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PORATIA DIGITATA, A NEW BRITISH HOTHOUSE MILLIPEDE

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This paper places on record a small hothouse millipede new to Britain. The first specimens of it were collected from amongst peat in the Tropical Fern House of the Royal Botanic Gardens, Kew, Surrey (grid reference TQ(51)188777) on 21st April 1985, whilst one of the authors (A.J.R.) was showing Mr. E.G. Philp some of the local specialities on our return from the B.I.S.G./B.M.G. Meeting in Bangor. They were identified as Prosopodesmus panporus even though they were slightly larger than that species and had a pale colour. Further specimens were obtained by the same author from under bark and in soil in the Orchid House of the Leicester Museum Botanic Garden (grid reference SK(43)593072) on 14th September, 1985 and were again named in the field as Prosopodesmus panporus. It was only when checking these specimens later at home that it was realised that a different species was involved and specimens were sent to the other author (J.G.B.). The species Prosopodesmus panporus was only recently described from Kew (Blower & Rundle, 1980) and the authors at first thought that they had examples of Poratia digitata as figured and described by Schubart (1934). This time, one of us (J.G.B.) is certain that the animals are Poratia digitata, in the sense of Schubart (1934) and Attems (1940), but there is some doubt about the validity of the name.

CLASSIFICATION

Attems (1940) placed Poratia in the family Cryptodesmidae, sub-family Pyrgodesmidae. Schubart (1934) used the family name Stylodesmidae which is a synonym of Pyrgodesminae. Hoffman (1980) places Poratia in the Pyrgodesminae elevated to family status. (Attems (1940) placed Prosopodesmus in the same subfamily as Poratia but Hoffman (1980) has moved it into the family Haplodesmidae within the superfamily Polydesmoidea.)

Order POLYDESMIDA
Sub-order POLYDESMIDEA
Superfamily STYLODESMOIDEA
Family PYRGODESMIDAE

Poratia O.F. & A.C. Cook, 1894

Scytonotus Porat, 1889

Tidopterus Chamberlin, 1923 a

Dominicodesmus Chamberlin, 1923 b

Muyudesmus Kraus, 1960

Poratia digitata (Porat, 1889)

Scytonotus digitatus Porat, 1889 Ent. Tidskr. 10 : 59

Poratia heterotuberculata Carl, 1902

Dominicodesmus panamicus Chamberlin, 1940

(?) Muyudesmus obliterated Kraus, 1960

DESCRIPTION OF THE LEICESTER EXAMPLES (somatic characters of the trunk)

Colour: pale pinkish brown.

Dimensions:

5 females with 19 segments: 3.9 - 4.1 mm. long, 0.56 - 0.64 mm. broad
(between paranota of segment X)

1 female with 18 segments: 3.2 mm. long, 0.47 mm. broad.

One of the females with 19 segments is shown in fig. 1.

Collum does not quite completely cover the head in dorsal view, its anterior edge forming an up-turned rim incised into ten lobes. All the incisions are deep, except those separating the most lateral pair of lobes; there are six distinct tongue-like lobes flanked by two broader bifid ones. Surface of collum tuberculate, ten of the tubercles are larger and a little more prominent. Second segment with paranota extending a little beyond the lateral edges of the collum, third and fourth segments a little narrower, the succeeding segments widening somewhat and then narrowing towards the tail, especially segments 18 and 19.

Metazona strongly arched with principally three transverse rows of tubercles, interspersed by more irregularly placed smaller tubercles, especially on the anterior segments. In the posterior half of the trunk,

some of the tubercles are longer and more prominent and form four longitudinal rows; from segment sixteen, the hindmost tubercles in these four rows project over the posterior edges of the metazona. On all metazona, the posterior transverse row ends laterally in a slightly posterior directed more prominent lobe (the 'rhomboidal projection' of Kraus, 1960). The metazona extend laterally into three-lobed paranota, jutting out horizontally at just below mid-lateral level. Segments 5, 7, 9, 10, 12, 13 and 15 bear ozopores on the middle lobes of the paranota and, on these segments, the posterior lobe is very much reduced; the remaining segments without ozopores have paranota with the three lobes equally developed. In dorsal view, the prominent outer tubercles of the last transverse row on each of the metazona may be easily misinterpreted as a fourth lobe of the paranotal edge.

The foregoing description of the principal somatic characters of the trunk agrees in most respects with the text and figures in Silvestri (1923), Attems (1940) and Schubart (1934) for Poratia digitata and in Kraus (1960) for Muyudesmus. Like Kraus (1960) we have not been able to locate ozopores on segments posterior to fifteen and note, with Kraus, that the paranota on these posterior segments have the form of non-pore bearing segments.

