submarginal rugules; ventral lamina of male tergum VIII clearly interrupted medially (only 11–13 pegs on each side) to nearly complete, with slight pegs medially. The specimens from Gobabeb (ZSMC) with nearly ovoid elytra (reduced humeri) and moderately wide to strikingly narrow pronotal horn.

**Distribution.** Democratic Republic of the Congo, Namibia, and Zambia.

**Remarks.** Pic (1913) described *Mecynotarsus casperi* from an unstated number of specimens originating from “Okahandya” in Namibia. The Lectotype is designated for the syntype in the best condition, with respect to occurrence of externally very similar species in southern Africa that could be comprised in type series.

Kejval (2017) described *Mecynotarsus jebali* from a single specimen collected by J. Wiesner in United Arab Emirates, as differences were obvious in separating the specimens from all species occurring in northern part of Africa. Now, in a comparison of *M. jebali* with *M. casperi* from Namibia, no substantial differences could be found, and it was realized that the holotype of *M. jebali* could be mislabelled. Further investigation revealed that Jürgen Wiesner, German specialist on Cicindelidae, collected anthicids in the UAE, judging from another specimens of well-known species, but also visited Namibia several times. Consequently, *M. jebali* is here excluded from the Palaearctic fauna and is placed in synonymy with *M. casperi*.

The record of *M. casperi* from Mahango Game Reserve in Namibia (Uhmann 1995b) refers to *M. nigronotatus*.

### *Mecynotarsus coachei* sp. nov.

(Figs 6, 24, 44)

**Type locality.** Benin, Mono Department, Athiémè, bank of the Mono River, 06°14'20"N 01°40'00"E, alt. 29 m (A. Coache, pers. comm.).

**Type material.** Holotype ♂: “AFRIQUE DE L’OUEST BENIN ATHIEME BORD DU MONO ULTRA VIOLET 31 V 2013 LEG. COACHE ALAIN [p]” (MNHL). Paratypes: 1 ♂ 1 ♀, “AFRIQUE DE L’OUEST BENIN HOUHEYOGBE FORÊT DE HOUHEYOGBE 02 VI 2013 ULTRA VIOLET LEG. ALAIN COACHE [p]” (ZKDC); 1 ♀, “AFRIQUE DE L’OUEST BENIN ZOGBODOME FORÊT DE LOKOLI 13 V 2013 ULTRA VIOLET LEG. ALAIN COACHE [p]” (ACBC); 1 ♀, “BENIN, 15 km SE of SAVE, 8.-11.iv.2000, Z. Andrš leg. [p]” (ZKDC).

**Additional material. Benin:** 1 ♀, Batia, Pendjari National Park, Numi Camp, UV-light trap, 10.xi.2012, A. Coache leg. (ACBC). **Ivory Coast:** 3 ♀♀, Ferkessédougou 10.–20.v.1964, J. Decelle leg. (MNHN, ZKDC).

**Description.** Male (holotype). Body length 2.1 mm. Body reddish to reddish-brown, nearly unicolorous, elytra slightly darker; legs and antennae reddish.

Head with comparatively large convex eyes; interfacetal setae indistinct; gular rugules small and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 2.6 times as long as wide; antennomere X 1.8 times, XI 2.7 times as long as wide.

Pronotum 1.5 times as long as wide, disc rather transverse, unevenly rounded laterally in dorsal view (moderately angular at widest place); basal constriction distinct, sharply indented. Pronotal horn moderately long and wide, subtriangular, its posterior angles distinct; horn margins completely fringed, distinctly crenulate on apical half, apical lobule inconspicuous, widely rounded (Fig. 24); horn crest conspicuous, narrow, its margins largely continuous, with some narrowly separate longitudinal rugules anteriorly; about 12 submarginal minute rounded rugules, clearly separated, most arranged as row; median rugules arranged in median line and nearly fused. Pronotal disc minutely punctate; setation short and appressed; paired antebasal tactile setae conspicuous, arising near distinct tubercles, additional tactile setae lacking; pronotal horn with inconspicuous short setae dorsally.

Elytra 1.6 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices unevenly rounded. Surface nearly matt, densely punctate; punctuation indistinctly double, larger basal punctures inconspicuous; setation short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, with apical fringe of coarse, longer setae (three thicker, contiguous setae on median apical margin of mesotibiae, similar to Fig. 18).

Abdominal sternum VII nearly simple, at most slightly impressed (flattened) postero-medially; tergum VIII with only moderately flanged and somewhat unevenly rounded posterior margin, ventral lamina largely reduced, with series of 7–8 pegs on each side (similar to Fig. 33). Aedeagus as in Fig. 6; median lobe nearly evenly narrowing towards simple apex in dorsal view, moderately curved and rather robust on apical half, and with distinct apical point in lateral view; parameres only moderately curved, rounded apically.

**Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, narrowly rounded apically.

**Variation.** Body length ( $\sigma^2$ ) 2.1–2.2 mm; body pale reddish to reddish-brown, sometimes unicolorous (Fig. 44); 10–16 submarginal rugules.

**Differential diagnosis.** *Mecynotarsus cochei* sp. nov. appears to be close to *M. coronatus* and *M. truquii*, as suggested by setation of mesotibiae, but differs by the wider pronotum, more densely spaced lobules of the pronotal horn margins (subapically), denser punctuation and appressed, short setation of the elytra, rather distinct paired tubercles at the pronotal base adjacent to the tactile setae (indistinct in *M. coronatus*), and also by some characters of the aedeagus (see key).

**Etymology.** Dedicated to Alain Coache (La Brillanne, France), collector of most of the type specimens, including the holotype.

**Distribution.** Benin, Ivory Coast.

**Remarks.** The females from Ivory Coast and Benin (Batia) are only tentatively listed under this species, being aberrant as follows: body somewhat more glossy, elytra with coarser punctures (distinctly double punctuation on basal third), and pronotum mostly with an additional tactile seta antero-laterally on each side (sometimes possibly abraded). More material including a male is needed for reliable placement.

*Mecynotarsus coronatus* Chobaut, 1898  
(Figs 7, 33, 43)

*Mecynotarsus coronatus* Chobaut, 1898: 83.

*Mecynotarsus coronatus*: Heberdey (1942): 460, 466 (key, redescription); Bonadona (1959): 124 (rec. Mauritania); Chandler et al. (2008): 451 (catalogue, distribution); Kejval (2017): 312, figs 13–15 (key, male characters, rec. Algeria).

**Type locality.** Algeria, Ghardaïa.

**Type material.** Holotype, not examined, see Remarks (coll. Fagniez, MNHN).

**Additional material. Western Sahara:** 1 ♂ 3 ♀♀, Amguilis Guelma, ii.1943, J. Mateu leg. (MRAC); 2 ♂♂ 2 ♀♀, Guelta Zemmur, 29.iv.1943, E. Morales leg. (MRAC); 1 ♀, Pozo Farsia, 20.v.1942, E. Morales leg. (MRAC); 1 ♂, Pozo Nebka, 6.v.1942, E. Morales leg. (MRAC).

**Diagnosis.** Body elongate, moderately glossy. Pronotal disc nearly evenly globose in dorsal view; pronotal horn triangular, with completely fringed, distinctly crenulate margins; horn crest well-developed, narrow, situated rather posteriorly, its margins continuous, usually extending anteriorly by 2–3 separate coarse rugules arranged as median line; median rugules always fused as median line; submarginal rugules distinct, separate and usually numerous. Pronotum with numerous additional long tactile setae antero-laterally; elytra distinctly and simply punctate; elytral setation moderately long, subdecumbent and rather uniform, longer tactile setae lacking (at most few inconspicuous and decumbent setae near humeri); apical setose fringe of mesotibiae with three densely spaced and thick setae medially. Male sternum VII simple, at most slightly impressed medially; male tergum VIII evenly rounded posteriorly, ventral lamina strongly reduced to small paired remains (Fig. 33); female sternum VII simple. Aedeagus as in Fig. 7; median lobe strongly curved and concave ventrally on apical half, with rounded apex.

**Variation.** Body length (♂♀) 2.1–2.5 mm; elytra with more or less distinct humeri; pronotal horn varying in shape/proportions, more or less triangular (widened posteriorly); 10–16 submarginal rugules.

**Distribution.** Algeria, Mauritania, and Western Sahara.

**Remarks.** Chobaut (1898) described *Mecynotarsus coronatus* from a single specimen collected by M. Bayonne at Ghardaïa in Algeria. The holotype, later deposited in the collection of Charles Fagniez, was examined and used for the species redescription by Heberdey (1942). The specimens from MRAC were previously identified by Paul Bonadona.

*Mecynotarsus coronatus* appears to be endemic to the Sahara Desert. It is undoubtedly very close to *M. truquii* (see key), and females can be difficult to separate.

*Mecynotarsus dorsiger* Fairmaire, 1899  
(Figs 8, 28, 39)

*Mecynotarsus dorsiger* Fairmaire, 1899: 489.

*Mecynotarsus dorsiger*: Bonadona (1958): 19, figs 5f–i, 6a, b (redescription, rec. Madagascar).

**Type locality.** Madagascar, Betsiboka Region, Maevatanana Gold District (“Suberbieville”).

**Type material.** Holotype, see Remarks (MNHN).

**Additional material. Madagascar:** 1 ♂ 1 ♀, Marovoay env., Ankaranfantsika National Park, 1.xii.1959, E. S. Ross leg. (DCDC); 9 ♂♂ 3 ♀♀, Antseranana distr., Marovato, Sambirana

River env., 5.–12.xii.2001, D. Hauck leg. (ZKDC); 2 ♂♂, same data, except: J. Horák leg. (ZKDC); 1 ♀, Mahajanga prov., Ambodimanga, Ankofia River env., 14.–15.xi.1995, I. Jeniš leg. (ZKDC); 1 ♂, Majunga prov., 15 km SW of Ambalanjanakombi, 3.–11.xi.1962, E. D. Cashatt leg. (DCDC); 1 ♂, Toliara distr., Kirindy, 23.–25.xi.1997, J. Stolarczyk leg. (ZKDC); 1 ♂, Toliara distr., Toliara, 23.–27.xi.1996, J. Stolarczyk leg. (ZKDC); 1 ♂, Bas Mangoky Agriculture Station [probably Morombe distr., no date and collector] (coll. Bonadona, MNHN); 1 ♂, Morombe, Iotry Lake, 40 m, vii.1957, R. Andria leg. (coll. Bonadona, MNHN); 1 ♂, Toliara, ii.1904, S. Voeltzkow leg. (ZMHB); 5 ♂♂ 2 ♀♀, Toliara prov., Zombitse-Vohibasia National Park, Isoly forest, 22°41'01"S 44°51'50"E, 692 m, 18.–21.i.2014, M. Trýzna leg. (BMNH); 60 spec., Tanandava, at light, 1963–1964, G. Schmitz leg. (MRAC, ZSMC).

**Diagnosis.** Small, largely paler coloured, yellowish species, usually with dark markings on elytra (median arrowhead-shaped spot at about midlength); eyes large and moderately convex; pronotal disc moderately transverse, with lateral margins somewhat angular in dorsal view; pronotal horn elongate, subtriangular, with completely fringed crenulate margins, horn crest well-developed, usually narrow, its margins continuous, few median rugules arranged as row, submarginal rugules arranged as dense row and nearly fused; pronotum lacking additional long tactile setae; elytral punctation rather dense, double; elytral setation uniformly short and appressed, tactile setae lacking. Male sternum VII moderately impressed and emarginate apically; male tergum VIII with moderately flanged and nearly evenly rounded posterior margin, ventral lamina lacking; female sternum VII simple. Aedeagus as in Fig. 8; median lobe moderately curved at apical half in lateral view, its apical narrowed portion somewhat flattened and rather straight to being very slightly upturned; parameres distinctly angled laterally.

**Variation.** Body length (♂♀) 2.0–2.3 mm; dark spot of elytra varying in size, sometimes vaguely interrupted medially on suture, rarely lacking, always vaguely outlined; crest of pronotal horn narrow to moderately wide; 3–11 median rugules, distinct to barely evident, arranged as row or rather scattered in narrow strip, clearly separated to contiguous/fused and forming short continuous line, 7–11 submarginal rugules rounded to moderate elongate, separate to largely contiguous/fused.

**Distribution.** Madagascar.

**Remarks.** Fairmaire (1899) described *Mecynotarsus dorsiger* from a single specimen (“un seul individu”) collected by Henri Perrier de la Bâthie, and thus the paratypes mentioned by Bonadona (1958) represent at most topotypic specimens. The specimens from MRAC, MNHN, and ZSMC were previously identified by J. C. van Hille, P. Bonadona, and G. Uhmman.

### *Mecynotarsus insignatus* Pic, 1900

(Figs 9, 25)

*Mecynotarsus Beccarii* var. *insignatus* Pic, 1900: 430.

*M. Beccarii* var. *insignitus* [misspelling]: Pic (1907): 321 (rec. Sudan).

