

THE IDENTITY OF *ANDRAGNATHUS*,
A FORGOTTEN FORMICINE ANT GENUS
(HYM., FORMICIDAE)

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The monotypic formicine genus *Andragnathus*, first described by Emery (1922), has remained uninvestigated ever since. Apart from a mention in the *Genera Insectorum* catalogue (Emery, 1925) and an appearance in Brown's (1973) list of ant genera, no other information on this enigmatic genus appears in the literature. The original description of *Andragnathus* was based upon a single male, collected at light at Bogor (= Buitenzorg), Java.

One of us (D.A.) is currently studying the subfamily Formicinae, with the aim of defining its genera more accurately. We found that the published information on *Andragnathus* was too scanty to allow us to interpret its identity, and so we borrowed the holotype male of *A. hubrechtii* from MCSN, courtesy of Mr Valter Raineri. We were surprised to find that the type-species of *Andragnathus* proved to belong in the genus *Paratrechina*. It appears that Emery (1922) misinterpreted the form of the mandibles in his specimen, saying that they were rudimentary. This is not the case; the mandibles are in fact well developed but are largely concealed by the projecting clypeus. Nevertheless, this misinterpretation apparently affected Emery's judgement sufficiently for him to erect a separate genus for the specimen.

A search through the BM(NH) collection of *Paratrechina* revealed an unnamed nest-series collected by W.L. Brown Jr. at Tjibodas, Java. Fortunately this series contains both workers and males. The latter appear conspecific with *Andragnathus hubrechtii* and the former irrefutably confirm that *Paratrechina* is the correct generic placement.

Paratrechina Motschoulsky

Paratrechina Motschoulsky, 1863: 13. Type-species: *Formica longicornis* Latreille, 1802: 113 (= *Paratrechina currens* Motschoulsky, 1863: 14 (Synonymy by Emery, 1892: 166)), by designation of Wheeler, 1911: 170.
Andragnathus Emery, 1922: 111. Type-species: *Andragnathus hubrechtii* Emery, 1922: 111, by monotypy. **Syn.n.**

For diagnosis of the North American species of *Paratrechina* see Trager (1984); the remaining part of this large and mainly pantropical genus awaits revision.

Although the single male of *hubrechtii* is badly mounted, all the important characters can be seen. A short redescription is given below. The basic character used by Emery to erect his new genus was the form of the mandibles, which he described as "rudimentaires, représentées par un moignon microscopique". A close look at high magnification revealed a mandible typical of *Paratrechina* (and of many other formi-

cine genera) with a distinct cleft behind a single, apical tooth on an otherwise mainly unbroken apical part of the masticatory border (the basal part is hidden below the protruding clypeus). All the other characters are the same as in the conspecific series, collected by W.L. Brown Jr.

Beside Trager's (1984) characters of *Paratrechina*, a very obvious new character at generic level might be the projecting hairs on the outer (= dorsal), anterior and posterior (but not inner (= ventral)) surfaces of the hind tibiae which have not been recorded in any other formicine genus so far.

Apart from the wrongly interpreted "microscopic mandibles" as the distinctive character of *Andragathus*, this male shows the typical combination of *Paratrechina* male characters and the two genera are therefore synonymized.

Paratrechina hubrechtii (Emery) **comb.n.**

Andragathus hubrechtii Emery, 1922: 111. Holotype male, INDONESIA: Java, Bogor (= Buitenzorg) (*A.A.W. Hubrecht*) In Museo Civico di Storia Naturale, Genova [examined].

