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## REDESCRIPTIONS OF TWO PORRICONDYLINE GALL MIDGES ORIGINALLY

## DESCRIBED BY DE MEIJERE (DIPTERA, CECIDOMYIIDAE)

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#### ABSTRACT

The confusion of nomenclature and classification in the European Porricondylinae was largely cleared up by the excellent revisionary work of Panelius (1965). There are, however, still many unidentified species listed in his revision owing to the destruction of types and the inadequacy of many original descriptions.

Recently, we have had an opportunity to examine De Meijere's type specimens kept in the Zoölogisch Museum, University of Amsterdam. Because the specimens were not kept in good condition for examination, we dissected some parts of the specimens and remounted them by using Berlese medium.

The following are redescriptions of two porricondyline gall midges described by De Meijere (1901, 1906). In particular, detailed examination of the male genitalia has furnished us with much information about their generic position.

Parepidosis argentifera (De Meijere, 1906) Fig. 1.

Porricondyla (Dicroneurus) argentifera De Meijere, 1906.

Porricondyla argentifera De Meijere.- Kieffer, 1913a; De Meijere, 1939; Panelius, 1965. Parepidosis argentifera (De Meijere).- Möhn, 1955.

Description .- Male: Wing length unmeasured owing to the unfavorable condition of the specimens. Eye bridge about 2 facets wide medially. Fronto-clypeal setae 8 in number. Palpus consisting of 1+4 segments, with scattered setae. Antenna of 2+14 segments; scape with a ventral seta; pedicel with a few dorsal setae; ring-shaped sensoria present on 1st to 13th flagellar segments; horse-shoe shaped sockets rather sparsely and irregularly distributed ventrally, forming a single row dorsally; basal enlargement of 5th flagellar segment with a length of about 96  $\mu$ , width about 60  $\mu$ ; distal stem of the segment with a length of about 120  $\mu$ ; terminal flagellar segment subconical, with a length of about 80  $\mu$ , nearly 2 times as long as maximum width. Mesopleural setae invisible; pteropleural setae 3 in number. (The length of legs could not be measured, because the specimens are not in good condition for that purpose.) Claw bifid; empodium less than 1 the length of claw.

Genitalia: cercus and subanal plate bilobed; gonostylus with a group of rather short spines distally; gonocoxite without any distinct dorsal or ventral lobe; hypandrium deeply incised by a large U-shaped emargination; proximal margin of hypandrium nearly straight; root of gonocoxite nearly as long as distance separating both roots; transverse bridge absent; distal margin of tegmen with a pair of small projections dorsally; aedeagus membranous; genital rod simple, about 1.5 times as long as gonocoxite.

Female: Wing length unmeasured owing to the unfavorable condition of the specimens. Length of each palpal segment is as follows: I:II:III:IV = 60:44:48:68 µ. Antenna with 2+11 segments; sensoria of two laterally and medially connected rings, present on 1st to 10th flagellar segments; horse-shoe shaped sockets sparsely and irregularly distributed ventrally; basal enlargement of 5th flagellar segment with a length of about 56  $\mu$ , width about 36 µ; distal stem of the segment with a length of about 28  $\mu$ ; terminal flagellar segment subconical, about  $64 \mu$  in length, 2.5 times as long as maximum width. Mesopleural setae 1 and pteropleural setae 5 in number respectively. Ovipositor with a pair of basal and distal lamellae; 10th sternite bilobed; ventral portion of ovipositor well extending apically; spermathecae invisible, probably absent.

Larva: see Möhn, 1955.

Pupa: Apical spine rather short, rounded apically, directed inwardly; apical papillae situated on a rather low protuberance; upper and lower frontal spines absent; lower facial papillae invisible; one of 3 pairs of lateral facial papillae with minute setae; prothoracic horn about 150  $\mu$  in length; stignatal protuberance on abdominal segments short, about 26  $\mu$ , present probably on 2nd to 8th segments; each abdominal segment dorsally and ventrally densely beset with minute spines.

Specimens examined: Type-series, 1 male, 2 females, 1 larva and 1 pupa (on slide), larvae collected on decaying leaves at Hilversum, the Netherlands, on February 1904 by De Meijere, adults emerged on the 21st of April in 1904. The male of this type-series is designated as lectotype (two slides).

