

## Description of *Podagrion enei* n. sp. and Notes on Two Other Hymenopterous Parasites.

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From Dr. John C. Ene, Nigeria, West Africa, I have received the following parasites of mantid eggs, the first of which I name in honour of its collector. Another species was collected by Mr. Eigin Suenson at Shanghai, China.

### 1. *Podagrion enei* n. sp.

Figures 1–7.

Length of female 3,5 mm, ovipositor exerted 6 mm, length of fore wing 2,5 mm. Length of male 3,4 mm.

Head of female blue-green, metallic, eyes bright red, ocelli dark, antennae yellow with the club dark brown, thorax dark golden green with metathorax more golden and propodeum bluish, hind border of scutellum, metathorax and keels of propodeum with igneous lustre, abdomen bluish with a dorsal elongate yellow spot anterior to the middle, base of abdomen ventrally yellowish, ovipositor sheaths brownish, coxae blue, metallic, their apex yellowish, fore and middle femora yellowish, the outside of fore femora blue, metallic, of middle femora dark brownish, hind femora blue, metallic, fore and middle tibiae yellowish brown, hind tibiae brown, knees yellowish, tarsi yellow, middle tarsi lighter, apex joints brownish, club brown, venation brownish. Male with the funicle of antennae light brownish, club brown, abdomen without yellow spot, fore and middle legs yellow, metatarsal joint of all the tarsi brownish.

Head, pro- and mesothorax finely punctate, metathorax nearly smooth, propodeum more coarsely punctured, the apex transversely rugose, mesopleura punctate, metapleura nearly smooth, abdomen polished, most of the body with whitish pubescence.

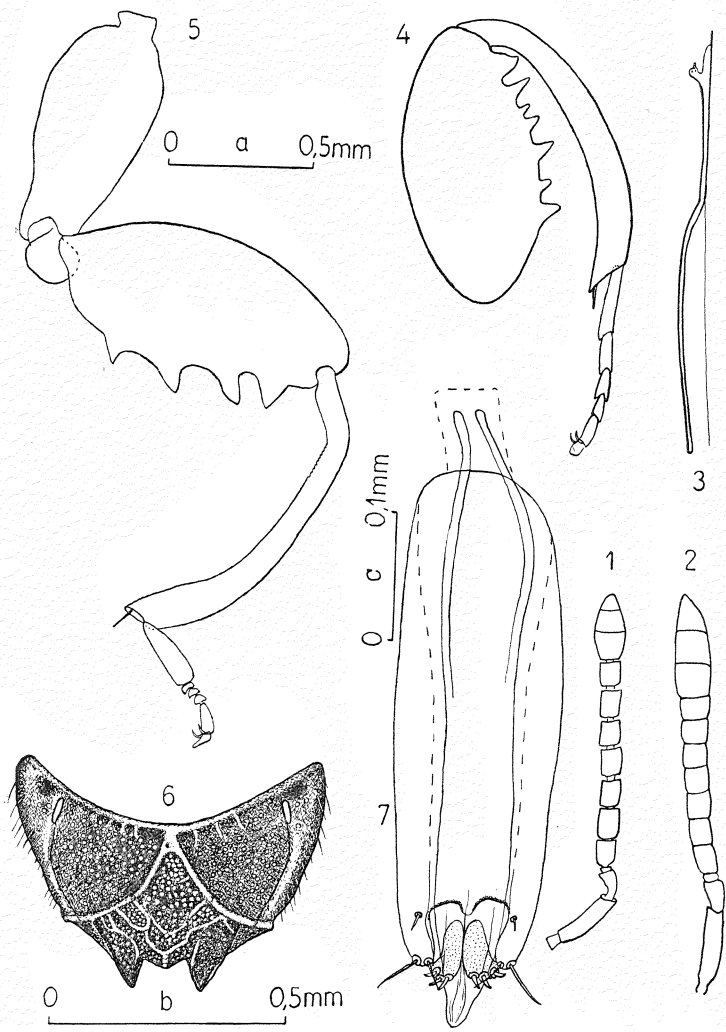


Fig. 1. *Podagrion enei* n. sp. ♂, antenna. — 2. ♀, do. — 3. ♀, venation of fore wing. — 4. ♀, hind leg. — 5. ♂, do. — 6. ♀, propodeum. — 7. ♂, phallus. — a. scale of figs. 1–5. — b. scale of fig. 6. — c. scale of fig. 7.

