

One new Afrotropical species of the genus *Ecnomios* Mason, 1979 (Hymenoptera: Braconidae, Ecnomiinae)

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Abstract

The genus *Ecnomios* Mason and the subfamily Ecnomiinae is formally recorded from the Afrotropical area. One new species from Tanzania is described and a key of known species is given.

Keywords: *Ecnomios*, new record, Afrotropical, identification key

Résumé

Le genre *Ecnomios* Mason et la sous-famille Ecnomiinae sont formellement signalés de la zone Afrotropicale. Une nouvelle espèce est décrite de Tanzanie et une clé d'identification des espèces connues est fournie.

Introduction

Although MASON (1979) placed the genus *Ecnomios* in the Orgilini (now subfamily Orgilinae), phylogenetic analyses (QUICKE & VAN ACHTERBERG, 1990; WHARTON *et al.*, 1992) led to its transfer to its own subfamily Ecnomiinae, belonging to the "Microgasteroid lineage". The subfamily Ecnomiinae is supported by several putative apomorphies: the wide pronotum anteriorly, the short labial palp (compared to the maxillary palp), the sinuate vein 2-M of hind wing. Other putatives synapomorphies (discussed by WHARTON *et al.*, 1992) are the shape of the first discal cell of fore wing, the comparatively long fore spur, the absence of the lateral carina of mesoscutum, and the position of vein 1-SR of fore wing (if developed then angled with parastigma) and a reversal character, the large plical cell of hind wing, with a distinct cleft distally. This large cell is within the Hymenoptera plesiomorphic (QUICKE & VAN ACHTERBERG, 1990). The subfamily Ecnomiinae van ACHTERBERG, 1985, contains 2 genera: *Ecnomios* Mason, 1979 and *Korecnomios* Park & van Achterberg, 1994. Only 9 species have been described, one from Papua New Guinea (MASON, 1979), one from Australia (AUSTIN & WHARTON, 1992), two from Vietnam (BELOKOBYLSKII, 1993), two from SW Sulawesi (VAN ACHTERBERG, 1995) and one from China (CHEN & WHITFIELD, 2003). The late Dr W.R.M. Mason (in litt.) examined two species from Africa (VAN ACHTERBERG, 1995) but never described them. Obviously the genus *Ecnomios* has a Palaeotropical distribution (PARK & VAN ACHTERBERG, 1994). The biology is unknown. But members of the related subfamilies Dirrhopinae and Adeliinae parasitize larvae of microlepidoptera (PARK & VAN ACHTERBERG, 1994).

During a recent visit to the Iziko South African Museum, we discovered several specimens of a new species of this subfamily and we decided to describe it to attract attention on this group. Other undescribed species of this family were also seen in the collections of RMCA (Tervuren, Belgium) by the author.

Methods

For the identification of the subfamily Ecnomiinae and for the terminology used in this paper, see VAN ACHTERBERG (1993). The following acronym is used: Iziko South African Museum (ISAM).

Taxonomic part

Ecnomios Mason, 1979

See MASON, 1979 for the diagnostic description of the genus.

Ecnomios vannoorti sp. nov.

(Figs 1-2)

TYPE MATERIAL: Holotype: Female (ISAM), "Tanzania, Mkomazi Game Reserve, Kisima plot, 4°06.06'S 38°05.58'E; 25 Nov.-8 Dec. 1995, S. van Noort, Malaise trap, *Acacia/Commiphora* bushland; SAM-HYM-P016491; Imaged WaspWeb SAMC 2014; Ecnomiinae det. Y. Braet, 2014". Paratypes (ISAM): Female, "Tanzania, Mkomazi Game Reserve, Ibaya camp, 3.58S 37.48E, 29 Jan.-11 Mar. 1996; S. van Noort, Malaise trap, *Acacia/Commiphora Combretum* bushland; SAM-HYM-P018381; Imaged WaspWeb SAMC 2014"; Female, "Tanzania, Mkomazi Game Reserve, Ibaya camp, 3.58S 37.48E, 25.XII-29.I. 1996; S. van Noort, Malaise trap, *Acacia/Commiphora Combretum* bushland; SAM-HYM-P015882"; Female, "Tanzania, Mkomazi Game Reserve, Ibaya camp, 3.58S 37.48E, 25.XII-29.I. 1996; S. van Noort, Malaise trap, *Acacia/Commiphora Combretum* bushland; SAM-HYM-P015889".