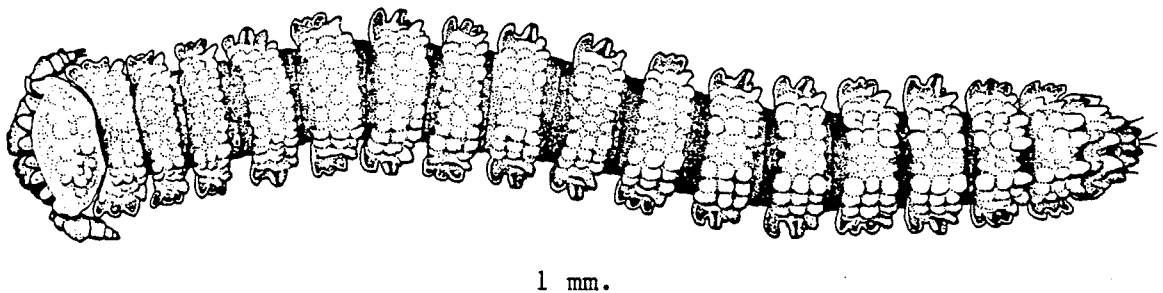


Figure 1. Poratia digitata. Dorsal view of female with 19 segments, from Leicester (J.G. Blower Collection).

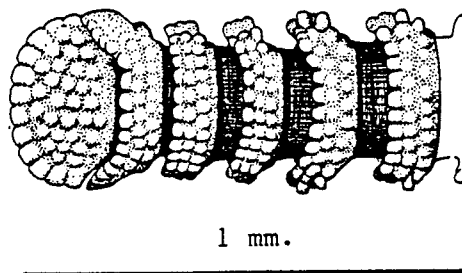


Figure 2. Prosopodesmus panporus. Dorsal view of anterior end of male paratype from Kew (previously illustrated in lateral view in Blower & Rundle (1980, fig. 1).

DISTRIBUTION

Poratia digitata was described from a greenhouse in Gothenburg, Sweden in 1874 and was subsequently observed also by Lohmander (1925). Elsewhere in Europe it is recorded from: Denmark, Copenhagen, Botanic Gardens, in hothouses, beds and in refuse heaps; Switzerland, Berne, Botanic Gardens (Carl, 1902); Germany, Hamburg, tannery (Latzel, 1895) and Berlin, Botanic Garden, orchid house (Schubart, 1929). We can now add its occurrence in botanic gardens at Kew, Surrey and Leicester.

Attems (1940) records it from Java and in tropical South America and Carribean countries: Brazil, Argentina, Paraguay and Costa Rica. Loomis (1968) records it from various localities in the Canal Zone of Panama in the same areas where he also records two other species of Poratia. Kraus (1960) describes two species of his genus Muyudesmus from Peru.

DISCUSSION

Of the two species of Muyudesmus described from Peru, the gonopods of Muyudesmus obliteratus resemble those figured by Silvestri (1923) for Poratia digitata. Kraus notes appreciable and possibly specific differences between M. obliteratus and Poratia digitata sensu Silvestri, but believes these two animals to be congeneric. Kraus wonders whether the gonopods figured by Silvestri belonged to the same species originally described by Porat; he observes that none of the authors (including Porat) who handled European examples, had seen males of the animal they called P. digitata. The doubt clearly arose in Kraus's mind since his two species of Muyudesmus resemble each other closely in their somatic characters but have very different gonopods. Hoffman (1980), referring to the doubt raised by Kraus, suggests that Porat's material should be re-examined in the hope that it contains males. If European colonists from the tropics have established themselves in temperate zones by parthenogenesis, validation of the genus Poratia will be difficult. In fact, males appear to be rare even in the tropical zones; as far as we are aware, the only males of Poratia digitata occurred in the material Silvestri (1923) re-examined from Brazil.

COMPARISON OF PORATIA DIGITATA AND PROSOPODESMUS PANPORUS

Both P. digitata and P. panporus (see fig. 2) have three transverse rows of tubercles on their arched metazona, a second segment wider than the collum which overlaps a large part of the head and three lobes on the paranotal lateral edges. The most obvious difference between these two animals is the deeply incised front rim of the collum of Poratia with forwardly and upwardly projecting tongue-like lobes. Less obvious, but more fundamental, is the arrangement of the ozopores in the two animals; in Poratia digitata they are found on the middle paranotal lobe of segments 5, 7, 9, 10, 12, 13 and 15 (the 'normal' formula for a Polydesmidan); in Prosopodesmus panporus, the ozopores pierce tubercles (porosteles) lying above the paranotal edges, obscuring one of the lobes in dorsal view. Furthermore, as the trivial name panporus suggests, ozopores occur on all diplopodous segments.

MATERIAL

Three females from Leicester have been deposited in the British Museum (Natural History); Six females from Leicester are in the J.G. Blower Collection and the remaining material (all females) from Leicester and Kew is in the A.J. Rundle Collection.

ACKNOWLEDGEMENTS

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