Distribution: the Netherlands, Western Germany.

Remarks: Möhn (1955) placed this species in the genus *Parepidosis* Kieffer (1913b) on the basis of the morphological characters of the larva. In the present paper, his combination has been confirmed by our examination of adult specimens (male genitalia with well sclerotized and bilobed distal margin of tegmen, but without a distinct transverse bridge; empodium very short).

This species resembles Parepidosis longinodis Panelius, 1965, Parepidosis militaris Mamaev, 1966, and Parepidosis ventralis Yukawa, 1971, but differs from them by lacking dorso- or ventrodistal lobes on the gonocoxites in the male genitalia. (The drawings on p. 53 of Panelius' revision (1965) show the similarity between the male genitalia of *P. argentifera* and *P. longinodis*, but by a close examination of the male genitalia, the dorsodistal triangular lobe of the gonocoxite was found in the holotype and paratypes of *P. longinodis* which are kept in the British Museum.)

#### Holoneurus marginatus (De Meijere, 1901) Fig. 2, table I.

Coccopsis marginata De Meijere, 1901; Kertész, 1903; Kieffer, 1913a; Enderlein, 1936; De Meijere, 1939; Möhn, 1955; Panelius, 1965. Holoneurus marginatus (De Meijere).- Mamaev, 1966. Holoneurus obscurus Mamaev, 1964. N e w s y no n y m. Holoneurus sp.- Yukawa, 1971.

Description. - Male: Wing length 2.14 to 2.40 mm, width 0.72 to 0.80 mm. Eye bridge 3 to 4 facets wide medially. Palpus consisting of 1+4 segments, with scattered setae. Antenna with 2+12 segments; scape with a few ventral setae; pedicel with a few dorso-lateral setae; ring-shaped sensoria present on 1st to 11th flagellar segments; horseshoe shaped sockets rather sparsely and irregularly distributed ventrally, forming a single row dorsally; terminal flagellar segment subconical. Claws of all legs bifid; empodium less than 1 the length of claw. Genitalia: epandrium without a distinct distal margin; cercus and subanal plate bilobed; gonostylus distally with a pectinated claw of short spines; root of gonocoxite broad; transverse bridge indistinct; hypandrium with a

## Table I

|  |           | А          | В    | Males<br>C | D    | E        | Female<br>F |
|--|-----------|------------|------|------------|------|----------|-------------|
| Wing length (mm)                       |           | 2,22       | 2.14 | 2.30       | 2.16 | 2.40     | 2.38        |
| width                                  |           | 0.76       | 0.72 | 0.80       | 0.74 | 0.80     | 0.78        |
| 5th flag. seg.                         | . (µ)     | <u>(</u> ) |      |            |      | <u> </u> |             |
| basal node                             |           | 68<br>Ivc  | 72   | 76         | 72   | 64       | 76          |
| basal node width<br>distal stem length |           | 46         | 48   | 48         | 44   | 40       | 46          |
| distal ste                             | em length | 140        | 136  | 140        | 128  | 132      | 52          |
| Term. flag. se                         |           | 00         |      |            | 100  | 06       |             |
|  | length    | 92         |      |            | 100  | 96<br>28 |             |
| <u></u>                                | width     | 28         | •••  |            | 30   | 28       | <br>        |
| Palpus (µ)                             | I         | 48         | 52   | 48         | 48   | 44       | 48          |
|  | II        | 64         | 68   | 68         | 68   | 64       | 64          |
|  | III       | 84         | 72   | 80         | 80   | 68       | 68          |
|  | VI        | 84         | 92   | 92         | · 96 | 88       | 80          |
| Fore leg (µ)                           | Fe        | 980 ·      | 1000 |            | 1000 | 960      | 1000        |
|  | T1        | 820        | 920  |            | 880  | 880      | 1004        |
|  | Т2        |            |      |            | 1120 | 920      | . 1100      |
|  | Т3        |            |      |            | 540  | 460      | 500         |
|  | т4        |            |      |            | 300  | 240      | 240         |
|  | T5        |            |      |            | 140  | 120      | 120         |
| Mid leg                                | Fe        | 1040       | 1060 | 1100       | 1080 | 1000     | 1060        |
|  | T1        | 780        | 820  | 840        | 800  | 800      | 900         |
|  | T2        |            | 840  |            | 980  | 820      | 1020        |
|  | Т3        |            | 440  |            | 480  | 420      | 460         |
|  | т4        |            | 260  |            | 240  | 220      | 220         |
|  | т5        |            | 140  |            | 140  | 120      | 120         |
| Hind leg                               | Fe        | 1020       | 1140 | 1120       | 1100 | 1020     | 1140        |
|  | T1        | 780        | 880  | 900        | 880  | 820      | 920         |
|  | T2        |            |      |            | 1140 | 860      | 1140        |
|  | Т3        |            |      |            | 460  | 400      | 480         |
|  | т4        |            |      |            | 260  | 200      |             |
|  | T5        |            |      |            | 120  | 120      |             |
| Setal counts (                         | No.)      |            |      |            |      |          |             |
| Fronto-clypeal                         |           | 15         | 10   | 9          |      | 11       | 12          |
| Mesopleural                            |           | 1          | 2    | 2          | 1    |          |             |
| Pteropleural                           |           | · 3        | 5    | 3          | 4    |          |             |