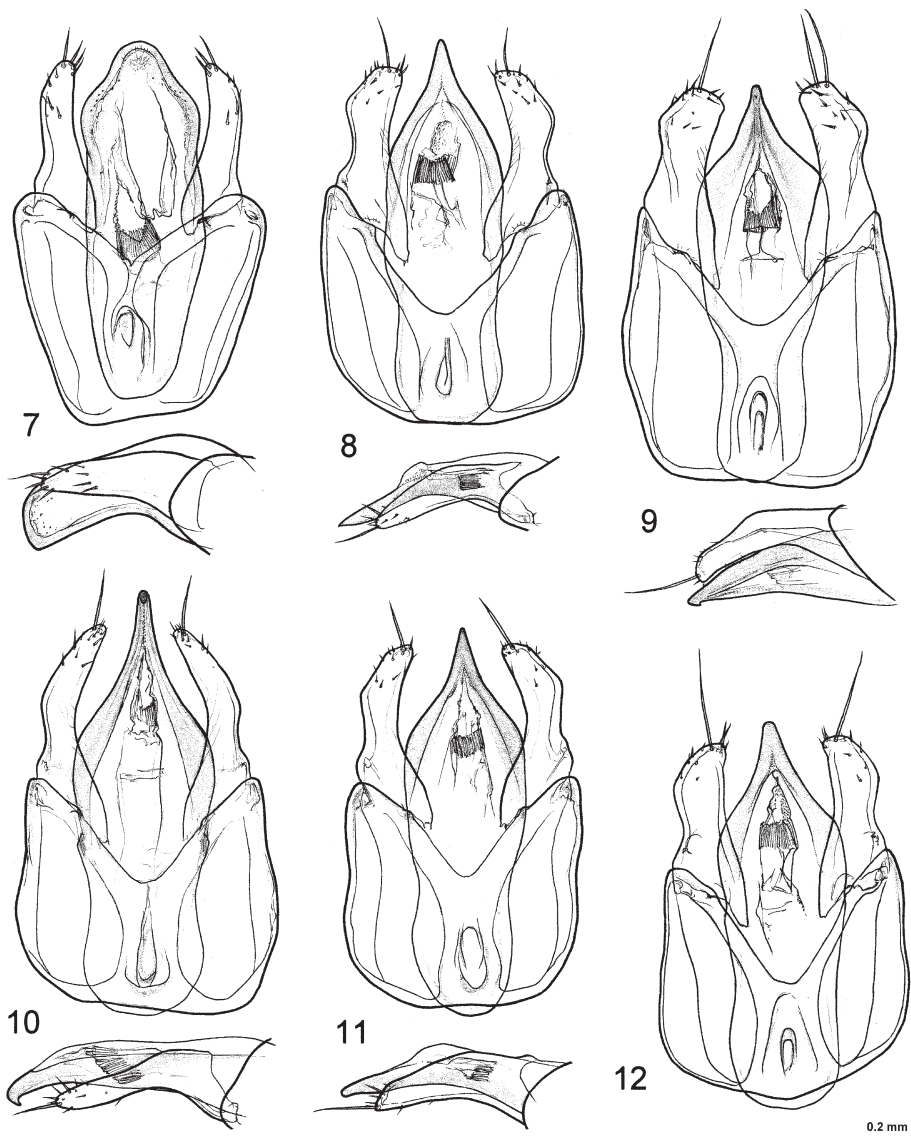
*Mecynotarsus insignatus*: Kejval (2017): 304 (species status).

**Type locality.** Democratic Republic of the Congo, Kinshasa.

**Type material.** Syntypes, unstated (see Remarks).

**Additional material. Democratic Republic of the Congo:** 1 ♂ “Kinchassa Waelbroeck 30. Oct. 1896 [p+h] // Déterm. M. Pic [p; frame] // v. *insignatus* Pic [h]” (MNHN); 1 ♂, “Kin-





Figs 7–12. Aedeagus in dorsal and its apical part (below, if present) in lateral view: 7 – *Mecynotarsus coronatus* Chobaut, 1898, Guelta; 8 – *M. dorsiger* Fairmaire, 1899, Marovato; 9 – *M. insignatus* Pic, 1900, Kinshasa; 10 – *M. jocquei* Bonadona, 1984, Bujumbura; 11 – *M. lacustris* van Hille, 1971, Sodwana Bay; 12 – same species, Mbeya.

Obr. 7–12. Aedeagus z horní strany a níže většinou apikální část z boku: 7 – *Mecynotarsus coronatus* Chobaut, 1898, Guelta; 8 – *M. dorsiger* Fairmaire, 1899, Marovato; 9 – *M. insignatus* Pic, 1900, Kinshasa; 10 – *M. jocquei* Bonadona, 1984, Bujumbura; 11 – *M. lacustris* van Hille, 1971, Sodwana Bay; 12 – stejný druh, Mbeya.

chassa Waelbroeck 25.8.1899 [p+h]" (ZMHB); 1 ♀, "Kinchassa Waelbroeck 18-1-1900 [p] // M. Beccarii v. insignatus [h]" (MNHN); 1 ♂, "Kinchassa Waelbroeck Nov. 1896 [p] // coll. Heberdey [p] // Beccarii v. insignatus Pic d. [h] // nicht Beccarii! Det. Dr. R. F. Heberdey [p+h] // a. insignatus Pic [h; black frame]" (NHMW); 1 ♂, "Kinchassa Waelbroeck 15.II.1899 [p+h; date somewhat illegible] // coll. Heberdey [p] // Beccarii Pic det. [h] // nicht Beccarii! Det. Dr. R. F. Heberdey [p+h] // Beccarii Pic [h; black frame]" (NHMW); 1 ♂, Kinshasa, 1930, E. Devroye leg. (MRAC). **Republic of the Congo:** 4 ♂♂ 3 ♀♀, Brazzaville, Orstom Park, light trap, 27.xii.1963, S. Endrödy-Younga leg. (ZMHB, ZKDC, DCDC); 6 ♂♂ 8 ♀♀, Brazzaville, 25 km SW, floated sandy shore of Congo River, 20.xii.1963, S. Endrödy-Younga leg. (ZSMC, ZFMK, ZKDC); 2 ♂♂ 1 ♀, same data, except: 20 km W, 30.xii.1963 (DCDC). **Redescription. Male** (Kinshasa, ZMHB). Body length 2.0 mm. Body largely yellowish, pronotum with reddish tinge, elytra with small, vaguely outlined brownish spot medially at about midlength; antennae and legs yellowish.

Head with comparatively large convex eyes; interfacetal setae indistinct; vertex and occiput with numerous longer raised setae; gular rugules minute and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres nearly 3.0 times as long as wide; antennomere X about 2.3 times, XI 2.9 times as long as wide.

Pronotum 1.6 times as long as wide, disc globose, nearly evenly rounded laterally in dorsal view; basal constriction distinct, sharply delimited. Pronotal horn long, moderately wide, its posterior angles at most slightly indicated; horn margins completely fringed and distinctly crenulate, apical lobule conspicuous, widely rounded (Fig. 25); horn crest distinct, moderately wide, its margins formed by minute, mostly separate longitudinal rugules; 8 minute to slight median rugules, rather randomly scattered and mostly separated; 13 minute submarginal rugules, arranged as row and clearly separated. Pronotal disc minutely and densely punctate; setation very short and appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.7 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices unevenly rounded, with slight emargination. Surface slightly glossy, densely punctate; punctuation double, large basal punctures comparatively shallow and inconspicuous, narrowly separated; setation similar to that on pronotum, very short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, with sparse apical fringe of coarse, longer setae.

Abdominal sternum VII shallowly impressed and at most slightly emarginate medially; tergum VIII with somewhat more distinct/produced and widely rounded posterior flange, ventral lamina present and fully developed. Aedeagus as in Fig. 9; apical part of median lobe straight, robust and with slight subapical denticle ventrally; parameres rather wide apically. **Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, with apex narrowly rounded.

**Variation.** Body length (♂♀) 2.0–2.2 mm; the series from Brazzaville contains both unicolorous and yellowish to pale reddish specimens that lack dark markings on the elytra, and specimens with a rather large, subtriangular spot (widened posteriorly); pronotal horn sometimes triangular in form, shorter and wider, with distinctly projecting posterior angles, with its margins having 5–8 lobules on each side; 12–14 submarginal rugules; 6–10 median rugules.

**Distribution.** Democratic Republic of the Congo, Republic of the Congo.

**Remarks.** Pic (1900) described *Mecynotarsus Beccarii* var. *insignatus* from an unstated number of specimens originating from “Congo” (based on the title of the paper), without giving any details. Judging from data provided for the other species described by Pic (1900) and the specimens examined, the type material was probably collected by Waelbroeck in/near “Kinchassa” in 1896 (Kejval 2017). Consequently, some of the specimens listed above from “Kinchassa” may be syntypes, despite the lack of type labels, or are at least topotypes.

The variety *insignatus* was raised to species level by Kejval (2017), which is confirmed by the present species redescription. Its known range is confined to the Congo River Basin; the single published record from Sudan (Pic 1907) refers to *M. subangulicollis*.

The specimens from Brazzaville were identified as *Mecynotarsus apicalis* and published as such by Uhmman (1983).

***Mecynotarsus jocquei* Bonadona, 1984**  
(Figs 10, 45)

*Mecynotarsus jocquei* Bonadona, 1984: 472, figs 2, 10.

**Type locality.** Malawi, Northern Region, Chintheche.

**Type material.** Holotype ♂, “HOLOTYPE [p; frame, orange label] // Coll. Mus. Tervuren Malawi: Chintheche 7.VIII.1971 R. Jocqué [p+h] // HOLOTYPE [p; red label] // *Mecynotarsus Jocquei* nsp P. Bonadona dét. 19. [p+h]” (MRAC). Paratypes: 5 ♂♂ 2 ♀♀, same data, except: “PARATYPE [p; frame, orange label]” and “PARATYPE [p; red label]” (all MRAC).

**Additional material. Burundi:** 1 ♂, Bujumbura, 3.v.1985, H. Mühle leg. (ZSMC).

**Democratic Republic of the Congo:** 1 ♂, South Kivu, Uvira, xi.1949, N. Leleup leg. (MRAC); 2 ♀♀, South Kivu, Kamimvira (Uvira), at light, ix/x.1945, G. Marlier leg. (MRAC, ZSMC).

**Kenya:** 1 ♂ 1 ♀, Malindi env., 13.–29.viii.1983, H. J. Bremer leg. (ZSMC). **Mozambique:** 2 ♂♂, Nova Choupanga, near Chemba, i.1929, P. Lesne leg. (MNHN).

**Diagnosis.** Identical to *M. subangulicollis* in most characters, differing by the following details of the aedeagus (cf. Fig. 10 *versus* 15): median lobe more smoothly narrowed on apical half, with apex only moderately hooked dorsally; parameres moderately angled laterally.

**Variation.** Body length (♂♀) 1.8–2.1 mm. Rather variable in colouration (typically rather dark, Fig. 45); horn crest narrow to moderately wide, 3–10 median rugules, mostly somewhat scattered and partly contiguous, 12–19 submarginal rugules. The specimens from Mozambique generally paler, with dark markings of elytra more or less reduced to a small median, longitudinal spot. Both specimens from Kenya (Malindi, ZSMC) very small (1.8 mm), brachypterous (judging from less prominent humeri), and entirely yellowish to pale reddish. The male from Uvira (MRAC) seems to have a slightly more strongly/abruptly narrowed apical part of the median lobe.

**Distribution.** Burundi, Democratic Republic of the Congo, Kenya, Malawi, and Mozambique.

**Remarks.** Bonadona (1984) described *Mecynotarsus jocquei* from single locality in Malawi, and gave no differential diagnosis. His original figure of the aedeagus appears to be inaccurate by showing wider and evenly arcuate parameres. Two male paratypes were examined in detail (one of them dissected and probably used for the illustrations by Bonadona), both having an aedeagus similar to that of the males from Nova Choupanga, figured in this paper (Fig. 10).

*Mecynotarsus jocquei* is undoubtedly very close to *M. subangulicollis*, and its species status should be confirmed by examination of further specimens. They may represent a single species, as variation of the described distinguishing characters is not excluded (indicated in the specimens from Uvira), or possibly indicate geographical subspecies.

***Mecynotarsus lacustris* van Hille, 1971**  
(Figs 11, 12, 29)

*Mecynotarsus lacustris* van Hille, 1971: 380, fig. 8.

**Type locality.** South Africa, KwaZulu-Natal, Sibhayi Lake env., 32°40'E 27°25'S.

**Type material.** Holotype, and 44 paratypes (AMGS).

**Additional material. Malawi:** 1 ♀, Mulanje Mts env., 22.–26.xii.2001, J. Bezděk leg. (ZKDC).

**Mozambique:** 2 ♂♂ 1 ♀, Manica, 10 km SW, 3.xii.2003, A. Kudrna leg. (ADBC, ZKDC);

2 ♂♂ 3 ♀♀, Tsangano, ca 40 km SW, 7.–8.xii.2005, A. Kudrna leg. (ADBC, ZKDC). **South**

**Africa:** 1 ♂, “Sibaya 14-20.I.1967 J. C. van Hille [h] // *Mecynotarsus lacustris* v.H det. J. C.

van Hille 1970 [p+h]” (DCDC); 2 ♂♂, Natal, Sodwana Bay National Park, 27°37'S 32°41'E,

pitfall traps, 30.i.–1.ii.1994, M. Uhlig leg. (ZMHB). **Tanzania:** 2 ♂♂, Mbeya prov., 5 km NW

of Vwawa, 1650 m, 3.i.2007, A. Kudrna leg. (ADBC, ZKDC). **Zambia:** 1 ♂ 1 ♀, Chisamba

valley, 70 km N of Lusaka, 21.xi.2004, M. Snížek & V. Tichý leg. (ADBC); 1 ♀, Kapiri Mposhi,

15.–18.i.2003, A. Kudrna leg. (ADBC); 1 ♂, Mukuku, 25 km SE, 240 km SE of Mansa,

29.xi.2004, M. Snížek leg. (ADBC). **Zimbabwe:** 1 ♂ 3 ♀♀, Kotwa env., Broken Causeway,

17°03'S 32°45'E, pitfall trap, 29.viii.1986, M. Lillig & S. Potel leg. (MRAC, ZSMC).

**Diagnosis.** Small, mostly unicolorous species; pronotal disc moderately transverse; pronotal horn with margins completely fringed and at most slightly crenulate, horn crest well-developed, narrow, its margins continuous, median rugules few and arranged in longitudinal row, submarginal rugules minute, arranged as row and usually separated; pronotum lacking additional tactile setae; elytral punctation inconspicuously double, rather dense; elytral setation uniformly short and appressed, tactile setae lacking. Male sternum VII moderately impressed and emarginate apically; male tergum VIII with slightly flanged and evenly rounded posterior margin, ventral lamina lacking; female sternum VII simple. Aedeagus as in Fig. 11; median lobe with apical half distinctly curved in lateral view, strongly and evenly narrowed to simple apex; parameres distinctly angled laterally.

