

On the genera *Rinamba* Cameron, 1912 and *Hemidoryctes* Belokobylskij, 1993 (Hymenoptera: Braconidae, Doryctinae)

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The taxonomic position of the Afro-Neotropical genus *Rinamba* is discussed and this genus is transferred to the subfamily Doryctinae. New synonyms are suggested: *Rinamba* Cameron 1912 = *Pseudorhoptrocentrus* Granger, 1949, syn. n. = *Rhoptrocentroides* Marsh, 1993; *Rinamba opacicollis* Cameron, 1912 = *Neodoryctes niger* Szépligeti, 1914, syn. n.; *Hemidoryctes* Belokobylskij, 1993 (March) = *Atopodoryctes* Marsh, 1993 (December), syn. n.; *Heterospilus carbonarius* Ashmead, 1894 = *Hemidoryctes soror* Belokobylskij, 1993, syn. n. A key to species of the genus *Rinamba* is provided.

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The following abbreviations are used: POL – postocellar line; OOL – ocular-ocellar line; Od – maximum diameter of lateral ocellus; MACT – Musée Royal de l’Afrique Centrale (Tervuren, Belgium); MNHN – Muséum National d’Histoire Naturelle (Paris, France); MNHUB – Museum für Naturkunde der Humboldt-Universität zu Berlin (Berlin, Germany).

Rinamba Cameron, 1912

Rinamba Cameron, 1912: 375 (type species – *Rinamba opacicollis* Cameron, 1912); Shenefelt, 1970: 202.

Pseudorhoptrocentrus Granger, 1949: 142, **syn. n.** [type species – *P. brunneus* Granger, 1949 (= *Rinamba opacicollis* Cameron, 1912)]; Fischer, 1982: 237; Belokobylskij, 1993: 91; Braet, 2001: 177.

Rhoptrocentroides Marsh, 1993: 31 (type species – *R. platyfurum* Marsh, 1993); Belokobylskij, 1995: 156 (as synonym of *Pseudorhoptrocentrus*); Braet & Achterberg, 2001: 135 (as synonym of *Pseudorhoptrocentrus*); Marsh, 2002: 186.

Description. Head subcubical. Ocelli arranged in almost equilateral triangle. Frons rather flat. Malar suture present. Hypoclypeal depression rather small and round. Head around eyes with distinct, narrow, crenulate depression. Occipital carina distinct, almost fused below with hypostomal carina upper base of mandibles. Maxillary palpi 6-segmented; labial palpi 4-segmented; palpi rather short. Scapus of antenna long, about 2.5 times as long as maximum width, with distinct emargination on apico-ventral side and lobe on apico-lateral side. First flagellar segment longer than second segment.

Mesosoma. Mesonotum smooth, highly and roundly raised above pronotum. Notauli deep, complete, crenulate. Scutellum without lateral carinae. Metanotal tooth short. Sternauli deep, sculptured. Prepectal carina distinct. Postpectal carina absent. Metapleural flange short, wide. Propodeum with marginate areas and very short lateral tubercles, without propodeal bridge.

Wings. Radial cell of fore wing slightly shortened. Second radial abscissa longer than first radiomedial vein. Both radiomedial veins present. Second radiomedial cell long. Recurrent vein distinctly antefurcal. Discoidal cell anteriorly petiolate. Nervulus postfurcal. Brachial cell open apico-posteriorly. Parallel vein not interstitial. Transverse anal veins absent. Hind wing with 3 hamuli. First abscissa of mediocubital vein distinctly shorter than second abscissa; submedial cell small. Recurrent vein present. Radial cell almost parallel-sided, without transverse vein.

Legs. Fore tibia with numerous distinct small spines arranged in wide stripe. Hind coxa without basoventral tubercle; basoventral corner present. Hind femur elongate-oval, thick. Inner hind spur weakly curved, about 0.25 times as long as hind basitarsus. Basitarsus of hind tarsus long, 0.7-0.8 times as long as second-fifth segments combined. Claws weakly curved.

Metasoma. First tergite not petiolate, wide, with distinct dorsope and deep laterope. Second tergite without furrows and areas, with separated laterotergites. Second suture distinct but rather shallow, almost straight. Tergites behind second one smooth. Ovipositor sheath almost as long as body.