## MEASUREMENTS AND SETAL COUNTS OF HOLONEURUS MARGINATUS (DE MELJERE, 1901).

pair of long distal projections which are pointed apically and directed inwardly; tegmen rather broadly sclerotized laterally; aedeagus invisible; genital rod simple, a little shorter than gonocoxite.

Female: Wing length about 2.40 mm, width about 0.78 mm. Antenna with 2+10 segments (if we consider a small subconical portion at the end of the flagellar segment as a terminal segment, though it is hardly distinguishable from the penultimate segment); sensoria of two laterally and medially connected rings, present on 1st to, at least, 8th flagellar segments; horse-shoe shaped sockets sparsely and irregularly distributed ventrally. Ovipositor with a pair of basal and distal lamellae; 10th sternite bilobed; spermathecae invisible, probably absent.

Larva: see Möhn, 1955.

Pupa: Apical spine rather short, triangular in shape, directed inwardly; apical papilla with a seta which is about 68  $\mu$ ; upper and lower frontal spines absent; a pair of lower facial papillae with a minute seta; at least one of 3 pairs of lateral facial papillae with a minute seta; prothoracic horn about 210  $\mu$ ; stigmatal protuberance on abdominal segments short, about 20  $\mu$ , present probably on 2nd to 7th abdominal segments; each abdominal segment dorsally and ventrally densely beset with minute setae.

Specimens examined: Type-series, 6 males, 1 female, 3 larvae and 3 pupae (on slide), larvae collected on decaying leaves of *Salix* sp. at Diemen and near Amsterdam, The Netherlands, March 1900, by De Meijere; adults emerged in June 1900. (Diemen is situated near Amsterdam. These two localities are probably identical.) One of the males is designated as lectotype.

Distribution: The Netherlands, U.S.S.R., Western Germany, and Japan.

Remarks: *Coccopsis marginata* De Meijere, 1901, was already placed in the genus *Holoneurus* Kieffer, 1895, by Mamaev (1966); this combination was confirmed by examining the type specimens.

Panelius (1965) redescribed this species on the

basis of the type specimens, except that his description of the male genitalia was based on English specimens. Our investigations prove that the English specimens do not belong to *Holoneurus marginatus* but to *Holoneurus paneliusi* Yukawa, 1971, because the male genitalia of De Meijere's species are distinguishable from those of the English ones by having a shorter and more broadly sclerotized tegmen. An unnamed Japanese species, *Holoneurus* sp. Yukawa, 1971, has also been identified as *Holoneurus marginatus* on this occasion. As a result of investigating the holotype specimen, we consider *Holoneurus obscurus* Mamaev, 1964, a synonym of *Holoneurus marginatus*.