**Variation.** Body length 1.8–2.2 mm. Typically unicolorous, very pale yellowish brown to reddish; the specimens from Tsangano moderately darker, with reddish-brown elytra, vaguely paler laterally near humeri; the specimens from Zambia and Tanzania distinctly darker, largely dark brown to brownish-black (exceptionally with paler pronotum), with vaguely outlined reddish lateral subhumeral spots on elytra, spots varying in size (sometimes rather large, extending dorso-laterally), rarely also with suture and apices reddish, legs and antennae always completely pale reddish. Elytra with more or less prominent humeri (both fully winged and brachypterous forms present); crest of pronotal horn narrow to moderately wide; 0–6 median rugules, separate to partly fused; 6–17 submarginal rugules distinctly separated to contiguous or nearly fused.

The male specimens from Zambia and Tanzania are moderately aberrant as follows: tergum VIII with small paired remains of ventral lamina (similar to Fig. 33, discernible only

under a compound microscope); median lobe slightly narrower at widest point, somewhat less curved in lateral view, with apex slightly wider; parameres rather rounded laterally, with longer coarse setae at apex (Fig. 12).

**Distribution.** Malawi, Mozambique, South Africa, Tanzania, Zambia, and Zimbabwe.

**Remarks.** Van Hille (1971) described *Mecynotarsus lacustris* from material collected on the white sand shores of the lakes in the coastal Maputaland Region of South Africa; nearly all type specimens (probably including the holotype) originated from a sample taken at “Lake Sibaya” in January 1967. The male examined from “Sibaya” (DCDC) bears corresponding data and can be regarded at least as a topotypic specimen.

The aberrant specimens from Zambia and Tanzania are tentatively identified. They may possibly represent a different, unknown species that is extremely close to *M. lacustris*, as the male characters described above appear to be stable (three males dissected). However, the differences are rather slight, and variation in development/presence of the ventral lamina is not excluded as a factor (known for *M. casperi*). Further sampling at more localities within this large area is needed for a more precise conclusion.

### *Mecynotarsus maculatus* Pic, 1916

*Mecynotarsus maculatus* Pic, 1916: 17.

*Mecynotarsus maculatus*: Bonadona (1958): 22, fig. 6h (redescription).

**Type locality.** Madagascar, Antananarivo (“Tanararive”, see Remarks).

**Type material.** Syntype (torso, only head and pronotum), “Tanararive [h] // type [h; ochraceous label] // maculatus Pic [h] // *Mecynotarsus maculatus* Pic [h]” (MNHN).

**Distribution.** Madagascar.

**Remarks.** Pic (1916) described *Mecynotarsus maculatus* from an unstated number of specimens from Madagascar, without more precise locality data. The extremely brief original description was completed by Bonadona (1958), who examined the torso of a syntype deposited in the Pic Collection, and also restricted the type locality. The same specimen was available for a rather cursory examination during this study. It resembles *M. caroli* in its pronotal characters and dark colouration (“les élytres noirs avec deux macules latérales testacées”), however it seems to differ in its comparatively larger eyes. The identity of this species remains uncertain, especially due to the limited material available.

### *Mecynotarsus nigronotatus* Pic, 1914

(Figs 13, 26, 40)

*Mecynotarsus nigronotatus* Pic, 1914: 18.

*Mecynotarsus nigronotatus*: Pic (1921): 24 (rec. Kenya); Pic (1932): 9 (rec. Mozambique); Uhmman (1983): 198 (rec. Ghana); Chandler & Uhmman (1984): 139 (rec. Angola); Uhmman (1995a): 34 (rec. Zimbabwe); Telnov (1998): 63 (rec. Burundi, Zimbabwe).

*Mecynotarsus sellatus* Brancsik, 1914: 66, **syn. nov.**

*Mecynotarsus sellatus* var. *evanescens* Brancsik, 1914: 66.

*Mecynotarsus sellatus* var. *evanescens*: Telnov (2007): 35 (synonymy).

**Type locality.** *M. nigronotatus*, *M. sellatus* – Mozambique, Boroma [former Mission, ca 15 km NW of Tete, 16°02'48"S 33°26'45"E].

**Type material.** *M. nigronotatus* – Lectotype (herewith designated, Fig. 40), ♀: “Zambezi Boroma (Brancsik) [h] // n sp pres dorsiger a pubescence plus marquée macule elytrale ... [h; partly illegible] // type [h; reddish label] // *Mecynotarsus nigronotatus* n sp [h]” (coll. Pic, MNHN). *M. sellatus* – Lectotype ♂ (herewith designated), “Zambesi Boroma C. Dr. Brancsik [p; black frame] // Typ [h] // Holo-type [h; bluish label]” (FMNH). Paralectotypes: 1 ♂ 1 ♀, “Para-type [h; bluish label]” (FMNH); 1 ♂ 3 ♀♀ [cards pinned on two pins]“, 2 Para-types [h; bluish label]” (FMNH). *M. sellatus* var. *evanescens* – Lectotype ♂ (herewith designated), “Zambesi Boroma C. Dr. Brancsik [p; black frame]” (FMNH). Paralectotypes: 2 ♀♀ [cards pinned on single pin], same data as lectotype (FMNH); 1 ♂ 2 ♀♀ [pinned on single pin], lacking any labels (FMNH).

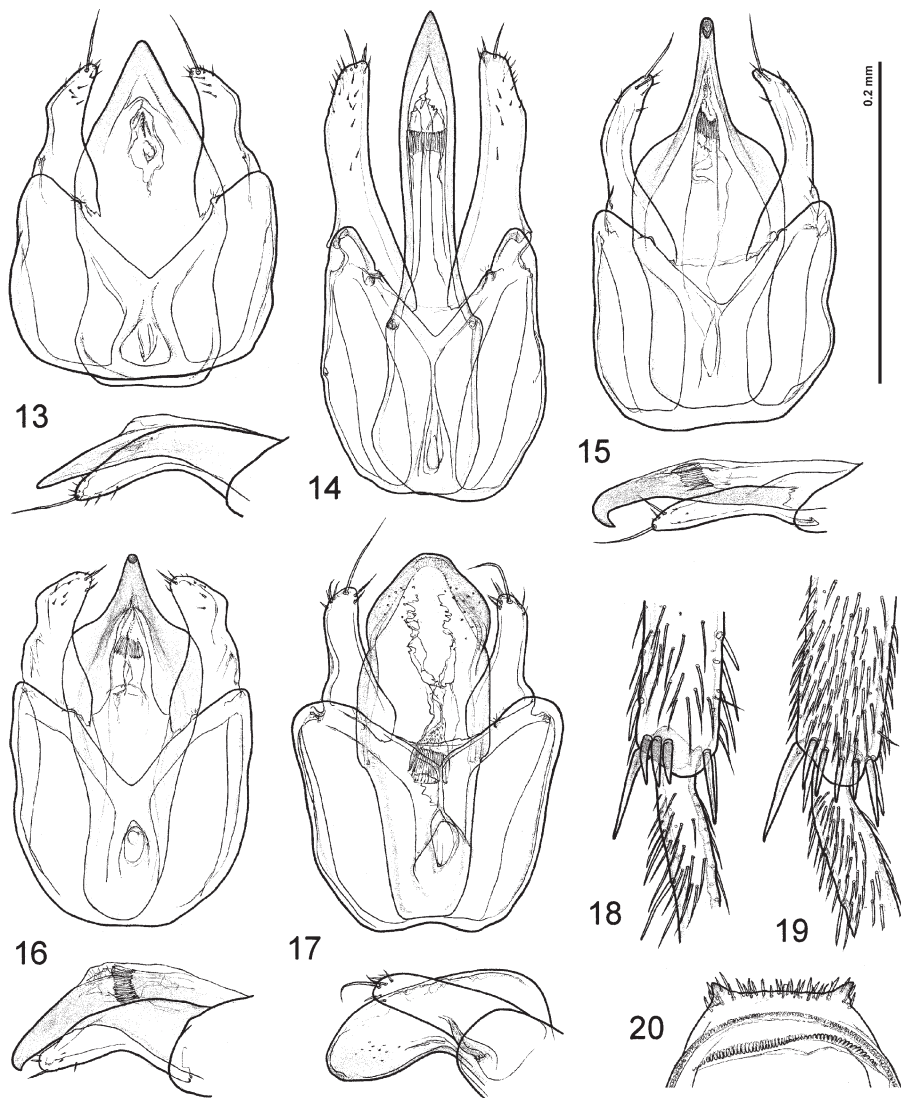
**Additional material. Mozambique:** 1 ♀, “Zambesi Boroma C. Dr. Brancsik [p; frame]” (ZSMC); 1 ♀, same data, handwritten, without frame (ZSMC); 6 ♂♂ 11 ♀♀, Nova Choupanga, near Chemba, 1929 [various dates], P. Lesne leg. (MNHN); 1 ♀, Nhacoro, near Chemba, viii.1929, P. Lesne leg. (MNHN). **Namibia:** 1 ♂, Kavango, Mahango Game Reserve, 18°17'S 21°43'E, 28.ii.1992, M. Uhlig leg. (ZMHB); 1 ♂, same locality, Piknik site, 18°13'S 21°45'E, at light, 24.xi.1993, M. Uhlig leg. (ZMHB); 5 ♂♂ 1 ♀, Kunene, 9km W of Ruacana, 17°26'S 14°09'E, at light, 24.–26.ii.1994, M. Uhlig leg. (ZMHB, ZSMC); 1 ♂, same data, except: pitfall traps/Cantharidin (ZMHB); 1 ♂, same data, except: U. Gollner leg. (ZMHB); 18 ♂♂ 19 ♀♀, Ogongo, 50km NW of Oshakati, Agriculture College Campus, 1.–15.iv.2005, Z. Jindra leg. (ZKDC); 2 ♂♂ 18 ♀♀, Nyangana, Okavango [probably near Okavango River], 1.–9.iv.1988, H. Roer leg. (ZFMK, ZSMC); 2 ♂♂ 2 ♀♀, same data, except: 14.–22.i.1985 (ZFMK); 1 ♂, Sambiu, Okavango, 28.ii.–2.iii.1991, H. Roer leg. (ZFMK); 2 ♂♂, Ovambo, Hippo Pool, 17°24'S 14°12'E, 15.i.1993, E. Marais leg. (ZSMC); 3 ♂♂ 1 ♀, Döbra, near Windhoek, 27.iii.1988, H. Roer leg. (ZSMC). **South Africa:** 1 ♀, North prov., Waterberg, Geelhoutbosh Farm, 24°22'S 27°33'E, 15.–18.xi.1997, S. Bílý leg. (ZKDC). **Zambia:** 2 ♀♀, South Luangwa National Park, Mfuwe Crocodile Farm, 13°06'03"S 31°47'32"E, 450m, 23.iii.1993, M. Uhlig leg. (ZMHB).

**Redescription. Male** (Nova Choupanga, MNHN). Body length 2.3mm. Body largely yellowish to pale reddish, elytra mesally with longitudinal, vaguely outlined brownish spot; antennae and legs yellowish to pale reddish.

Head with comparatively large and convex eyes; interfacetal setae indistinct; vertex and occiput with short, appressed setae; gular rugules minute and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 2.6 times as long as wide; antennomere X nearly twice, XI nearly 3.1 times as long as wide.

Pronotum 1.6 times as long as wide, disc moderately transversely globose, lateral margins unevenly rounded to angular in dorsal view; basal constriction distinct, sharply indented. Pronotal horn moderately long and wide, robust, subtriangular, its posterior angles distinct; horn margins completely fringed and slightly crenulate, its apex rather wide and evenly rounded (Fig. 26); horn crest conspicuous, narrow, its margins continuous and formed by completely fused longitudinal rugules; submarginal rugules present on apical half, arranged as row and mostly fused; 7 median rugules, nearly all arranged as median row and mostly contiguous. Pronotal disc minutely and densely punctate; setation very short and appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.7 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices unevenly rounded, with slight emargination. Surface



Figs 13–20. 13–17. Aedeagus in dorsal and its apical part (below, if present) in lateral view: 13 – *Mecynotarsus nigronotatus* Pic, 1914, Nova Choupanga; 14 – *M. okavango* sp. nov.; 15 – *M. subangulicollis* Pic, 1914, Brufut; 16 – *M. subparallelus* Pic, 1914, Abuko; 17 – *M. truquii* Marseul, 1879, Yudurugarao; 18, 19. Apex of mesotibia: 18 – *M. truquii*, Wadi Bani Khalid; 19 – *M. nigronotatus*, Ogongo. 20 – *M. viberti* (Bonadona, 1964), posterior margin of male tergum VIII. Fig. 20 modified after Kejval (2017).

Obr. 13–20. 13–17. Aedeagus z horní strany a níže většinou apikální část z boku: 13 – *Mecynotarsus nigronotatus* Pic, 1914, Nova Choupanga; 14 – *M. okavango* sp. nov.; 15 – *M. subangulicollis* Pic, 1914, Brufut; 16 – *M. subparallelus* Pic, 1914, Abuko; 17 – *M. truquii* Marseul, 1879, Yudurugarao; 18, 19. Konec střední holeně: 18 – *M. truquii*, Wadi Bani Khalid; 19 – *M. nigronotatus*, Ogongo. 20 – *M. viberti* (Bonadona, 1964), zadní kraj samčího terga VIII. Obr. 20 upraven podle Kejval (2020).

slightly glossy, densely punctate; punctation double, large basal punctures distinct, narrowly separated; setation similar to that on pronotum, short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, with sparse apical fringe of coarse, long setae.

Abdominal sternum VII moderately impressed and slightly emarginate apically; tergum VIII with slightly flanged and somewhat unevenly rounded posterior margin, ventral lamina lacking. Aedeagus as in Fig. 13; apical half of median lobe curved in lateral view, with lateral margins nearly evenly narrowing to flattened apex; parameres distinctly angled laterally.

**Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, apex narrowly rounded.

**Variation.** Body length ( $\delta$ / $\text{♀}$ ) 2.0–2.4 mm; dark elytral spot may be either lacking or conspicuous, when present spot longitudinal to clearly triangular; margins of pronotal horn slightly to moderately crenulate; horn crest narrow to moderately wide; 1–9 minute to coarse median rugules arranged as row to scattered, separated to contiguous or partly fused; submarginal rugules usually largely fused, strongly varying in number.