Apical part of ovipositor with one dorsal tubercle distinctly removed from apex, sparsely serrate ventrally.

Distribution. Afrotropical and Neotropical Regions.

Discussion. The genus *Rinamba* Cameron has been described from the Belgian Congo as a rather enigmatic member of the subfamily Helconinae (Cameron, 1912). This genus was included in Helconinae till last time (Shenefelt, 1970). I had an opportunity to examine the holotype of *R. opacicollis* Cameron (type species of *Rinamba*) kept at the Museum of Central Africa in Tervuren (Belgium). Though the head of the holotype is missing and, therefore, information about hypoclypeal cavity (one of the main characters of the cyclostomate group) is absent, the genus undoubtedly belongs to Doryctinae, as testified by the wing venation, presence of spines on fore and middle tibiae, and structure of the apical part of ovipositor.

The comparison of the holotype of *R. opacicollis* Cameron with redescription of the lectotype of *Pseudorhoptrocentrus brunneus* Granger, 1949 from Madagascar (examined by me previously from MNHN, Paris) showed their conspecificity. As was underlined earlier (Belokobylskij, 1993), the type species of the genus *Pseudorhoptrocentrus* Granger, *P. brunneus*, is a junior synonym of the African *Neodoryctes niger* Szépligeti, 1914, which was transferred to *Pseudorhoptrocentrus*. The Neotropical *Rhoptrocentroides* Marsh, 1993 with the type species *R. platyfur* Marsh was synonymised with *Pseudorhoptrocentrus* Granger earlier (Belokobylskij, 1995; Braet, 2001). So, *Pseudorhoptrocentrus* and *Rhoptrocentroides* are junior synonyms of *Rinamba*.

Two species of the genus *Rinamba* are known from the Afrotropical and Neotropical Regions: *R. opacicollis* Cameron, 1912 and *R. platyfur* (Marsh, 1993), comb. n.

Key to species of the genus *Rinamba* Cameron, 1912

1. Malar space half as high as eye. Median lobe of mesoscutum with distinct, complete, sculptured median furrow. Sternauli running along almost entire length of lower part of mesopleura. First abscissa of medio-cubital vein of hind wing half as long as second abscissa. Palpi yellowish brown or light reddish brown. Body length 5.0-5.6 mm. – Congo, Nigeria, Sierra Leone, Madagascar, Mauritius, Reunion **R. opacicollis** Cameron
- Malar space 0.7 times as high as eye. Median lobe of mesoscutum without distinct median furrow. Sternauli running along anterior half of lower part of mesopleura. First abscissa of medio-cubital vein of hind wing 0.3 times as long as second abscissa. Palpi yellow. Body length 4.5-6.5 mm. – Brazil, Costa Rica, Trinidad **R. platyfur** (Marsh), comb. n.

Rinamba opacicollis Cameron, 1912 (Figs 1-11)

Rinamba opacicollis Cameron, 1912: 375; Shenefelt, 1970: 202.

Neodoryctes niger Szépligeti, 1914: 201, **syn. n.**; Shenefelt & Marsh, 1976: 1321.

Pseudorhoptrocentrus niger: Belokobylskij, 1993: 91.

Pseudorhoptrocentrus brunneus Granger, 1949: 142; Shenefelt & Marsh, 1976: 1330; Belokobylskij, 1993: 91 (as synonym of *N. niger*); Braet, 2001: 177.

Material examined. Holotype of *Rinamba opacicollis* Cameron: ♀, "Type" (red), "Musée du Congo, Dima, 22.IX.[19]08, A. Koller", "R. Dét M 180", "*Rinamba opacicollis* Cam. Type." (Cameron's handwriting), "♀ *Rinamba* Cam., 1912 *opacicollis* Cam. C. van Achterberg, 1980, Holotype" (red) (MACT). Holotype of *Neodoryctes niger* Szépligeti: ♀, "Westafrica, Uelleburg, VI.-VIII. [19]08, Tessmann S.G." (blue), "*Neodoryctes niger* Sz." (Szépligeti's handwriting) (ZMHUB). Lectotype of *Pseudorhoptrocentrus brunneus* Granger (designated by Belokobylskij, 1993): ♀, "Madagascar, Bekily, Reg. sud de l'île", "Museum Paris, I – [19]37, A. Seyrig" (blue), "Type", "*Pseudorhoptrocentrus brunneus* Granger, 1949, C. van Achterberg, 1980, Lectotype" (MNHN).