DIAGNOSIS. The number of flagellomeres and the sculptures of the first tergite separate this species from the other species in this genus. See the key for additional characters.

DESCRIPTION.

Female. Length: body 2.25 mm, fore wing 1.8 mm.

Head. Antennal flagellomeres 21, scapus 1.67 times as long as broad and weakly flattened laterally, length of first flagellomere 1.25 times second flagellomere, length of first, second and penultimate flagellomeres 2.50, 2.00 and 1.33 times their widths, respectively; maxillary palp 0.55 times height of head; palpi formula 5-3; length of eye in dorsal view 1.40 times temple; OOL: diameter of ocellus: POL = 3:2:4; occipital carina coarse, complete dorsally, meeting hypostomal carina ventrally; frons flat, smooth; vertex smooth; face straight in lateral view, 1.6 times wider than high in anterior view, smooth, sparsely finely punctate; clypeus flat in lateral view, smooth; gena largely smooth and finely punctate; length of malar space 2.5 times basal width of mandible, malar suture absent; head fully covered by short sparse white setae.

Mesosoma. Length of mesosoma 1.7 times its height; propleuron smooth; side of pronotum shiny, smooth, finely punctate medially, without ventral projection on lower margin; mesopleuron smooth, densely punctaterugulose near the subalar area; precoxal sulcus complete, meeting epicnemial carina anteriorly, large, strongly and largely punctate; metapleuron coarsely irregularly rugose; lobes of mesoscutum smooth; anterior mesoscutum vertical above pronotum, lobes not protruding; notauli present, conspicuously rugose-punctate and joining in a large rugose area medio-posteriorly; scutellar sulcus 8 times wider than long, curved, with 7 strong transversal carinae; scutellum smooth, flat in lateral view; propodeum entirely rugose with a weak long medio-longitudinal carina, with an areola medio-posteriorly; mesosoma entirely covered by short sparse white setae.

Wings. Macropterous. Fore wing: length of pterostigma twice its width; r:SR1 = 4:29; SR1 weakly curved and meeting wing margin before wing tip; r vertical; second submarginal cell and vein r-m absent; 1-SR present; 1-SR+M slightly curved; 1-SR:2-SR+M = 4:2.5; r-m absent; CU1b present; subdiscal cell largely open posteriorly. Hind wing: M+CU:1-M:1r-m = 13:6:8; 2-SC+R horizontal.

Legs. Hind coxa smooth; length of femur, tibia and basitarsus of hind leg 4.60, 7.25 and 5.00 times their width, respectively; length of hind basitarsus 0.63 times tarsal segments 2-5 combined; length of hind tibial spurs 0.43 and 0.50 times hind basitarsus; claws simple.

Metasoma. Length of first tergite 1.60 times its apical width, flat, broadly enlarged apically, punctate rugose on its basal 0.7; remainder of the metasoma smooth and nearly glabrous; second suture shallow; ovipositor shorter than metasoma.

Colour. Brown; palpi white; legs including coxae and telotarsi, scape, yellow; wings hyaline, veins transparent.



Figs 1-2. *Ecnomios vannoorti* sp. nov., females, holotype (1) and paratype (2). 1: habitus lateral; 2: head, mesoscutum and metasoma, dorsal. Scales: 1 = 1 mm, 2 = 200 µm.

Male. Unknown.

DISTRIBUTION. Afrotropical (Tanzania).

HOSTS. Unknown.

ETYMOLOGY. Named in honour of Simon van Noort for his great work on African microhymenoptera.

VARIATIONS. The paratypes have 20 flagellomeres, the medio-longitudinal carina of propodeum sometimes indistinct among the rugae and the hind coxa weakly infuscate.