**Distribution.** Angola, Burundi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe.

**Remarks.** Pic (1914) described *Mecynotarsus nigronotatus* from an unstated number of specimens originating from “Afrique Orientale” (without any additional comments) and compared this species with *M. dorsiger*. The only syntype discovered in the MNHN has slightly different, more specific locality data, nevertheless the other labels are conclusive, including a note about *M. dorsiger* (Fig. 40). It seems justified to designate a lectotype using this specimen to fix species identity, that is further confirmed by examination of additional specimens from Nova Choupanga (ca 180 km SE from Boroma, also near Zambezi River), identified as *M. nigronotatus* and recorded as such by Pic (1932).

Brancsik (1914) described *Mecynotarsus sellatus* and its variety *evanescens* from an unstated number of specimens collected at Boroma. In addition to the label data quoted above, there are original labels that are pinned separately but associated with the specimens of this series: “sellatus Brancsik” and “v. evanescens Brancs” (both handwritten, in black printed frame). The type series includes three different species, and the bluish holotype/paratype labels were surely added by curators later. The lectotype is thus designated for a male bearing a correct locality and “Typ” label (most probably original, in the same handwriting as the separate labels mentioned above) to fix the identity of this species and support the proposed synonymy. The six paralectotypes belong to three species: *M. sellatus* (1 ♂ 1 ♀), *M. casperi* (1 ♂ 1 ♀), and *M. jocquei* (2 ♀♀, tentatively identified).

*Mecynotarsus sellatus* is placed herein as a junior synonym of *M. nigronotatus*. The lectotypes are conspecific, which is confirmed by examination of males from Nova Choupanga, and their locality labels reveal that they most probably originate from same sample taken by C. Brancsik near Boroma. The year of publication is identical – 1914. Pic’s description was published in the 10<sup>th</sup> volume of *Mélanges exotico-entomologiques* on October 30<sup>th</sup> 1914 (specified on cover page). Brancsik’s description was published in the *Bericht des Museumvereines für das Comitatus Trencsén* in 1914, without more specific date (the whole volume examined), which is therefore placed as December 31<sup>th</sup> 1914 (ICZN 21.3.2).

Brancsik (1914) also described *Mecynotarsus sellatus* var. *evanescens* for specimens lacking or having indistinct dark markings on the elytra. It was synonymized with *M. sellatus*



by Telnov (2007), based solely on the original description and some identified specimens. The six syntypes examined belong to *M. nigronotatus* (1 ♂ 3 ♀♀) and *M. jocquei* (1 ♂ 1 ♀). Three of the former four specimens share the same locality label (cards pinned on single pin) and the uppermost specimen (a male) is here designated as the lectotype to fix the formerly proposed synonymy.

The specimen listed above from Namibia (Mahango Game Reserve, 18°17'S 21°43'E) was identified as *Mecynotarsus casperi* and published as such by Uhmman (1995b).

The record of *M. nigronotatus* from Kenya (Pic 1921) refers to a different species, probably *M. subangulicollis* (both specimens examined are females), and those from the environs of Kotwa in Zimbabwe (Uhmman 1995a, Telnov 1998) belong at least partly to *M. lacustris*. Other records (Chandler & Uhmman 1984, Telnov 1998, Uhmman 1983) need verification; the record from Ghana by G. Uhmman is almost certainly incorrect.

*Mecynotarsus okavango* sp. nov.

(Figs 14, 27, 46)

**Type locality.** NE Namibia, Kavango east Region, Nyangana [probably near Okavango River].

**Type material.** Holotype ♂, “SWA / Namibia Nyangana / Okavango 14.-22.1.1985 leg. H. Roer [p; blue label] // MUSEUM KOENIG BONN [p; yellowish label] // *Mecynotarsus casperi* Pic det. G. Uhmman 1989 [p+h]” (ZFMK). Paratypes: 2 ♀♀, same data as holotype (ZSMC, ZFMK); 3 ♂♂ 1 ♀, “S. Africa, O.F.S. Sandveld Nature Reserve HOOPSTAD SE 2725 Da [p] // 8-12 Feb. 1982 Entomology Dept. [p] // NMBH 7916 [p+h]” (ADBC, ZKDC); 1 ♀, “NAMIBIA, Caprivi, Katima Mulilo, 15.-24.1.1995 leg. M. Snizek [p; greyish label] // *Mecynotarsus casperi* Pic det. G. Uhmman 1997 [p+h]” (ZKDC); 1 ♀, “ZAMBIA: Southern Province, 23 km W Livingstone, Kubu Cabins, Zambesi R. 1 May 1995, R. Ward [p] // *Mecynotarsus sellatus* Brancsik det. G. Uhmman 1999 [p+h]” (ZSMC).

**Additional material. South Africa:** 1 ♀, Limpopo prov., Nwanedi Nature Reserve, 25 km E of Tshipise, 550 m, 13.xii.2009, A. Kudrna leg. (ADBC).

**Description. Male** (holotype). Body length 2.5 mm. Body largely yellowish to pale reddish, elytra with large, vaguely outlined triangular brownish spot mesally (Fig. 46); antennae and legs yellowish to pale reddish.

Head with large convex eyes; interfacetal setae very short; vertex and occiput with some long, raised setae medially; gular rugules minute and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 3.2 times as long as wide; antennomere X about 2.5 times, XI 3.5 times as long as wide.

Pronotum 1.7 times as long as wide, nearly globose, its lateral margins unevenly rounded to angular at widest place in dorsal view; basal constriction distinct, rather wide and sharply delimited. Pronotal horn long, moderately wide, subtriangular, its posterior angles distinct; horn margins completely fringed and distinctly crenulate, with 7–8 small lobules on each side, apical lobule inconspicuous, widely rounded (Fig. 27); horn crest distinct, comparatively wide, its margins largely continuous, formed by contiguous to fused longitudinal rugules; 18 minute submarginal rugules partly ordered as row, distinctly separated; 6 median rugules, randomly scattered. Pronotal disc minutely and densely punctate; setation short and appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.9 times as long as wide; humeri distinct; omoplates and postbasal impression at most slightly indicated; elytral apices unevenly rounded, with slight emargination. Surface slightly glossy, densely punctate; punctation double, large basal punctures narrowly separated; setation similar to that on pronotum, short, appressed and scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, with sparse apical fringe of coarse, long setae.

Abdominal sternum VII moderately impressed and emarginate apically; tergum VIII moderately flanged and rounded posteriorly, ventral lamina lacking. Aedeagus as in Fig. 14; median lobe conspicuously slender, with straight, flattened apex, parameres elongate and straight.

**Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, narrowly rounded apically.

**Variation.** Body length (♂♀) 2.4–2.5 mm; both paratypes from Nyangana unicolorous, with dark marking of elytra lacking; 6–14 median rugules, always randomly scattered; 13–20 submarginal rugules.

**Differential diagnosis.** *Mecynotarsus okavango* sp. nov. can be easily confused with the externally very similar *M. casperi*, showing only a slight difference in the form of the crest of the pronotal horn, which is wider and evenly narrowing towards apex (rather parallel-sided posteriorly for the latter species). On the other hand, their aedeagi are quite different (cf. Fig. 14 *versus* 4) and, moreover, males of *M. okavango* sp. nov. completely lack the ventral lamina of abdominal tergum VIII.

**Distribution.** Namibia, South Africa, and Zambia.

**Etymology.** Named after the Okavango River, whose sandy alluvia are apparently the habitat of this species; noun in the nominative case, standing in apposition.

***Mecynotarsus subangulicollis* Pic, 1914**  
(Figs 15, 30, 47, 48)

*Mecynotarsus subangulicollis* Pic, 1914: 18.

*Mecynotarsus subangulicollis*: Bonadona (1969): 317 (rec. Ivory Coast, distribution); Uhmann (1990): 888 (rec. Ivory Coast, distribution).

*Mecynotarsus simplicicornis* Pic, 1914: 18, **syn. nov.**

*Mecynotarsus adumbratus* Krekich-Strassoldo, 1923: 182, **syn. nov.**

*Mecynotarsus Brédoi* Pic, 1952b: 67, **syn. nov.**

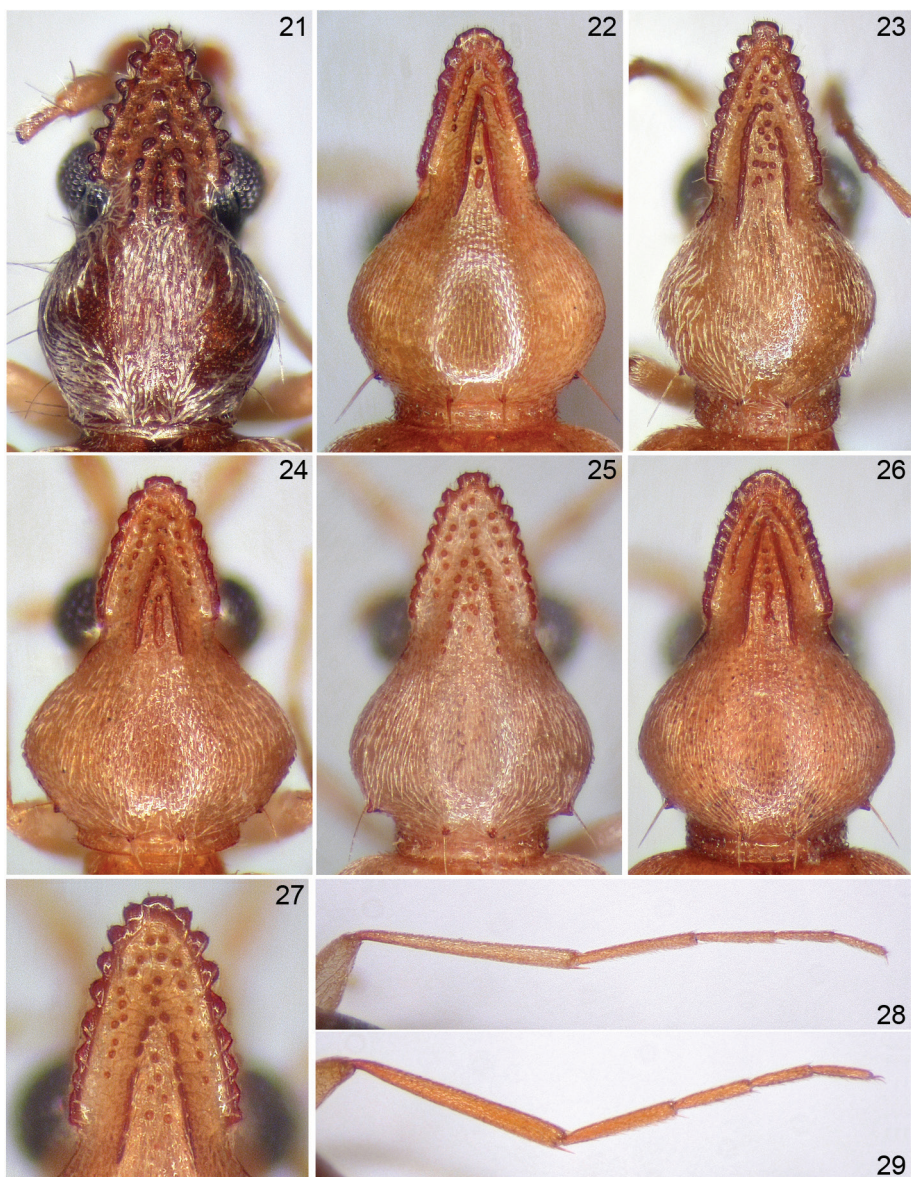
*Mecynotarsus paulosignatus* Pic, 1951: 12, **syn. nov.**

*Mecynotarsus paulosignatus*: Kejval (2011): 169 (note).

*Mecynotarsus paulosignatus* var. *innotatus* Pic, 1951: 12, **syn. nov.**

**Type locality.** *M. subangulicollis* – Ghana: Ada (“Guinée: Addah”); *M. adumbratus* – SE Sudan, Er Roseires, Blue Nile riverside; *M. bredoi* – Uganda, Kasenyi; *M. paulosignatus* (and probably also var. *innotatus*, see Remarks) – Democratic Republic of the Congo, Katanga Region, Muyumba; *M. simplicicornis* – Senegal, Saint-Louis.

**Type material.** *M. subangulicollis* – Lectotype ♂ (herewith designated), “GUINÉE ADDAH (REITTER) [p] // type [h; reddish label] // TYPE [p; red label] // subangulicollis Pic n sp. [h]” (MNHN). *M. adumbratus* – Holotype ♂, “Roseires H<sup>1</sup>. Nil Bleu [h] // [male sex-symbol] // TYPE [p; red label] // adumbratus det. v. Krekich [p+h] // MUSEUM PARIS Coll. L. BEDEL 1922 [p]” (MNHN). *M. bredoi* – Holotype ♀, “HOLOTYPE [p; frame, red label] // COLL. MUS. CONGO Kasenyi 19-VIII-1937, H. J. Brédo [p+h] // R. DET. S 5676 [p+h] // Mecy-



Figs 21–29. 21–26. Pronotum in dorsal view: 21 – *Mecynotarsus antipoda* sp. nov.; 22 – *M. apicalis*, Nanoropus; 23 – *M. casperi* Pic, 1913, lectotype; 24 – *M. coachei* sp. nov., paratype, Save; 25 – *M. insignatus*, Brazzaville; 26 – *M. nigronotatus* Pic, 1914, Nova Choupanga. 27 – *M. okavango* sp. nov., pronotal horn. 28, 29. Posterior leg: 28 – *M. dorsiger* Fairmaire, 1899, Marovato; 29 – *M. lacustris* van Hille, 1970, Tsangano.  
 Obr. 21–29. 21–26. Pronotum shora: 21 – *Mecynotarsus antipoda* sp. nov.; 22 – *M. apicalis* Pic, 1939, Nanoropus; 23 – *M. casperi* Pic, 1913, lektotyp; 24 – *M. coachei* sp. nov., paratype, Save; 25 – *M. insignatus*, Brazzaville; 26 – *M. nigronotatus* Pic, 1914, Nova Choupanga. 27 – *M. okavango* sp. nov., roh pronota. 28, 29. Zadní noha: 28 – *M. dorsiger* Fairmaire, 1899, Marovato; 29 – *M. lacustris* van Hille, 1970, Tsangano.

notarsus Bredoi n sp [h] // MECYNOTARSUS bredoi Pic vid. D. Telnov, 2015 [p]” (MRAC). *M. paulosignatus* – Lectotype ♂ (herewith designated, Fig. 49), “Muyumba Congo [h] // paulosignatus n sp [h]” (MNHN). *M. paulosignatus* var. *innotatus* – Syntypes, not examined, see Remarks (MNHN). *M. simplicicornis* – Lectotype ♂ (herewith designated), “SÉNÉGAL Saint-Louis [p] // Coll. A [p+h] // type [h] // HOLOTYPE [p; red label] // simplicicornis Pic type [h]” (MNHN). Paralectotypes: 2 spec., same first two labels (MNHN).