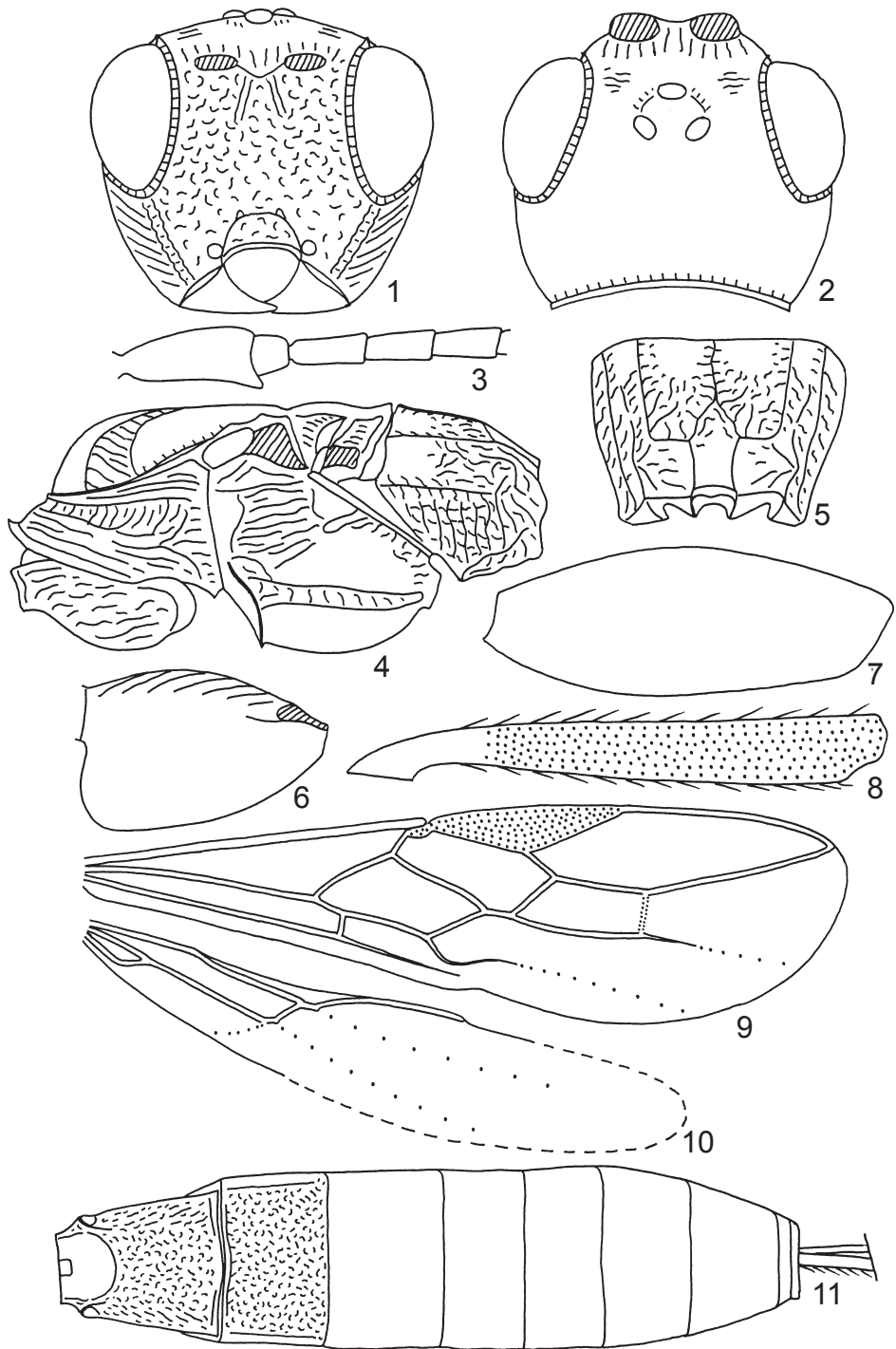
Description. Female. Body length 5.0-5.6 mm; fore wing length 3.0 mm.