The new species can be distinguished as follows:

Subfamily **Ecnomiinae** van Achterberg, 1985

Genus **Ecnomios** Mason, 1979

Key to genera of the subfamily Ecnomiinae (from PARK & VAN ACHTERBERG, 1994)

1. Veins r-m and CU1b of fore wing and vein 2A of hind wing present; clypeus about as wide as face; scutellum with minute medio-posterior depression; precoxal sulcus smooth; mandibles with distinct teeth; dorsal carinae of first metasomal tergite distinct; first tergite comparatively slender; East Palaearctic (Korea)..... *Korecnomios* Park & van Achterberg, 1994
- Veins r-m and CU1b of fore wing and vein 2A of hind wing absent; clypeus distinctly narrower than face; scutellum without medio-posterior depression; precoxal sulcus crenulate; mandibles with minute teeth; dorsal carinae of first tergite absent; first tergite comparatively robust; Indo-Australian, Afrotropical *Ecnomios* Mason, 1979

Key to species of the genus Ecnomios Mason (modified after VAN ACHTERBERG, 1995)

1. Hypostomal flange in lateral view of head strongly acutely protruding below mandible; vein 2-SC+R of hind wing longer than vein 1 r -m; vein SR of hind wing sclerotized basally; vein SRI of fore wing straight and marginal cell wide triangular; mesosoma black; Vietnam *E. nigra* Belokobylskij, 1993
- Hypostomal flange in lateral view of rounded, somewhat protruding below mandible; vein 2-SC+R of hind wing shorter than vein 1 r -m; vein SR of hind wing unsclerotized basally; vein SRI of fore wing more or less sinuate or curved and marginal cell (somewhat) more slender; colour of mesosoma variable 2
2. Precoxal sulcus present anteriorly, connected with crenulation of epicnemial area; vein 2-CU1 situated somewhat below level of vein M+CU1 3
- Precoxal sulcus absent anteriorly, and not connected with crenulation of epicnemial area; vein 2-CU1 situated distinctly below level of vein M+CU1; Oriental, Wallacea (Sulawesi) 5
3. Body largely dark brown to black; notauli comparatively deep 4
- Body largely light yellowish-brown, but metasoma behind first tergite partly darkened; notauli very shallow; first subdiscal cell of fore wing comparatively slender; Australia (Queensland) *E. stenosoma* Austin & Wharton, 1992
4. Antenna with 29 flagellomeres; lower margin of pronotum with conspicuous median projection; tergite 1 sculptured on basal 0.60; Papua New Guinea *E. papuensis* Mason, 1979
- Antenna with 20-21 flagellomeres; lower margin of pronotum without conspicuous median projection; tergite 1 sculptured on basal 0.77; Tanzania *E. vannoorti* sp. nov.
5. Hind basitarsus in lateral view robust, about 2.5 times its maximum width; inner hind spur about 0.8 times hind basitarsus; first metasomal tergite smooth medially or largely so; hind tarsus 0.7-0.8 times as long as hind tibia; notauli absent anteriorly; Indonesia (Sulawesi) *E. brevitarsus* van Achterberg, 1995
- Hind basitarsus in lateral view rather slender, 4-5 times its maximum width; inner hind spur about 0.5 times hind basitarsus; first tergite sculptured medially; hind tarsus 0.8-1.0 times as long as hind tibia; notauli variable 6
6. Head dorsally and mesoscutum dark brown; notauli nearly entirely absent, except some coarse punctures medio-posteriorly and rugosity anteriorly; hind tarsus as long as hind tibia; Indonesia (Lombok) *E. infuscatus* van Achterberg, 1995

- Head dorsally and mesoscutum brownish-yellow or reddish-brown; notauli shallow, but completely rugose; length of hind tarsus 0.8-0.9 times hind tibia7
- 7. Face mainly finely granulate; first metasomal tergite rugulose and light reddish-brown, paler than second tergite; propodeum light reddish-brown; vein SR1 of fore wing straight basally; first subdiscal cell of fore wing comparatively robust; Vietnam..... *E. caophongi* Belokobylskij, 1993
- Face mainly smooth, except for punctulation; first tergite partly punctate (fig. 22) and dark brown, similar to colour of second tergite; propodeum dark brown; vein SR1 of fore wing slightly curved basally; first subdiscal cell of fore wing comparatively slender; Indonesia (Sulawesi)
..... *E. yasiri* van Achterberg, 1995

Acknowledgements

Cees van Achterberg is warmly thanked for his useful comments and suggestions. We also express our gratitude to M. Van Assche, I. Sauvage, I. Coppée (Belgium) and the Iziko South African Museum team for their help in bibliography search, preparation of our paper and technical support. Additional photos are available on the WaspWeb site <http://www.waspweb.org/> (last accessed June 2014). The figure 1 is copyrighted to Simon van Noort (Iziko Museums of South Africa).

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