**Additional material:** **Benin:** 1 ♂, Attogon, Niaouli Forest, UV-light trap, 1.v.2013, A. Coache leg. (ACBC); 1 ♂ 1 ♀, same data, except: 17.xi.2015 (ACBC); 1 ♂, Batia, Numi Camp, Pendjari National Park, UV-light trap, 10.xi.2012, A. Coache leg. (ACBC); 1 ♂, Houeyogbe, Houeyogbe Forest, UV-light trap, 8.v.2013, A. Coache leg. (ACBC); 2 ♂♂, Ouidah, Pahou Forest, UV-light trap, 9.v.2013, A. Coache leg. (ACBC, ZKDC). **Cameroon:** 2 ♂♂, Londji, beach, 1.xi.1966, B. de Miré leg. (MNHN). **Chad:** 3 ♂♂ 2 ♀♀, Kanem Region, N’Gouri, x/xi.1958, P. Renaud leg. (MNHN, MRAC); 1 ♀, Moyen-Chari Region, Fort Archambault [= Sarh], Bakaré ou Boungoul, iv.1904, J. Decorse leg. (MNHN). **Ethiopia:** 1 ♂, Oromia, 25 km SE of Mega, 03°55’37”N 38°26’53”E, 1400 m, 15.iv.2016, J. Halada leg. (ZKDC). **Gambia:** 1 ♂, Brufut, 3 km SW, Tanji River, at light, 28.ii.1977, LU Exped. (MZLU); 1 ♂, same data, completely dissected and mounted in microscope slide (MZLU); 1 ♀, Gunjur, about 5 km SSW, oil palm and mangrove vegetation close to the beach, at light, 22.ii.1977, LU Exped. (MZLU). **Ghana:** 1 ♂, Volta Region, 5°53’N 1°00’E, 10 m, S. Endrödy-Younga leg. (ZSMC); 1 ♂, Western Region, Busua, 4°48’N 1°56’E, 15 m, at light, 12.iv.1969, S. Endrödy-Younga leg. (DCDC). **Guinea:** 1 ♂, Kindia, 20.iv.1983, S. Murzin leg. (ZKDC); 1 ♂ 1 ♀, Kindia Region, Gangan Mt., 500 m, 8.v.1951, Bechyne leg. (ZSMC, MRAC). **Ivory Coast:** 1 ♂, 4 ♀♀, Adiopodoume, iii.1957, P. Dessart leg. (MNHN, MRAC); 1 ♀, same locality, 3.–9.iii.1977, I. Löbl leg. (ZSMC); 1 ♂ 1 ♀, Divo, rainforest litter, 18.iii.1963, L. Brader leg. (DCDC); 2 ♂ 1 ♀, Ferkessedougou, 10/20.v.1964, J. Decelle leg. (MNHN, MRAC); 1 ♂ 2 ♀♀, Bingerville, at light, vii.1961, J. Decelle leg. (MNHN); 6 ♂♂ 9 ♀♀, same data, except different dates in years: 1962–1964 (MNHN). **Kenya:** 1 ♂, Eastern Mwingi, Nguni, 28.xi.1999, M. Snížek leg. (ADBC); 1 ♀, Kangonde, E of Thika, 6.iv.2007, M. Snížek leg. (ZKDC); 3 ♂♂, N of Nguni, Ngomeni, 19.–22.iv.2007, M. Snížek leg. (ZKDC); 1 ♀, Taita Region, Bura, i.1991, K. Werner leg. (ZKDC); 1 ♂, Tsavo, Voi, 27.iii.–4.iv.1997, M. Snížek leg. (ZKDC); 2 ♀♀, Tana River, viii.1915, G. Babault leg. (MNHN, ZSMC). **Mali:** 1 ♀, Kayes, UV-light trap, 5.i.2010, A. Coache leg. (ACBC); 1 ♀, Timbuktu env., Kabarrah, 1900, A. Chevalier leg. (MNHN). **Mauritania:** 1 ♀, “Mauritanie” [further data illegible] (MNHN). **Nigeria:** 1 ♂, Kano, 2.x.1955, Bechyne leg. (MRAC); 1 ♂, EC State, Umuahia Cocoa Research Institute of Nigeria, 10.iv.1973, J. T. Medler leg. (MNHN); 2 ♂♂ 1 ♀, NW State, Argungu, 22.x.1974, J. T. Medler leg. (MNHN); 2 ♂♂ 1 ♀, NW State, Badeggi Rice Research Station, 14.x.1974, J. T. Medler leg. (MNHN); 7 ♂♂ 7 ♀♀, same data, except: 14.x.1974 (MNHN); 2 ♀♀, W State, Ile-Ife, 15.iv.1969, J. T. Medler leg. (MNHN). **Senegal:** 3 ♂♂, Cap Skiring, at light, 10.xi.1977, LU Exped. (MZLU); 6 ♂♂ 6 ♀♀, Sangalkam, vii.1971, A. Villiers leg. (MNHN, ZKDC); 1 ♀, Saint-Louis, 1906, G. Melou leg. (MNHN). **Sudan:** 1 ♀, Er Roseires, Blue Nile env., 1906, Ch. Alluaud leg. (MNHN); 1 ♂, North Darfur prov., El Fasher, 730 m, at light, 2.ix.1976, H. J. Bremer leg. (ZSMC); 13 ♂♂ 30 ♀♀, North Darfur prov., El Geneina, at light, ix.1979, I. M. Abuzinid leg. (ZSMC, ZKDC, ZMHB, ZFMK, MRAC); 1 ♀, North Darfur prov., Kutum, 1140 m, at light, 4.ix.1976, H. J. Bremer leg. (ZSMC); 10 ♂♂ 2 ♀♀, Khartoum, *Acacia nilotica* forest, at light, 23.vii.1799, H. J. Bremer leg. (ZSMC, ZKDC, ZFMK, DCDC).

**Tanzania:** 1 ♂, Arusha region, Longido, 1500 m, 17/20.iv.1957, P. Basilewsky & N. Leleup leg. (MRAC). **Uganda:** 9 ♂♂ 5 ♀♀, Entebbe env., 8. –13.xii.1994, M. Snížek leg. (ZKDC); 3 ♀♀, Kasenyi, 19.viii.1937, H. J. Brédo leg. (MRAC, MNHN).

**Redescription. Male** (Brufut, MZLU). Body length 2.3 mm. Body largely yellowish to pale reddish, elytra with vaguely outlined, brownish markings on posterior half; legs and antennae yellowish to pale reddish.

Eyes comparatively large, convex; interfacetal setae indistinct; gular rugules small and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 3.3 times as long as wide; antennomere X about 2.5 times, XI 3.5 times as long as wide.

Pronotum 1.5 times as long as wide, disc moderately transverse, its lateral margins somewhat unevenly rounded to angular in dorsal view; basal constriction distinct, sharply indented. Pronotal horn moderately long and wide, robust and subtriangular, its posterior angles distinct; horn margins completely fringed and shallowly crenulate, with 6–7 small lobules indicated on each side, apical lobule inconspicuous and widely rounded (Fig. 30); horn crest distinct, moderately wide, its margins formed by fused longitudinal rugules; 16 minute rounded submarginal rugules; 5 minute median rugules nearly arranged medially, both contiguous and separated. Pronotal disc minutely and densely punctate; setation short, moderately coarse, appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.8 times as long as wide; humeri distinct; omoplates and postbasal impression lacking; elytral apices unevenly rounded. Surface slightly glossy, densely punctate; punctuation double, large basal punctures comparatively shallow, narrowly separated; setation similar to that on pronotum, short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; setation of tibiae rather uniformly short and appressed, with sparse apical fringe of coarse, long setae.

Abdominal sternum VII distinctly impressed and emarginate apically; tergum VIII with moderately flanged and somewhat unevenly rounded posterior margin, ventral lamina lacking. Aedeagus as in Fig. 15; apical third of median lobe rather abruptly narrowed and elongate, with apex distinctly hooked dorsally; parameres slender, moderately and evenly arcuate.

**Female.** Identical to male in most external characters; elytral apices evenly rounded; sternum VII simple; tergum VII subtriangular, narrowly rounded apically.

**Variation.** Body length (♂♀) 1.7–2.4 mm; elytra usually with paired oblique spots, which may be lacking or conspicuous, fusing medially and extending as far as base (Fig. 47), or rarely entirely dark (Entebbe, some spec. from Nigeria, Fig. 48); pronotal horn varying in proportions, more or less elongate; 7–18 submarginal rugules, rarely some contiguous; 1–7 median rugules, separate to contiguous, rarely completely fused.

**Distribution.** Benin, Cameroon, Chad, Democratic Republic of the Congo, Ethiopia, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Mali, Mauritania, Nigeria, Senegal, Sudan, Tanzania, and Uganda.

**Remarks.** Pic (1914) described both *Mecynotarsus subangulicollis* and *M. simplicicornis* from an unstated number of specimens from “Guinée: Addah” (former) and “Sénégal” (latter), and discussed differences from *M. subparalleus*. Having examined all available syntypes of both species in the Pic Collection (MNHN), I failed to find any substantial differences, and

*M. simplicicornis* is thus placed in synonymy with the former species (based on the order of their original descriptions). The single syntype of *M. subangulicollis* is in good condition, except for the absence of genitalia and abdominal terga. In spite of this problem, its identity seems to be clear based on pronotal horn characters (narrower crest, median rugules arranged in median line, and submarginal rugules distinctly separate and round) and dissections of numerous additional male specimens.

Krekich-Strassoldo (1923) described *Mecynotarsus adumbratus* from a single specimen collected by Charles Alluaud in Sudan (“Roseires, sur le haut Nil Bleu”), and provided by Louis Bedel. Having examined/dissected the holotype I cannot see any differences to separate this species from *M. subangulicollis*, and thus propose their synonymy.

Pic (1951) described *Mecynotarsus paulosignatus* and its colour variety *innotatus* from an unstated number of specimens collected in “Congo” and noted its relationships to *M. simplicicornis*. A lectotype is designated here for the single male syntype available for study, which bears a corresponding identification label (Fig. 49). It is identical to *M. subangulicollis*, mainly in having a distinctive, hooked apex of the median lobe and slender, simple parameres. Consequently, *M. paulosignatus* is placed in synonymy with *M. subangulicollis*. The variety *innotatus* was described for some specimens lacking distinct dark markings of the elytra: “...dessins bruns sont oblitérés (v. n. *innotatus*)” (Pic 1951). I failed to find some clear syntypes in the MNHN, however there are hardly any doubts about the proposed synonymy. It is supported also by examination of three females from Kasenyi in Uganda identified by M. Pic – one is labelled “*M. v. innotatus* Pic”, another two are labelled “*Mecynotarsus paulosignatus* Pic” (MRAC, MNHN, listed above). It is noteworthy that their locality labels are identical with those of the holotype of *M. bredoi* (see below).

Pic (1952b) described *Mecynotarsus bredoi* from a single specimen collected by H. J. Brédo at the locality Kasenyi in Uganda. The female holotype is externally similar to *M. subangulicollis*, especially in the pronotal characters, and the newly proposed synonymy is further supported by examination of male characters in the additional specimens from Entebbe in Uganda (ca 250 km E of Kasenyi, both localities are situated near lakes), sharing the darker colouration of the elytra (Fig. 48).

The specimen listed above from Tanzania (MRAC) was identified as *M. bison* and recorded as such by Buck (1965); the specimens from Tana River in Kenya (MNHN, ZSMC) were identified as *M. nigronotatus* and recorded as such by Pic (1921); the specimens from Gambia and Senegal (MZLU) were identified as *M. subparallelus* and partly recorded as such by van Hille (1989); the specimen from Er Roseires in Sudan was identified as *M. beccarii* var. *insignitus* [sic!] and recorded as such by Pic (1907).

### ***Mecynotarsus subparallelus* Pic, 1895**

(Figs 16, 31, 35, 36)

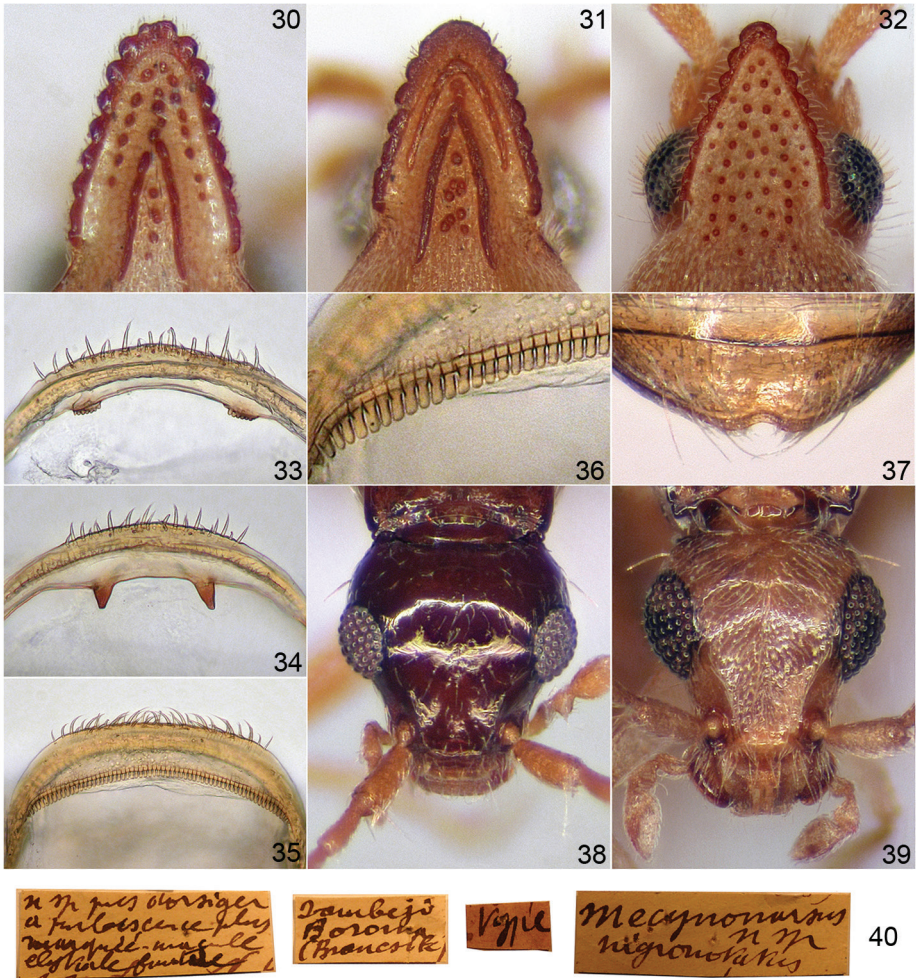
*Mecynotarsus subparallelus* Pic, 1895: 665.