Definition of the male (holotype) [for abbreviations see Bolton, 1987]: HW 0.36 mm (two conspecific males collected by Brown: 0.32 mm and 0.3 mm respectively), HL 0.44 mm (0.46 mm; 0.46 mm), CI 76 (70; 68), SL 0.58 mm (0.60 mm; 0.58 mm), SI 171 (186; 187), AL 0.71 mm (0.78 mm; 0.75 mm). Formicine ant, with PF 6, 4, the maxillary palps reaching almost to the foramen magnum. Antennae of 13 segments, scape distinctly longer than the head, first funicular segment pear-shaped and two times longer than the second; the terminal antennomere two times the length of the penultimate. Mandible elongate, with an apical tooth followed by a cleft (the rest is covered by the clypeus; in Brown's specimen a blunt broad denticle follows after the cleft). Clypeus trapezoidal, not projecting between the antennal sockets (toruli), anterolaterally with two flanges because of which the anterior margin appears to become concave. Toruli with distinct flanges and somewhat behind the posterior clypeal margin; frontal carinae and frontal triangle absent. The ocellar area not raised but the individual ocelli slightly tilted. Large eyes in the midlength of the head. Petiole an erect scale, covered somewhat by the first gastral tergite. Subgenital plate reduced and not ventral and so not supporting the genitalia. Penicilli (= gonopalpi) absent. Stipes a blunt, elongate triangle, distinctly separated from the squamula by a membranous whitish area. Volsella with a straight cuspis which forms a short but nevertheless basally extended distinct ridge between the digitus and the stipes. Sagittae projecting as far as the stipites, lanceolate, terminally slightly curved laterad, not serrated.

Front wing without a discoidal (discal) cell; covered by suberect pubescence, a fringe of long hairs projecting from the caudal margin of the front wing. 4–5 hamuli.

Hind tibiae with long erect hairs on the outer and the anterior and posterior surfaces, few hairs on the scape.

Colour of the whole body uniform yellowish brown, shining.

P. hubrechtii belongs to the *vididula*-group of *Paratrechina*, which is taken here as including all of *Paratrechina* except the *longicornis*-group, but cannot be included in any of the North American species-groups.

The holotype male was caught at light (Emery, 1922). Brown collected his series in a rotten log in wet forest at 1500 m near Tjibodas, Java on the 6th–7th June 1972, sample W2 (BMNH).

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 REVIEW

FAUNA ENTOMOLOGICA SCANDINAVICA. VOLUME 20. THE AQUATIC ADEPHAGA (COLEOPTERA) OF FENNOSCANDIA AND DENMARK. 1. GYRINIDAE, HALIPLIDAE, HYGROBIIDAE AND NOTERIDAE. By MOGENS HOLMEN. E.J. BRILL/Scandinavian Science Press Limited, Leiden & Copenhagen; 168 pages, 288 figures, 1 plate. Hardback. 1987. Price 64 Guilders (US \$32).

This important work treats 13 species of Gyrinidae, 21 species of Haliplidae and 2 species of Noteridae. Of these 36 species 34 were mentioned by Lindroth (1960) and 35 by Silfverberg (1979) (*Gyrinus pullatus* Zaitsev and *G. colymbus* Erichson omitted by the former and *G. colymbus* by the latter). All North European species of the four families are included, adding a further 3 species of Gyrinidae, 1 species of Hygrobiidae and 1 species of Haliplidae. All taxa are keyed, described and illustrated, with notes on adult and larval morphology, ecology, biology and distribution. Some additional provincial records are added for the species in Lindroth (1960). In addition lectotypes are designated for 7 species and two new synonymies are established.

The monograph comprises 9 sections. The short introduction or abstract describes the contents and nomenclatural conclusions reached by the author, followed by the acknowledgements. Classification and family characteristics with keys to the larvae and adults of adephagan families are given in the next section. Then follows "State of knowledge and distribution" which also deals briefly with the material studied. Recently much information on the biology and distribution of these groups has been provided because of the increased interest in freshwater habitats and their protection but even though more than 200,000 specimens have been examined in the present study, there are still obvious gaps in the distribution, especially in Norway and in the northern parts of Fennoscandia.

Next are 4 major sections dealing with each family in turn, representing the bulk of the work (150 pp.). For each family, information on the morphology of the adults, larvae,