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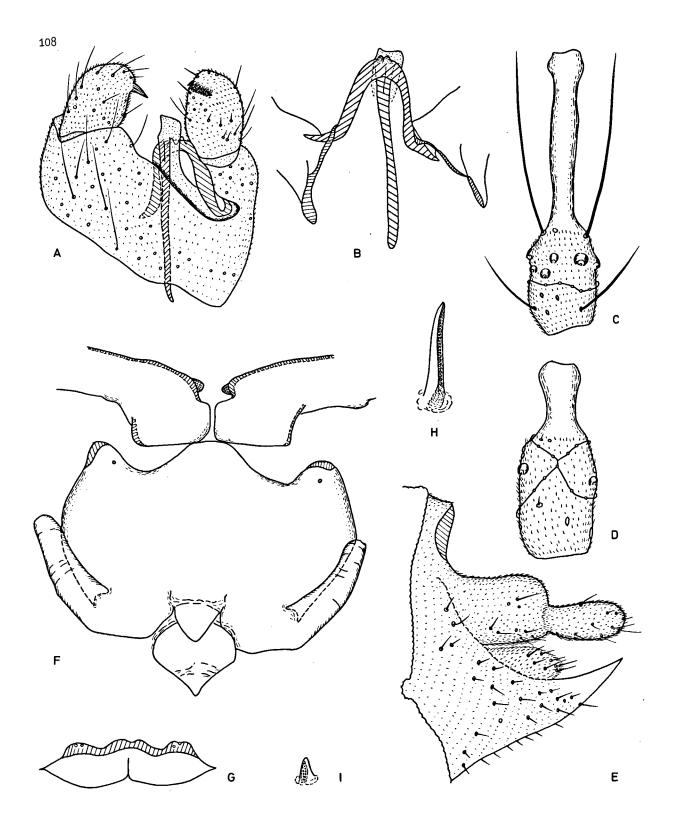
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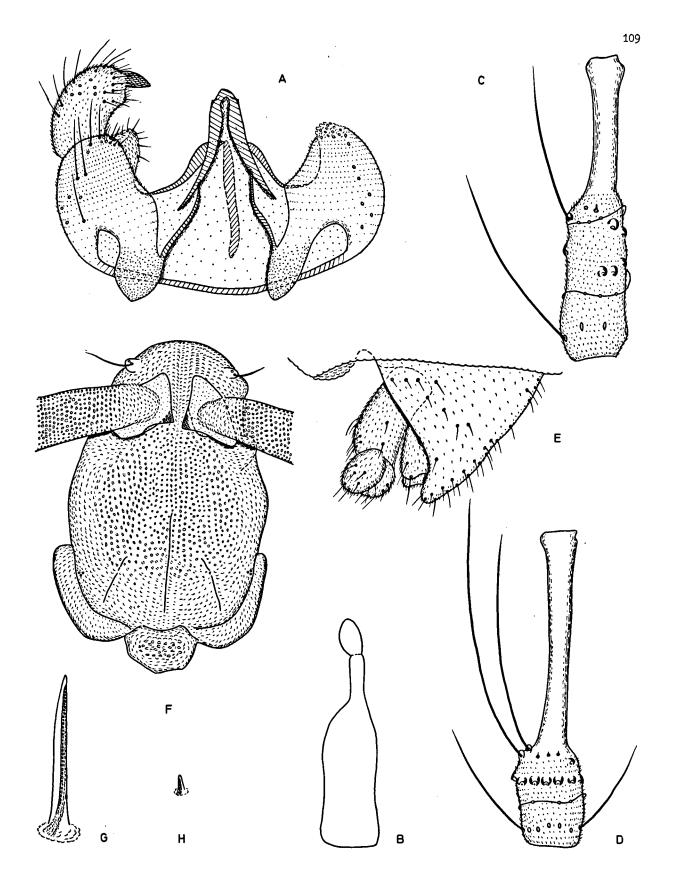
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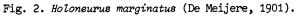
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## Fig. 1. Parepidosis argentifera (De Meijere, 1906).

A, genitalia,  $\delta$  lectotype (ventro-lateral view); B, tegmen and genital rod (dorsal view); C, 5th flagellar segment,  $\delta$ ; D, 5th flagellar segment, ; E, ovipositor; F, antennal and frontal parts of pupa; G, apical papillae of pupa; H, prothoracic horn; I, stigma on abdominal segment of pupa.





A, genitalia, & lectotype (dorsal view); B, terminal and penultimate flagellar segments, °; C, 4th flagellar segment, °; D, 5th flagellar segment, d; E, ovipositor; F, antennal and frontal parts of pupa; G, prothoracic horn; H, stigma on 3rd abdominal segment of pupa.