*Mecynotarsus subparallelus*: van Hille (1989): 320, figs 4–7 (redescription, rec. Gambia).

*Mecynotarsus franzi* Bonadonna, 1962: 337, figs 25–27, 31, **syn. nov.**

*Mecynotarsus franzi*: Telnov (2016): 84 (rec. Sudan).

**Type locality.** *M. subparallelus* – Senegal, Casamance Region, Sedhiou (“Sedhiou sur la Cazamance”); *M. franzi* – Chad, Deressia, near Lai.



Figs 30–40. 30–32. Pronotal horn in dorsal view: 30 – *Mecynotarsus subangulicollis* Pic, 1914, Er Roseires; 31 – *M. subparallelus* Pic, 1914, Deressia; 32 – *M. viberti* (Bonadona, 1964), Algeria, Beni Abbes (ZKDC). Male tergum VIII: 33 – *M. coronatus* Chobaut, 1898, Guelta; 34 – *M. truquii* Marseul, 1879, Yudurugarao; 35 – *M. subparallelus*, Deressia. 36 – ditto, detail of pegs; 37 – *M. antipoda* sp. nov., female sternum VII. 38, 39 – Head: 38 – *M. caroli* Pic, 1902, Sambava; 39 – *M. dorsiger*, Tamandava. 40 – *M. nigronotatus*, lectotype labels.  
 Obr. 30–40. 30–32. Roh pronota shora: 30 – *Mecynotarsus subangulicollis* Pic, 1914, Er Roseires; 31 – *M. subparallelus* Pic, 1914, Deressia; 32 – *M. viberti* (Bonadona, 1964), Alžírsko, Beni Abbes (ZKDC). Samčí tergum VIII: 33 – *M. coronatus* Chobaut, 1898, Guelta; 34 – *M. truquii* Marseul, 1879, Yudurugarao; 35 – *M. subparallelus*, Deressia. 36 – ditto, detail; 37 – *M. antipoda* sp. nov., samičí sternum VII. 38, 39 – Hlava: 38 – *M. caroli* Pic, 1902, Sambava; 39 – *M. dorsiger*, Tamandava. 40 – *M. nigronotatus*, štítky lektotypu.

**Type material.** *M. subparallelus* – Lectotype ♀ (herewith designated), “SEDHIOU [p] // type [h] // type [h] HOLOTYPE [p; red label] // Mecynotarsus semiparallelus Type Pic [h; sic!] // subparallelus Pic [h]” (MNHN). *M. franzi* – Holotype ♂, “Deressia b.Lai Tschadgebiet AEF., lg. Franz [p] // TYPE [p; red label] // Mecynotarsus franzi n.sp P. BONADONA dét [p+h]” (NHMW). Paratypes: 1 ♀, same data, except: “PARATYPE [p; red label]” (NHMW); 1 ♂, “Deressia b.Lai Tschadgebiet AEF., lg. Franz [p] // Préparation microscopique n° 153591 [p+h] // PARATYPE [p; red label] // Mecynotarsus franzi n.sp P. BONADONA dét [p+h] // simple varieté de *M. subparallelus* Pic P. BONADONA dét. [p+h]” (coll. Bonadona, MNHN).

**Additional material.** **Chad:** 4 ♂♂ 5 ♀♀, “Deressia b.Lai Tschadgebiet AEF., lg. Franz [p]” (coll. Franz, NHMW, ZKDC); 1 ♀, Moyen-Chari Region, Sarh [=Fort Archambault], Bakaré ou Boungoul, iv.1904, J. Decorse leg. (MNHN). **Gambia:** 1 ♂, outside Abuko Nature Reserve, at light at water works, 4.xi.1977, LU Exped. (MZLU); 3 ♀♀, Brufut, 3 km SW, Tanji River, at light, 28.ii.1977, LU Exped. (MZLU); 1 ♀, Gunjur, about 5 km SSW, oil palm and mangrove vegetation close to the beach, at light, 22.ii.1977, LU Exped. (MZLU). **Senegal:** 2 ♀♀, Bignona, 1 km NW (26 km N Ziguinchor), at light, 3.iii.1977, LU Exped. (MZLU, ZSMC); 1 ♂, Ziguinchor, 11 km S, at light, 8.xi.1977, LU Exped. (MZLU). **Sudan:** 4 ♂♂ 8 ♀♀, North Darfur prov., El Geneina, at light, ix.1979, I. M. Abuzinid leg. (ZSMC, ZKDC, ZMHB, MRAC).

**Redescription. Male** (Deressia, ZKDC). Body length 2.3 mm. Body largely pale reddish, elytra with pair of vague brownish, longitudinal submedian spots at about midlength; legs and antennae pale reddish.

Eyes comparatively large and convex; interfacetal setae indistinct; gular rugules small and scattered. Antennae long and slender, all antennomeres elongate and simple; middle antennomeres about 2.4 times as long as wide; antennomere X about 2.3 times, XI 3.0 times as long as wide.

Pronotum 1.6 times as long as wide, globose, its lateral margins unevenly rounded to angular at widest place in dorsal view; basal constriction distinct, sharply delimited. Pronotal horn moderately long and wide, robust and subtriangular, its posterior angles distinct; horn margins completely fringed, shallowly (near horn base) to distinctly crenulate, with 6–7 small lobules on each side, apical lobule widely rounded (Fig. 31); horn crest conspicuous, moderately wide, its margins formed by touching/fused longitudinal rugules; submarginal rugules developed on apical half, elongate and fused; 9 median rugules scattered and more or less widely separated. Pronotal disc minutely and densely punctate; setation short and appressed; paired antebasal tactile setae conspicuous, arising near minute tubercles, additional tactile setae lacking; pronotal horn dorsally with some longer subdecumbent setae.

Elytra 1.6 times as long as wide; humeri distinct; omoplates and postbasal impression lacking; elytral apices unevenly rounded. Surface nearly matt, densely punctate; punctuation double, large basal punctures comparatively shallow and narrowly separated; setation similar to that on pronotum, short and appressed, setae evenly scattered; erect tactile setae lacking.

Legs long and slender; both meso- and metatibiae with some short, coarse subdecumbent setae (besides appressed setae), scattered on outer margin, and with sparse apical fringe of coarse longer setae.

Abdominal sternum VII distinctly impressed and moderately emarginate apically; tergum VIII with moderately flanged and unevenly rounded posterior margin, ventral lamina present and fully developed (Figs 35, 36). Aedeagus as in Fig. 16; median lobe wide and abruptly narrowed in dorsal view, with apical third curved in lateral view, its apical narrowed portion robust, with slightly curved apex; parameres distinctly angled laterally.



**Female.** Identical to male in most external characters; elytral apices and sternum VII simple; tergum VII rounded posteriorly, ventral lamina narrow, evenly developed.

**Variation.** Body length (♂♀) 2.1–2.7 mm; body pale reddish to brownish, elytra with darker markings or unicolorous. The sample from El Geneina includes both specimens with a short and wide triangular horn that has prominent posterior angles, and specimens with a more elongate, subtriangular horn; 6–11 median rugules (always scattered), varying in size; horn margins more or less distinctly crenulate.

**Distribution.** Chad, Gambia, Senegal, and Sudan.

**Remarks.** Pic (1895) described *Mecynotarsus subparallelus* from an unstated number of specimens collected by Ernest Laglaize at the locality Sedhiou in Senegal in 1890. The single syntype discovered in the MNHN is a female, however the male characters of *M. subparallelus* are known from examination of numerous additional specimens, partly correctly identified by P. Bonadona (MNHN) and J. C. van Hille (MZLU). The material from MZLU (21 spec. from Gambia and Senegal, all labelled: “*Mecynotarsus subparallelus* det. J. C. v. Hille 1983”) contained three species: *M. subparallelus*, *M. subangulicollis* and *M. apicalis*. Nevertheless, the figures produced for the redescription of *M. subparallelus* by Hille (1989) are mostly correct. The two relevant specimens (♂♀, Gambia, MZLU), were completely dissected and mounted on microscope slides by van Hille, and were examined with the following results: figures 4–6 belong to the male of *M. subparallelus* from Tanji River (3 km SW of Brufut); figure 7 belongs to the female of *M. apicalis* (5 km SSW Gunjur).

Bonadona (1962) described *Mecynotarsus franzi* from the specimens collected by Herbert Franz at Deressia in Chad, and compared his species with *M. apicalis*. It is herein synonymized with *M. subparallelus*, as I failed to find any differences between these two species. Bonadona later realized his mistake, judging from the last label of the paratype in his collection (MNHN), and additional specimens from Deressia (NHMW) that bear identical locality label as the types of *M. franzi* and are identified as *M. subparallelus* by Bonadona.

***Mecynotarsus truquii*** Marseul, 1879  
(Figs 17, 18, 34)

*Mecynotarsus Truquii* Marseul, 1879: 41.

*Mecynotarsus truquii*: Heberdey (1942): 461, 477, 485, figs 2, 9 (key, redescription, catalogue); Pic (1950): 150 (rec. Niger); Chandler et al. (2008): 451 (catalogue, distribution); Telnov (2008): 289 (rec. United Arab Emirates). *Mecynotarsus truquii* [misspelling]: Kejval (2017): 300, 319, figs 4, 5, 9 (key, male characters, rec. Egypt, Ethiopia, Iran, Israel, Jordan, Mauritania, Morocco, Oman, Saudi Arabia, Turkey, United Arab Emirates, Yemen).

*Mecynotarsus longipennis* Pic, 1949: 14, **syn. nov.**

*Mecynotarsus punctatus* Pic, 1952a: 490, **syn. nov.**

**Type locality.** *M. truquii* – see Remarks; *M. longipennis* – Sudan; *M. punctatus* – Mauritania, Hamdoun.

**Type material.** *M. truquii* – Syntypes, not examined (MNHN). *M. longipennis* – Lectotype ♀ (herewith designated, Fig. 49), “Soudan [h] // *Mecynotarsus longipennis* n sp. [h]” (MNHN). *M. punctatus* – Holotype ♀, “Hamdoun Mauritanie 24-II-51 [h] // IFAN 1951 DEKEYSER ET A VILLIERS [p+h] // TYPE [p; red label] // *Mecynotarsus punctatus* nsp [h]” (MNHN).

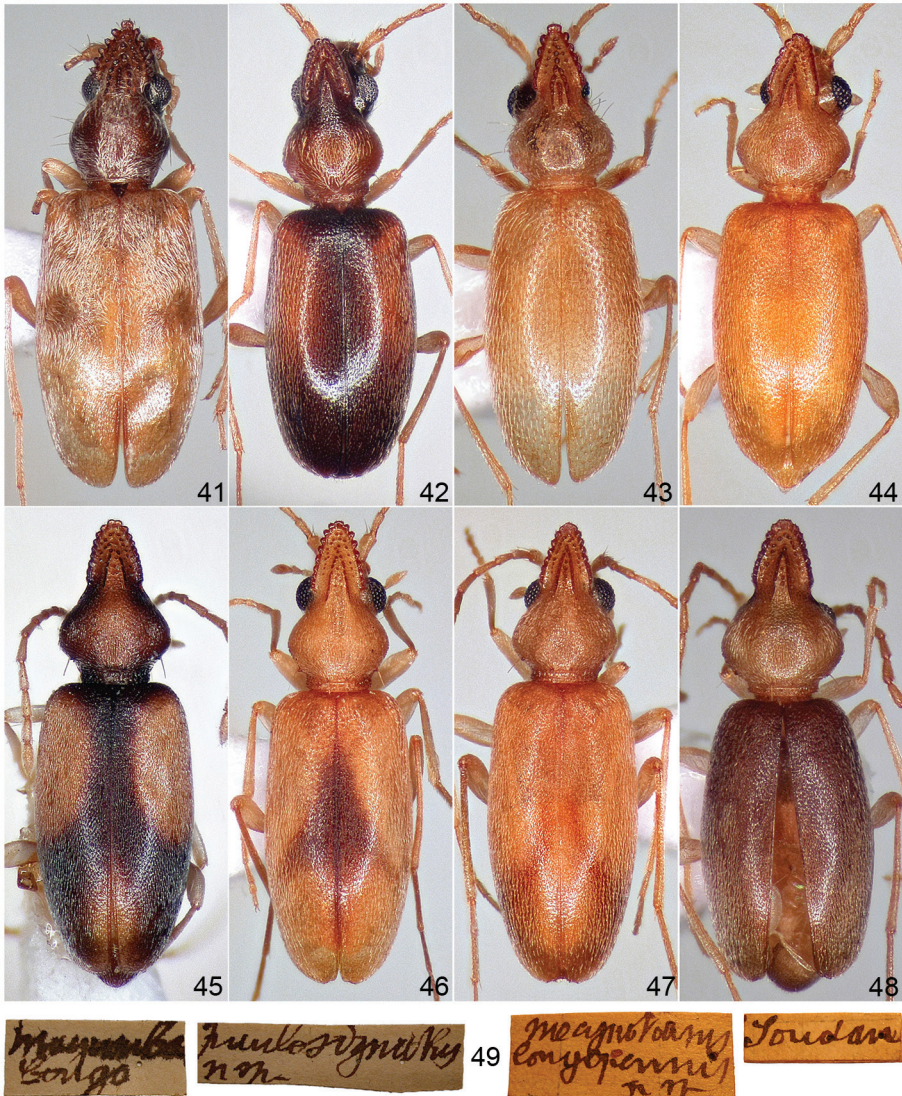
**Additional material.** **Chad:** 2 ♂♂, Zouarké, Tibesti, Lisière SW, 23.x.1956, P. de Miré leg. (coll. Bonadona MNHN, DCDC); 1 ♂, same locality, 9.xi.1957, no collector (MNHN);