*Female*: head roundish, broader than high, 50:45, somewhat flattened, its length: 29, sloping with the face nearly horizontal, eyes large, ovate, somewhat angulated below, ocelli large, in a flat triangle, about  $105^\circ$ , lateral ocelli their own breadth from the eye margins, scrobes deep, nearly concealing the scapes, separated at base by a lengthened triangle at level with the face, vertex rounded behind, occiput concave, cheeks rounded, clypeus not visibly separated from the face, its border equally hollowed. Antennae inserted at the middle of the face, considerably above the level of the lower border of the eyes, the length of antennae: 95,5, of funicle: 41,5, of club: 22,5, radicula, rounded, 3:3, scape slender, 18:5, pedicel conical, 9:4, anellus transverse, 1,5:3, funicle 7-jointed, the joints decreasing in length, 6,5:6,5:6,5:6:6:5:5, and increasing in breadth, 4,5:5:5:5:6:6:6,5, club 3-jointed, length of joints, 8:7:7,5, breadth of joints, 9:9:7, last joint conical, funicle joints with two rows of linear sensoria, club joints with about three rows. Thorax narrower than head, 44:50, its length: 86, prothorax large, transverse, about thrice as broad as long, slightly rounded in front, a little narrower than mesothorax, parapsidal furrows reaching the middle of mesoscutum, scutellum convex, but flattened above in a rounded level with meso- and prothorax, a somewhat dentated cross furrow along the hind border, metathorax forming a narrow arched and smooth cross band, propodeum horizontal, as long as scutellum, with two keels originating anteriorly at the middle and diverging posteriorly to terminate at the posterior angles, spiracles elongate. Abdomen slender, 110:38, somewhat rhomboideus, petiole hardly visible, second tergite narrow at base, foveated, reaching three thirds of abdomen, broad at apex, where it is broadly splitted, as also the following tergite, which is narrower and occupies half the length of the rest, where some few tergites may be seen at apex, which bears two oblong py-

gostyles with 3-4 bristles; ovipositor from base of abdomen, issuing near the apex, exerted portion about  $1\frac{2}{3}$  as long as body, 370:225. Wings of moderate size, fore wing ratio, 163:52, longest fringe: 2, hind wing, 92:25, longest fringe: 2, length of subcosta, marginal, postmarginal and radial veins, 55:31:7:3, fore wing naked at base, 5-6 hairs indicating a basal vein (m-cu), the disc evenly haired with short hairs and two rows of hairs indicating a median and an anal vein, subcosta with a row of about 18 hairs of double length, costal cell broad with two rows of hairs at the border, hind wings evenly haired with shorter hairs. Legs with the fore coxae cylindrical, ratio of length and breadth, 19:12, middle coxae smaller, 12:10, hind coxae large, 52:14, flat and evenly hollowed at the sides; fore and middle femora slightly swollen, ratio of fore femora, 36:8, of middle femora, 39:8, hind femora very large, 58:29, flat, but convex at the sides, armed on the hind border with a row of seven large teeth of which the one nearest the apex is the largest, fore tibiae stright, 33:4, middle tibiae longer, 50:4, hind tibiae strong, 64:6.5. and curved towards the teeth of the femora, they are thickened towards the apex, which is obliquely pointed and bears a subapical bristle, fore tarsi shorter than middle and hind tarsi, 34:46:47, their breadth, 3:3.5:3, length of fore tarsal joints, 14:5:5:4:6, of middle tarsi, 23:8:5:3:7, of hind tarsi, 17:9:6:4:11, thus the middle metatarsus most remarkable.