Head. Width 1.2-1.3 times median length. Head behind eyes (dorsal view) roundly narrowed. Transverse diameter of eye 1.2-1.4 times the temple length (dorsal view). Ocelli medium-sized; POL 1.0-1.2 times Od, 0.4 times OOL. Eye 1.4 times as high as broad. Malar space height half height of eye, almost equal to basal width of mandible. Face width 0.9 times height of eye and 1.1 times height of face and clypeus combined. Width of hypoclypeal depression 0.6-0.7 times distance from edge of depression to eye.

Antennae filiform, 31-segmented. First flagellar segment 2.2-2.4 times as long as its apical width, 1.1 times as long as second segment. Penultimate segment about twice as long as wide.

Mesosoma 2.1-2.2 times as long as high. Mesoscutum 0.9 times as long as wide; its median lobe with distinct, complete, sculptured median furrow. Prescutellar depression with 5-7 carinae, smooth between carinae, about 0.3 times as long as scutellum. Scutellum weakly convex. Subalar depression shallow, wide, with coarse longitudinal striation. Sternauli deep, but shallow posteriorly, weakly curved, crenulate, running along almost entire length of lower part of mesopleura.

Wings. Fore wing about 3.5 times as long as maximum width. Radial vein arising almost from middle of pterostigma. Metacarpus 1.1-1.2 times as long as pterostigma. Second radial abscissa 2.5-2.8 times first abscissa, half the almost straight third abscissa, 1.6-2.0 times first radio-medial vein. Second radiomedial cell about 2.3 times as long as maximum width. Recurrent vein 2.2-3.0 times as long as second abscissa of me-



Figs 1-11. *Rinamba opacicollis* Cameron: 1, head, frontal view; 2, head, dorsal view; 3, five basal segments of antenna; 4, mesosoma, lateral view; 5, propodeum; 6, hind coxa; 7, hind femur; 8, hind tibia; 9, fore wing; 10, hind wing; 11, metasoma, dorsal view.

dial vein. Distance from nervulus to basal vein 1.2-1.5 times nervulus length. In hind wing, first abscissa of mediocubital vein half as long as second abscissa. First costal abscissa almost as long as second abscissa. Recurrent vein unsclerotized, straight, antefurcal.

Legs. Hind coxa about 1.5 times as long as wide. Hind femur 2.5-2.7 times as long as wide. Hind tarsus 1.2 times as long as hind tibia. Second tarsal segment about half as long as basitarsus, 1.5-1.8 times as long as fifth segment (without pretarsus).

Metasoma 1.7 times as long as mesosoma. First tergite more or less distinctly widened basally, then weakly and regularly widened toward apex. Maximum width of first tergite 1.8-2.0 times its minimum width; length 1.1 times its maximum width. Length of second tergite 0.6-0.7 times its basal width, slightly less than length of third tergite. Ovipositor sheath almost as long as body.

Sculpture and pubescence. Vertex smooth; temple smooth in upper half, with coarse longitudinal striation in lower half; face coarsely and densely reticulate-areolate; frons striate anteriorly and smooth posteriorly. Mesoscutum and scutellum smooth. Mesopleura smooth in lower half. Metapleura smooth anteriorly, coarsely rugose-punctulate in posterior 1/2-2/3. Propodeum rugulose-punctulate, almost smooth basally; areola about twice as long as wide; basal carina 1.4 times as long as fork of areola. Hind coxa transversely striate dorsally, smooth for most part. First tergite rugulose-reticulate, partly with fine striation. Second tergite entirely and densely rugulose-reticulate, sometimes with short carinae basally. Following tergites smooth. Hind tibia with short, sparse, semi-erect hairs dorsally; length of these hairs 0.3-0.35 times maximum width of hind tibia.

Colour. Body dark reddish brown or reddish brown, metasoma behind second tergite sometimes paler. Antennae reddish brown. Palpi yellowish brown or light reddish brown. Legs reddish brown, tarsi paler, all tibiae basally pale yellow. Wings faintly infusate. Pterostigma dark brown entirely.

Male unknown.

Distribution. Congo, Nigeria, Sierra Leone, Madagascar, Mauritius, Reunion.

Rinamba platyfemur (Marsh, 1993), comb. n.

Rhoptrocentroides platyfemur Marsh, 1993: 31; 2002: 186.

Pseudorhoptrocentrus platyfemur: Belokobylskij, 1995: 156; Braet, 2001: 178; Braet & Achterberg, 2001: 135.