1 ♂, Enneri Totous, Tibesti Mts, SW foothills, 800 m, 8.i.1959, P. Bruneau de Miré leg. (coll. Bonadona, MNHN); 1 ♂, Enneri Téroouane, Tibesti Mts, Emi Koussi volcano, 1000 m, 16.xi.1958, P. Bruneau de Miré leg. (DCDC); 1 ♂ 1 ♀, Yudurugarao, Tibesti Mts, Emi Koussi volcano, 1450 m, 16.viii.1959, P. Bruneau de Miré leg. (coll. Bonadona MNHN, DCDC); 1 ♀, Zumeri Wanefou, Tibesti Mts, 1200 m, 18.–19.x.1958, P. Bruneau de Miré leg. (MNHN). **Djibouti:** 1 ♀, “Djibouti” [no locality], 4.viii.1901, A. Bonhoure leg. (MNHN). **Ethiopia:** 1 ♂, Harare prov., Bisidimo, 1500 m, xii.1984, V. Meyer leg. (ZSMC). **Israel:** 1 ♂, Capernaum, Sea of Galilee, near mouth of Jordan River, 32°53'49"N 35°36'43"E, ca 220 m, 19.iii.2011, Hetzel leg. (ZMHB). **Oman:** 1 ♂ 1 ♀, Al Mughsayl, 15 m, 30.ix.–1.x.2013, S. Jakl leg. (ADBC); 1 ♂, same locality, 16°53'00"N 53°47'42"E, 9.iii.2019, K. Orszulik leg. (KOOOC); 1 ♀, Dhalqut, Wadi Sayq, 16°44'55"N 57°24'14"E, 16.iii.2019, J. Stanovský leg. (JSOC); 1 ♀, same data, except: K. Orszulik leg. (KOOOC); 11 ♂♂ 2 ♀♀, Rakhut, 16°44'54"N 53°13'26"E, 9.iii.2019, K. Orszulik leg. (KOOOC, ZKDC); 4 ♂♂ 8 ♀♀, Sumhuren, 17°02'24"N 54°25'53"E, 10.iii.2019, J. Stanovský leg. (JSOC, ZKDC); 10 ♂♂ 11 ♀♀, Taqah, 17°02'30"N 54°20'00"E, 5.ix.2018, K. Orszulik leg. (KOOOC, ZKDC); 1 ♀, Wadi Bani Auf, 23°12'43"N 57°24'14"E, 16.iii.2019, J. Stanovský leg. (JSOC); 1 ♀, Wadi Bani Khalid, 22°00'31"N 59°18'21"E, 6.iii.2019, K. Orszulik leg. (ZKDC). **Sudan:** 1 ♂ 1 ♀, Er Roseires, Blue Nile env., no date and collector (MNHN); 1 ♂ 1 ♀, Khartoum, *Acacia nilotica* forest, at light, 23.vii.1799, H. J. Bremer leg. (ZSMC). **United Arab Emirates:** 2 ♀♀, Al-Ajban, 24°36'N 55°01'E, 60 m, light trap, 12.–19.ix.2006, A. van Harten leg. (BMNH); 1 ♀, Bithnah, 25°11'N 56°14'E, 160 m, light trap, 23.iii.–1.iv.2006, A. van Harten leg. (BMNH); 1 ♀, Hatta, 24°49'N 56°07'E, 315 m, light trap, 26.ii.–10.v.2006, A. van Harten leg. (BMNH); 1 ♂, Khor al-Khwair, 25°58'N 56°03'E, light trap, 16.vii.–5.viii.2009, A. van Harten leg. (BMNH); 4 ♀♀, Wadi Bih (dam), 25°48'N 56°04'E, 100 m, light trap, 8.–22.ii.2007, A. van Harten leg. (BMNH); 1 ♂ 1 ♀, Wadi Madaq, 25°19'N 56°08'E, 410 m, light trap, 26.v.–6.vi.2006, A. van Harten leg. (BMNH); 2 ♂♂ 2 ♀♀, Wadi Wurayah farm, 25°24'N 56°17'E, 165 m, light trap, 16.vii.–12.viii.2009, A. van Harten leg. (BMNH).

**Diagnosis.** Body elongate, rather glossy; pronotal disc evenly globose in dorsal view; pronotal horn slender, with completely fringed and moderately crenulate margins, horn crest well-developed, short and narrow, antero-medially with row of several coarse contiguous rugules, median rugules arranged in median line and fused, submarginal rugules mostly strongly reduced to lacking; pronotum with additional long tactile setae antero-laterally; elytra sparsely and rather coarsely punctate, punctures simple; elytral setation comparatively long, sparse and more raised, with scattered, suberect tactile setae; apical setose fringe of mesotibiae with three thick, densely spaced setae medially near terminal spur (Fig. 18). Male sternum VII nearly simple, at most slightly impressed postero-medially, evenly rounded posteriorly; male tergum VIII simply rounded posteriorly, its ventral lamina reduced to paired projections (Fig. 34); female sternum VII simple. Aedeagus as in Fig. 17; median lobe with apical half strongly curved and concave ventrally, with rounded apex in dorsal view.

**Variation.** Body length (♂♀) 2.0–2.5 mm; elytra pale reddish, unicolorous, or with vague darker spot medially, or entirely dark brown; elytra 1.7–1.9 times as long as wide, with more or less distinct humeri; pronotal horn varying in shape/proportions, it may be very narrow, with nearly obsolete posterior angles, or distinctly triangular; 0–8 submarginal rugules, mostly subapical and difficult to distinguish from rugules forming apical narrowed extension of crest.

**Distribution.** Chad, Cyprus, Djibouti, Egypt, Eritrea, Ethiopia, Israel, Jordan, Lebanon, Mauritania, Morocco, Niger, Oman, Saudi Arabia, Sudan, Syria, Turkey, United Arab Emirates, and Yemen.



Figs 41–49. 41–47. Habitus: 41 – *Mecynotarsus antipoda* sp. nov.; 42 – *M. caroli* Pic, 1902, Tsanerena; 43 – *M. coronatus* Chobaut, 1898, Algeria, Timesdelessine (ZKDC); 44 – *M. coachei* sp. nov, paratype, Save; 45 – *M. jocquei* Bonadona, 1984, paratype; 46 – *M. okavango* sp. nov., holotype; 47 – *M. subangulicolis* Pic, 1914, Nguni; 48 – same species, Entebbe. 49 – lectotypes labels: *M. longipennis* Pic, 1949 (right), *M. paulosignatus* Pic, 1951 (left).  
 Obr. 41–49. 41–47. Habitus: 41 – *Mecynotarsus antipoda* sp. nov.; 42 – *M. caroli* Pic, 1902, Tsanerena; 43 – *M. coronatus* Chobaut, 1898, Alžírsko, Timesdelessine (ZKDC); 44 – *M. coachei* sp. nov, paratyp, Save; 45 – *M. jocquei* Bonadona, 1984, paratyp; 46 – *M. okavango* sp. nov.; 47 – *M. subangulicolis* Pic, 1914, Nguni; 48 – stejný druh, Entebbe. 49. Štítky lektotypů: *M. longipennis* Pic, 1949 (vpravo), *M. paulosignatus* Pic, 1951 (vlevo).

**Remarks.** Marseul (1879) described *Mecynotarsus truquii* from an unstated number of specimens originating from Syria and Cyprus. It is a rather distinctive and widespread species. Its identity was discussed in detail by Heberdey (1942), and the male characters were first figured by Kejval (2017). The difference in shape of the median lobe (see Fig. 4 in Kejval 2017) is caused by being depressed by the coverslip on the slide.

Pic (1949) described *Mecynotarsus longipennis* from an unstated number of specimens collected in Sudan. The single female syntype found in the MNHN represents, in my opinion, an apterous, more elongate form of *M. truquii*, which is confirmed by examination of male characters from additional specimens from Chad that had been identified as *M. longipennis* by P. Bonadona. Consequently, *M. longipennis* is synonymized with *M. truquii*.

Pic (1952a) described *Mecynotarsus punctatus* from a single specimen (“type unique”) originating from Mauritania. The female holotype shares all important external characters of *M. truquii* (its elytral setation is not in perfect condition, but some longer, suberect setae are distinct), and *M. punctatus* is therefore placed in synonymy with this *M. truquii*.

***Mecynotarsus viberti*** (Bonadona, 1964)  
(Figs 20, 32)

*Pseudonotoxus viberti* Bonadona, 1964: 226, figs 1, 2, 4, 5.

*Pseudonotoxus viberti*: Bonadona (1965): 862, figs 2, 6–10 (repeated description); Chandler et al. (2008): 454 (catalogue, distribution).

*Mecynotarsus viberti*: Kejval (2017): 300, 309, figs 2, 7 (new comb., key, male characters).

**Type locality.** Algeria, Ammès.

**Type material.** Holotype and paratypes, see Remarks (Coll. Bonadona, MNHN).

**Diagnosis.** Body robust and convex, moderately glossy; pronotal disc evenly globose in dorsal view; pronotal horn wide, triangular, with completely fringed and moderately crenulate margins, horn crest at most slightly indicated, median rugules numerous and scattered, submarginal rugules widely separated (Fig. 32); pronotum with some long, raised setae antero-laterally; elytra simply and densely punctate; elytral setation short and appressed, tactile setae lacking. Male sternum VII nearly simple, at most slightly impressed and emarginate postero-medially; male tergum VIII with paired projections posteriorly, its ventral lamina fully developed (Fig. 20); female sternum VII simple. Median lobe of aedeagus nearly evenly narrowing on apical third in dorsal view, its apex simple, somewhat flattened, narrowly rounded, parameres simple, only moderately arcuate on apical half in dorsal view, and shortly setose, see Fig. 2 by Kejval (2017).

**Variation.** Body length ( $\delta$ / $\text{♀}$ ) 2.6–2.8 mm.

**Distribution.** Algeria.

**Remarks.** Bonadona (1964) described *Pseudonotoxus viberti* from a series of specimens (number unstated) originating from three localities in Algeria (Ammès, Béni-Abbès, El Hagneuf), and designated a male from Ammès as the holotype. Their label data are quoted by Kejval (2017), who also figured its male characters and proposed placement in *Mecynotarsus*.

*Mecynotarsus viberti* appears to be endemic to the Sahara Desert, and is undoubtedly very close to *M. karakumensis* Semenov, 1890 from Central Asia and *M. salam* Kejval, 2017 from the Arabian Peninsula.

## World Checklist of *Mecynotarsus* LaFerté-Sénéctère, 1849

<i>M. albellus</i> Pascoe, 1866	Australia
<i>M. amabilis</i> Lea, 1895	Australia
<i>M. antipoda</i> sp. nov.	South Africa
<i>M. apicalis</i> Pic, 1939	Ethiopia, Gambia, Kenya, Senegal
<i>M. apicipennis</i> Lea, 1895	Australia
<i>M. armifer</i> Kejval, 2013	Australia
<i>M. auceps</i> Kejval, 2013	Australia
<i>M. auripilosus</i> Kejval, 2013	Australia
<i>M. baeri</i> Pic, 1903	Philippines, Taiwan (Lanyu Island)
<i>M. bicinctulus</i> Marseul, 1879	Afghanistan, Iran, Iraq, Pakistan, Syria, Turkey
<i>M. bicornis</i> Kejval, 2013	Australia
<i>M. bidens</i> Kejval, 2013	Australia
<i>M. bidentatus</i> Kejval, 2013	Australia
<i>M. bipustulatus</i> Kreckich-Strassoldo, 1928	India, Nepal
<i>M. bison</i> (A. G. Olivier, 1811)	Algeria, Arab Emirates, Canary Islands, Chad, Cyprus, Egypt, Eritrea, Greece (Crete and Lesbos Islands), Iran, Iraq, Israel, Lebanon, Libya, Mauritania, Morocco, Niger, Oman, Pakistan, Saudi Arabia, Sudan, Tunisia, Turkey, Western Sahara, Yemen
= <i>M. algericus</i> Desbrochers des Loges, 1881	
= <i>M. beccarii</i> Pic, 1894	
= <i>M. bimaculatus</i> Desbrochers des Loges, 1898	
= <i>M. bordonii</i> Uhmman, 2004	
= <i>M. cornutus</i> Pic, 1896	
= <i>M. ferrantei</i> Pic, 1910	
= <i>M. latior</i> Pic, 1897	
= <i>M. macularis</i> Baudi di Selve, 1877	
= <i>M. mellyi</i> Marseul, 1878	
= <i>M. osiris</i> Pic, 1893	
= <i>M. sabulosus</i> Pic, 1893	
= <i>M. semicinctus</i> Wollaston, 1865	
= <i>M. semicinctus</i> var. <i>basalis</i> Pic, 1950, <b>syn. nov.</b>	
<i>M. bullatus</i> Kejval, 2013	Australia
<i>M. candidus</i> LeConte, 1875	U.S.A. (Virginia, New Jersey, Georgia, New Mexico), Mexico (Chihuahua)
= <i>M. flavicans</i> Casey, 1895	
<i>M. canthariphilus</i> Kejval, 2013	Australia
<i>M. caroli</i> Pic, 1902	Madagascar
<i>M. casperi</i> Pic, 1913	Democratic Republic of the Congo, Namibia, Zambia
= <i>M. jebali</i> Kejval, 2017, <b>syn. nov.</b>	
<i>M. cederholmi</i> Bonadonna, 1986	Sri Lanka
<i>M. celebensis</i> Kejval, 2011	Indonesia (Sulawesi, Savu), Philippines
<i>M. centralis</i> Kejval, 2013	Australia
<i>M. chandleri</i> Kejval, 2011	Vietnam
<i>M. cochei</i> sp. nov.	Benin, Ivory Coast
<i>M. concolor</i> King, 1869	Australia
= <i>Notoxus decemdentatus</i> Pic, 1899	
<i>M. coronatus</i> Chobaut, 1898	Algeria, Mauritania, Western Sahara
= <i>M. picheyrei</i> Peyerimhoff, 1943	
<i>M. dearmatus</i> Kejval, 2013	Australia
<i>M. delicatulus</i> Horn, 1868	U.S.A. (Utah, Nevada, California, Arizona), Mexico (Sonora)