*Male:* antennae inserted at the middle of the face, radicula rounded, 2.5:2.5, scape slender, 15:4, pedicel conical, 6:3.5, anellus short, 1.5:2.5, funicle 7-jointed, the length of joints, 6.5:7.5:7.5:6.5:6:6:5.5, equal in breadth: 4, club 3-jointed, the length of joints, 6:5:4, the breadths, 6:6:4.5, last joint conical. Fore wing ratio, 148:52, longest fringe: 2, ratio of subc., marg., postm. and rad. veins, 55:34:7:3.5, ratio of hind wing, 100:

22, longest fringe: 2. Mandibles three dentated with two mandibular folds, maxillary palpi 4 jointed, their lengths, 19:14:15:33, breadths, 10:11:10:9, labial palpi 3-jointed, lengths, 20:10:18, breadths 10:10:9. Legs: ratio of length and breadth:

fore coxae	23:12	middle coxae	18:10	hind coxae	56:23
- femora	35:14	- femora	31:10	- femora	70:29
- tibiae	34:7	- tibiae	50:8	- tibiae	70:8
- tarsi	27:3,5	- tarsi	33:4,5	- tarsi	30:4,5.

Length of fore tarsal joints, 15:2:2:6, of middle tarsi, 23:2:2:2:4, of hind tarsi, 16:2:2:8, breadth of small joints: 2, of metatarsus as above. Hind femora armed with four very large teeth. Phallus about one quarter the length of abdomen, parameres with one subapical and two apical bristles, digiti with three spines.

*Variation:* hind femora in the female often with 6 teeth, the two smaller ones coalescing to one large teeth, and sometimes the legs lighter with the hind tarsi whitish-yellow.

*Material.* One female and five males labelled A, 11. 4. 57 from mantid ootheca No. 33, found on Eucalyptus tree. Holotype, the female mounted on a slide. Allotype, one of the males on a slide. Further eight females and seven males labelled B, hatched from ootheca of *Sphodromantis lineola* (Burm.). All from Ibadan, Nigeria, W. Africa. Holotype and allotype in the collection of the Zoological Museum of Copenhagen.

*Note.* The species differs from the description of the following African species:

- bambeyi* Risb. 1951: 308 from Senegal has the club brown and longer than funicle, in *enei* dark brown and half as long as the funicle.  
*coerulea* Sauss. 1890-92, pl. 15, fig. 30. No description, and the identity of the species can not be seen from the figure.  
*descampsi* Risb. 1954: 889, has the last funicle joint longer than broad, in *enei* this joint is broader than long.  
*diaspiri* Risb. 1951: 316, from Senegal has the ovipositor shorter than the body, in *enei* it is  $1\frac{2}{3}$  as long as the body.

*fraternum* Westw. 1847: 260, from Mauritius has the ovipositor short.  
*idomene* Walk. 1850: 130, from Sierra Leone, with the ovipositor as long as the body, has 2 anelli and a 6-jointed funicle. It is probably not a *Podagrion*.

*insulare* Westw. 1847: 259, from Mauritius, has the ovipositor only as long as the body.

*olenus* Walk. 1839: 7, according to the short description in Westwood 1847: 260 it seems to be differently coloured and can not be differentiated with security.

Also the following species outside Africa has been taken into consideration:

*philippinensis* Crawford. acc. to Gahan 1925: 89 with the ovipositor not longer than the body.

*semialbiclavus* Girault 1917: 152, with the club partly white.

*sinensis* Walk. 1852: 42. Antennae black, much shorter than the thorax, in *enei* the antennae are yellow with the club dark brown, longer than thorax.

*splendens* Spinola 1811: 147, the type of the genus from South Europe has the apex tooth in the hind femora small and the club thicker, in *enei* this tooth is the largest.

*tarachodesi* Risb. 1951: 312, the male has five dents on hind femora.