Distribution. Costa Rica, Trinidad, Brazil.

Hemidoryctes Belokobylskij, 1993

Hemidoryctes Belokobylskij, 1993: 89 [type species – *H. soror* Belokobylskij, 1993 (= *Heterospilus carbonarius* Ashmead, 1894, **syn. n.**)].

Atopodoryctes Marsh, 1993: 8, **syn. n.** (type species – *Heterospilus carbonarius* Ashmead, 1894).

Hemidoryctes Belokobylskij, 1993 and *Atopodoryctes* Marsh, 1993 were described in the same year, but the description of *Hemidoryctes* was published in March (Belokobylskij, 1993) and that of *Atopodoryctes* in December (Marsh, 1993). The comparison of the type species of these genera showed that *Atopodoryctes* Marsh is a junior synonym of *Hemidoryctes* Belokobylskij.

Comptocentrus annulipes Cameron (Cameron, 1907) was included in the genus *Pseudorhoptrocentrus* (Fischer, 1982; Braet, 2001). But Marsh (1993), in the description of the genus *Atopodoryctes*, synonymized *C. annulipes* with the type species of the later genus, *Heterospilus carbonarius* Ashmead. The comparison of the paratypes of *H. soror* Belokobylskij with the holotype of *Comptocentrus annulipes* Cameron has shown their conspecificity.

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References

- Belokobylskij, S.A.** 1993. Notes on the taxonomy of the Doryctinae with description of a new genus and three new species from the Oriental Region (Hymenoptera: Braconidae). *Zoosyst. Rossica*, **1**, 1992: 89-96.
- Belokobylskij, S.A.** 1995. Main evolutionary transformations of morphological structures in the subfamilies Doryctinae and Exothecinae (Hymenoptera, Braconidae). *Entomol. Obozr.*, **74**(1): 153-176. (In Russian).
- Braet, Y.** 2001. Cladistic revision of the genus *Troticus* Brullé, 1846 (Hymenoptera Braconidae) including descriptions of eleven new taxa and new records for other African braconids. *Belg. J. Entomol.*, **3**: 143-180.
- Braet, Y. & Achterberg, C. van.** 2001. New taxa of the subfamily Doryctinae Foerster (Hymenoptera: Braconidae) from French Guyana and Brazil. *Zool. Meded.*, **75**(7): 119-136.
- Cameron, P.** 1907. The Percy Sladen Trust expedition to the Indian Ocean in 1905 under the leadership of Mr. J. Stanley Gardiner. No IV – Hymenoptera. *Trans. Linn. Soc. London* (2), **12**: 69-86.
- Cameron, P.** 1912. On the Hymenoptera from Belgian Congo in the Congo Museum, Tervuren. *Ann. Soc. entomol. Belg.*, **56**: 357-401.
- Fischer, M.** 1982. Untersuchungen an Typenmaterial von Doryctinae aus dem Britischen Museum in London (Hymenoptera, Braconidae). *Polsk. Pismo entomol.*, **52**: 231-273.

- Granger, C.** 1949. Braconides de Madagascar. *Mém. Inst. Sci. Madagascar (A)*, **2**: 1-428.
- Marsh, P.M.** 1993. Descriptions of new Western Hemisphere genera of the subfamily Doryctinae (Hymenoptera: Braconidae). *Contr. Amer. entomol. Inst.*, **28**(1): 1-58.
- Marsh, P.M.** 2002. The Doryctinae of Costa Rica (excluding the genus *Heterospilus*). *Mem. Amer. entomol. Inst.*, **70**: 1-319.
- Shenefelt, R.D.** 1970. *Hymenopterorum Catalogus*. Pars 5. Braconidae 2. Helconinae, Calyptinae, Mimagathidinae, Triaspininae. P. 177-306. 's-Gravenhage: Junk.
- Shenefelt, R.D. & Marsh, P.M.** 1976. *Hymenopterorum Catalogus*. Pars 13. Braconidae 9. Doryctinae. P. 1263-1424. 's-Gravenhage: Junk.
- Szépíligeti, V.** 1914. Afrikanische Braconiden des Königl. Zoologischen Museum in Berlin. *Mitt. Zool. Mus. Berlin*, **7**(2): 153-230.

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