<i>M. doberai</i> Telnov, 2016	Indonesia (West Papua)
<i>M. dorsiger</i> Fairmaire, 1899	Madagascar
<i>M. dorsovarius</i> Fairmaire, 1896	India, Sri Lanka
= <i>M. flinti</i> Bonadona, 1986	
<i>M. edwinus</i> Telnov, 2000	Indonesia (Papua), Papua New Guinea
<i>M. excavatus</i> Kejval, 2013	New Caledonia
<i>M. exophthalmus</i> Kejval, 2013	Australia
<i>M. fallax</i> Kejval, 2013	Australia
<i>M. fasciatus</i> Motschulsky, 1863	Afghanistan, India, Myanmar, Pakistan, Sri Lanka, Thailand, Vietnam
= <i>M. nigrobasalis</i> Pic, 1942	
= <i>M. notatus</i> Pic 1903	
= <i>M. obliquemaculatus</i> Marseul, 188	
<i>M. faustii</i> Seidlitz, 1891	Albania, Bulgaria, France (Corse), Georgia, Greece, Italy, Kyrgyzstan, Montenegro, Romania, Russia (Southern European Territory), Turkey, Ukraine, Uzbekistan, "Caucasus"
<i>M. festivus</i> Kejval, 2013	Australia
<i>M. flavipes</i> Pic, 1913	Taiwan
<i>M. forticornis</i> Kejval, 2011	Japan
= <i>M. antennalis</i> Hashimoto & Sakai, 2011	
<i>M. fragilis</i> LaFerté-Sénéctère, 1849	China (Yunnan), Malaysia, Myanmar, Laos, Thailand
<i>M. francoisi</i> Pic, 1902	Vanuatu, Fiji
<i>M. grandior</i> Kejval, 2013	Australia
<i>M. granulatus</i> Kejval, 2013	Australia
<i>M. hirtipennis</i> Kejval, 2013	Australia
<i>M. horni</i> Pic, 1901	India, Sri Lanka
= <i>M. laticornis</i> Pic, 1944	
<i>M. hortensis</i> Lea, 1922	Australia
= <i>M. lateroalbus</i> Lea, 1922	
<i>M. humeralis</i> Pic, 1903	Philippines
<i>M. imitator</i> Kejval, 2013	Australia
<i>M. insignatus</i> Pic, 1900	Democratic Republic of the Congo, Republic of the Congo
<i>M. insularis</i> Kejval, 2011	Philippines, Indonesia (Sulawesi)
<i>M. iuvenis</i> Kejval, 2013	Australia
<i>M. jocquei</i> Bonadona, 1984	Burundi, Democratic Republic of the Congo, Kenya, Malawi, Mozambique
<i>M. karakumensis</i> Semenov, 1890	Turkmenistan, Uzbekistan
= <i>M. ahngeri</i> Semenov, 1900	
<i>M. kingii</i> MacLeay, 1872	Australia
<i>M. kreusleri</i> King, 1869	Australia
<i>M. lacustris</i> van Hille, 1971	Malawi, Mozambique, South Africa, Tanzania, Zambia, Zimbabwe
<i>M. lafertei</i> Kejval, 2011	Thailand
<i>M. leai</i> Pic, 1942	Australia
= <i>M. maculatus</i> Lea, 1922 [HN]	
<i>M. loriae</i> Pic, 1900	Indonesia (Papua), Papua New Guinea
<i>M. magelae</i> Kejval, 2013	Australia
<i>M. malabarensis</i> Kejval, 2011	India, Sri Lanka
<i>M. maculatus</i> Pic, 1916	Madagascar

<i>M. mastersii</i> MacLeay, 1872	Australia
<i>M. minimus</i> Marseul, 1876	Japan, China, North Korea, Taiwan, Russia (Far East)
= <i>M. minimus laticornis</i> Nomura, 1962	
<i>M. mollis</i> Kejval, 2013	Australia
<i>M. nanus</i> LaFerté-Sénéctère, 1849	Myanmar, Thailand, Vietnam, Laos, Malaysia
<i>M. nathani</i> Pic, 1943	India, Myanmar
<i>M. nigronotatus</i> Pic, 1914	Angola, Burundi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe
= <i>M. sellatus</i> Brancsik, 1914, <b>syn. nov.</b>	
= <i>M. sellatus</i> var. <i>evanescens</i> Brancsik, 1914, <b>syn. nov.</b>	
<i>M. nigrozonatus</i> LaFerté-Sénéctère, 1849	Myanmar
<i>M. niponicus</i> Lewis, 1895	Japan
<i>M. nitidus</i> Pic, 1928	Vietnam
<i>M. nobilis</i> Kejval, 2013	Australia
<i>M. okavango</i> sp. nov.	Namibia, South Africa, Zambia
<i>M. obesus</i> Kejval, 2013	Australia
<i>M. ornatus</i> Kejval, 2011	Cambodia, Laos, Malaysia, Thailand
<i>M. pallidipes</i> (Pic, 1910)	Fiji
<i>M. parvulus</i> Kejval, 2013	Australia
<i>M. phanophilus</i> Lea, 1922	Australia
<i>M. piger</i> Motschulsky, 1863	Indonesia (Sumatra, Sumbawa, Lombok)
= <i>M. bisetiger</i> Marseul, 1882	
<i>M. pilbarensis</i> Kejval, 2013	Australia
<i>M. pilicornis</i> Kejval, 2013	Australia
<i>M. pulchricollis</i> Kejval, 2011	India
<i>M. pumilio</i> Kejval, 2011	Vietnam, Malaysia
<i>M. pusillus</i> Kejval, 2013	Australia
<i>M. quadrimaculatus</i> Pic, 1913	China, Taiwan
= <i>M. sericellus</i> Krekich-Strassoldo, 1931	
<i>M. regalis</i> Kejval, 2013	Australia
<i>M. salam</i> Kejval, 2017	Saudi Arabia
<i>M. serricornis</i> (Panzer, 1796)	Albania, Austria, Bosnia Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Spain, Russia (Southern European Territory), Switzerland, Serbia and Monte Negro, "Caucasus"
= <i>M. immaculatus</i> (Latreille, 1804)	
= <i>M. nigripennis</i> (Latreille, 1804)	
= <i>M. notatipennis</i> Pic, 1915	
= <i>M. rhinoceros</i> (Fabricius, 1798)	
<i>M. setulosus</i> Kejval, 2013	Australia
<i>M. solomon</i> Kejval, 2017	Solomon Islands
<i>M. speciosus</i> Kejval, 2013	Australia
<i>M. subangulicollis</i> Pic, 1914	Benin, Cameroon, Chad, Democratic Republic of the Congo, Ethiopia, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Mali, Mauritania, Nigeria, Senegal, Sudan, Tanzania, Uganda
= <i>M. adumbratus</i> Krekich-Strassoldo, 1923, <b>syn. nov.</b>	
= <i>M. bredoi</i> Pic, 1952, <b>syn. nov.</b>	
= <i>M. simplicicornis</i> Pic, 1914, <b>syn. nov.</b>	
= <i>M. paulosignatus</i> Pic, 1951, <b>syn. nov.</b>	
= <i>M. paulosignatus</i> var. <i>innotatus</i> Pic, 1951, <b>syn. nov.</b>	
<i>M. subelongatus</i> Pic, 1914	Indonesia (Sumatra)
<i>M. subparallelus</i> Pic, 1895	Chad, Gambia, Senegal, Sudan
= <i>M. franzi</i> Bonadonna, 1962, <b>syn. nov.</b>	

<b><i>M. tenuipes</i></b> Champion, 1891	China, Japan, North Korea, Russia (Far East), South Korea, Vietnam
= <i>M. obscurior</i> Pic, 1943	
= <i>M. latenotatus</i> Pic, 1928	
= <i>M. pallidior</i> Pic, 1943	
= <i>M. sinensis</i> Heberdey, 1942	
<b><i>M. trifasciatus</i></b> Fairmaire, 1894	India, Sri Lanka
= <i>M. trinitatus</i> Pic, 1943	
<b><i>M. truquii</i></b> Marseul, 1879	Chad, Cyprus, Djibouti, Egypt, Eritrea, Ethiopia, Israel, Jordan, Lebanon, Mauritania, Morocco, Oman, Saudi Arabia, Sudan, Syria, Turkey, United Arab Emirates, Yemen
= <i>M. alatus</i> Koch, 1935	
= <i>M. lysholmi</i> Pic, 1899	
= <i>M. longipennis</i> Pic, 1949, <b>syn. nov.</b>	
= <i>M. punctatus</i> Pic, 1952, <b>syn. nov.</b>	
<b><i>M. vagepictus</i></b> Fairmaire, 1893	China (Yunnan), India (north-east), Laos, Myanmar, Nepal, Vietnam
= <i>M. abductus</i> Nardi, 2008	
= <i>M. bimaculatus</i> Pic, 1942 [HN]	
<b><i>M. vallicola</i></b> Kejval, 2011	India, Nepal
<b><i>M. velox</i></b> Kejval, 2011	India, Myanmar
<b><i>M. viberti</i></b> (Bonadona, 1964)	Algeria
<b><i>M. weiri</i></b> Kejval, 2013	Australia
<b><i>M. ziczac</i></b> King, 1869	Australia

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## SOUHRN

*Mecynotarsus* LaFerté-Sénéctère, 1849 je středně početný rod „rohatých“ anthicidů z podčeledi Notoxinae Stephens, 1829, zahrnující 105 druhů úzce vázaných na písčité stanoviště v Palearktické, Nearktické, Afrotropické, Orientální a Australské oblasti (Kejval 2011, 2013, 2017, zde připojený seznam). Cílem této práce je revize fauny Afriky a Madagaskaru. Jde o poslední příspěvek v sérii završující revizi všech známých druhů tohoto rodu. Proto také obsahuje aktualizovaný světový seznam druhů.

Celkem je známo 14 výhradně afrotropických druhů *Mecynotarsus* (další čtyři druhy ze severní Afriky jsou zároveň palearktické), což je poměrně malý počet. Například mnohem menší území indického subkontinentu obývá osm druhů. Afrotropické druhy jsou navíc poměrně uniformní (s výjimkou nápadného *M. antipoda* sp. nov. ze Západního Kapska) a vyznačují se značnou vnitrodruhovou variabilitou, zejména ve zbarvení, tvaru těla a detailní morfologii rohu pronota (popsána výše pod každým druhem). Jejich určování je proto poměrně obtížné, zejména v případě jednotlivých samic.

Pokud jde o zmíněnou variabilitu vnějších znaků, tak například zbarvení těla je pro determinační účely téměř nepoužitelné. Je vlastně v hrubých rysech stejné pro většinu druhů

a jeho silná variabilita může souviset (alespoň částečně) s kamufláží pro konkrétní barvu písku v místě výskytu, podobně jako uvádí Chandler (2001) pro příbuzný psamofilní rod, *Squamantoxus* Chandler, 2001. Zdá se například, že jedinci pocházející z pobřeží s bílým písekem jsou typicky světle jednobarevní, zatímco u vnitrozemských populací je častá nápadná tmavá kresba na krovkách. Variabilní jsou i některé morfologické znaky použité v určovacím klíči, zejména tvar a detailní struktura výběžku pronota. Tento „roh“ je navíc používán při zahrabávání do písku, a tak nemusí být jeho povrchová struktura dobře zachovalá. Z těchto důvodů by měla být identita určených vzorků vždy potvrzena studiem samčích znaků. U afrických druhů je to zejména přítomnost/struktura spodní lamely samčího terga VIII, tvar a ochlupení paramer a tvar vlastního penisu (mediální lobus) aedeagu. Aedeagy těchto brouků jsou však velmi malé (délka asi 0,3 mm), slabě sklerotizované, a tak jsou příslušné znaky zřetelné převážně jen pod mikroskopem. Navíc přesný tvar všech struktur velmi závisí na úhlu pohledu a může být také pod krycím sklem preparátu deformován. Při použití klíče je dobré všechny tyto okolnosti vzít v úvahu.

Africké druhy *Mecynotarsus* jsou celkově dosti jednotvárné. Jde vlastně o jednu skupinu velmi blízce příbuzných druhů, až na několik následujících výjimek:

*Mecynotarsus antipoda* sp. nov. z jihoafrické provincie Západní Kapsko je lehce odlišitelný, mimo jiné, zvláště rozvířeným ochlupením krovek (obr. 41) a mohl by být blízký australským druhům ze skupiny *M. ziczac* (Kejval 2017). Je však známá pouze jedna samice a k vyřešení této otázky je nutné studium samčích znaků.

*Mecynotarsus coachei* sp. nov., *M. coronatus* Chobaut, 1898 a *M. truquii* Marseul, 1879 jsou blízké druhy, který je možná přiřadit k orientální/palearktické skupině *M. dorsovarius* (Kejval 2011). Většina zástupců této druhové skupiny má podobný tvar a uspořádání sít na vrcholu středních holení jako na obr. 18 a *M. fragilis* LaFerté-Sénéctère, 1849 také podobnou strukturu lamely samčího terga VIII, viz obr. 38 a 41 v práci Kejval (2011).

*Mecynotarsus viberti* (Bonadona, 1964) z pouště Sahara je dosti izolovaný druh, který tvoří malou skupinu s dalšími dvěma bezkřídlymi druhy, *M. salam* Kejval, 2017 z Arábie a *M. karukumensis* Semenov, 1890 ze střední Ázie. Všechny tři mají například zvláštní párové výběžky na zadním okraji terga VIII u samců (obr. 20).