The following three species are found enclosed in copal:

*bellator* Dalm. 1825: 390, has the club as long as the funicle, in *enei* half as long.

*capitellatus* Dalm. 1825: 390, with the ovipositor only as long as the body.

*clavellatus* Dalm. 1825: 390, ovipositor but distinctly longer than body.

## 2. *Podagrion philippinensis* Crawford.

Of this species I have a pair on slides, prepared by J. P. Kryger, bred from eggs of *Mantis* sp., December 1929 at Shanghai, China, by Mr. E. Suenson.

The ovipositor is exerted as long as the length of the body, the head is only a little lighter blue than the thorax, propodeum more rugose between the keels and towards the borders, nor without fine punctures. The funicle of the male antenna have a deformation at the end of the fifth funicle joint, which is feigning an extra minute joint.

### 3. *Rielia manticida* Kieffer.

Two female specimens with short wing stumps were found under the elytra of a *Sphodromantis lineola* (Burm.) by Dr. John C. Ene, Nigeria. They do not seem to deviate from the description given by Chopard 1922: 249—264. The species is known as a parasite of *Mantis religiosa* L. The biology — studied in details by Chopard — is rather remarkable. The larval development is endoparasitical in the host egg, its first stage is cyclopid, the last stage normal larviform. The newly bred imago seeks up a mantid and after having cast off its wings it lives as an ectoparasite on the host for months, awaiting the egg-laying of the mantid. It then leaves the host temporarily for stinging its eggs through the viscid mass of the ootheca. Some specimens which have settled down on a male mantid perish in a rather short time, others may be bursted off when they leave their sheltered place during the egg-laying and they do not seem to be able to find a new host.

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### Anmeldelse.

Beiträge zur Systematik und Ökologie mitteleuropäischer Acarina. Hrsg. von Hans-Jürgen Stammer. Band I Tyroglyphidae und Tarsonemini. Teil 2. Herbert Krczal: **Systematik und Ökologie der Pyemotiden**. — Helmut Karafiat: **Systematik und Ökologie der Scutacariden**. — Ludwig Schaarschmidt: **Systematik und Ökologie der Tarsonemiden**. Leipzig (Geest & Portig) 1959 p. 385—839. 54.00 DM uindb.

I 1958 anmeldte jeg i dette Tidsskrift (XXVIII p. 174) første Afdeling af denne Bog og fremhævede der det glædelige ved at faa gode systematiske Oversigter over Mide-Familierne. Denne anden Del, fortløbende pagineret med første og opstillet paa samme Maade, slutter sig ganske til denne, og alt det gode, der dengang var at sige, kan her gentages. Der er et Fællespræg over Tegningerne, der virker behageligt, og hvor de karakteriserende Forskelle er fremhævet, saa at man med Glæde kan konstatere, at en dygtig Redaktør kan faa et ensartet Præg over en Bog, lavet af mange Medarbejdere — men det hjælper naturligvis, naar alle Medarbejderne er hans Elever! Det første Afsnit, Pyemotiderne, omhandler rent ud sagt de bekendte Pediculoider; det er for tyve Aar siden lykkedes Oudemans at finde et ældre Navn, saa ogsaa dette kendte Navn kan forsvinde. (Dette fortælles bramfrit saaledes, at Dyret var almindeligt kendt under Navnet *Pediculoides*, der endog var blevet brugt til Familiens Navn, men i 1937 opdagedes det "rigtige" Navn, hvorfor begge Dele "zwangsläufig" maatte ændres. Mere naivt kan Nomenklaturreglernes Bagside næppe fremstilles). De øvrige to Familier er mindre kendt, men spiller en stor Rolle i Jordbundsfaunaen. Alle tre Afsnit bygger Artsbeskrivelserne op paa Basis af fortræffelige morfologiske Oversigter og omfattende Bestemmelsestabeller, og ender desuden i økologiske Afsnit, hvor særlig det første, om Pediculoiderne, er meget indgaende.

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