

***Stylocellus sedgwicki* n.sp., from Penang Island, Malaysia (Opiliones, Cyphophthalmida, Stylocellidae)**

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**Summary**

*Stylocellus sedgwicki*, n.sp., was collected on Penang Island, off the west coast of Malaysia. The type locality is the most northwesterly so far for the genus *Stylocellus*: a map is given showing the approximate distribution of the known species of the genus. The subfamily Stylocellinae is raised to full family status and emended to include only the genus *Stylocellus*. The status of the generic name *Miopsalis* is briefly discussed. The holotype of *S. lionotus* Pocock is a male, not a female as Hansen & Sørensen (1904) stated.

**Introduction**

The stylocellids differ from all other cyphophthalmids in having a pair of sessile eyes, one on each side of the cephalothorax in front of the ozophores. In his original description of the genus, Westwood (1874), as the generic epithet suggests, mistook the ozophores for eyes on stalks. Later, Thorell (1883, 1891) observed the true eyes, but because of Westwood's error, thought them to be some other kind of sense organ, and followed Westwood in thinking the openings of the repugnatorial glands to be the eyes. He questioned the role of the lens-like structure he had found. It remained for Hansen & Sørensen (1904) to clarify the situation by pointing out that the lens-like organs of Thorell were the true eyes. All other cyphophthalmids are eyeless; having eyes would seem to be a primitive characteristic of *Stylocellus*. Little or nothing is known of the habits of these

animals, but they seem to be most commonly found in the litter of tropical forests. The genus is restricted to Southeast Asia.

Despite the unique position of the genus *Stylocellus* in the suborder Cyphophthalmida, species of this genus have not been intensively studied since the monumental work of Hansen & Sørensen in 1904. In that paper, they reviewed what was known of the previously described species, and added five new ones. Roewer (1942) added two additional species, and a complete bibliography and list was given by Rosas Costa (1950). The present new species is the second known from the Malay Peninsula, the smallest species of the genus, and the most northwesterly in its distribution (Map 1).

The family-level classification of the cyphophthalmids has long been known to be unsatisfactory. Following Hansen & Sørensen (1904), all members of the suborder have been placed in the family Sironidae, divided into two subfamilies on the basis of the single character of movability of the second coxa (movable in Sironinae, fused to the third coxa in Stylocellinae). Juberthie (1970) has pointed out a number of important characters within the "Sironinae," which, when extended to the "Stylocellinae" suggest that the evolution of the suborder would better be reflected if more than two family-level groups were recognized. An analysis of these characters, such as the dentition of the chelicerae, position of the ozophores, form of the claws, penis and ovipositor, and the presence or absence of anal glands in the males, demonstrates that the genus *Stylocellus* actually has little to do with the other "stylocellines." I have in preparation a more detailed study of this situation which will name heretofore unrecognized familial groups in the suborder<sup>1</sup>, but to avoid confusion in the interim, here raise the name Stylocellinae Hansen & Sørensen to full family status and define it as including only the genus *Stylocellus*.

In this connection, I might also mention the generic name *Miopsalis*. Established by Thorell in 1890 for the species *Miopsalis pulicaria*, it has traditionally been placed close to *Stylocellus*. Roewer (1916) added a second species from Japan, *sauteri*,

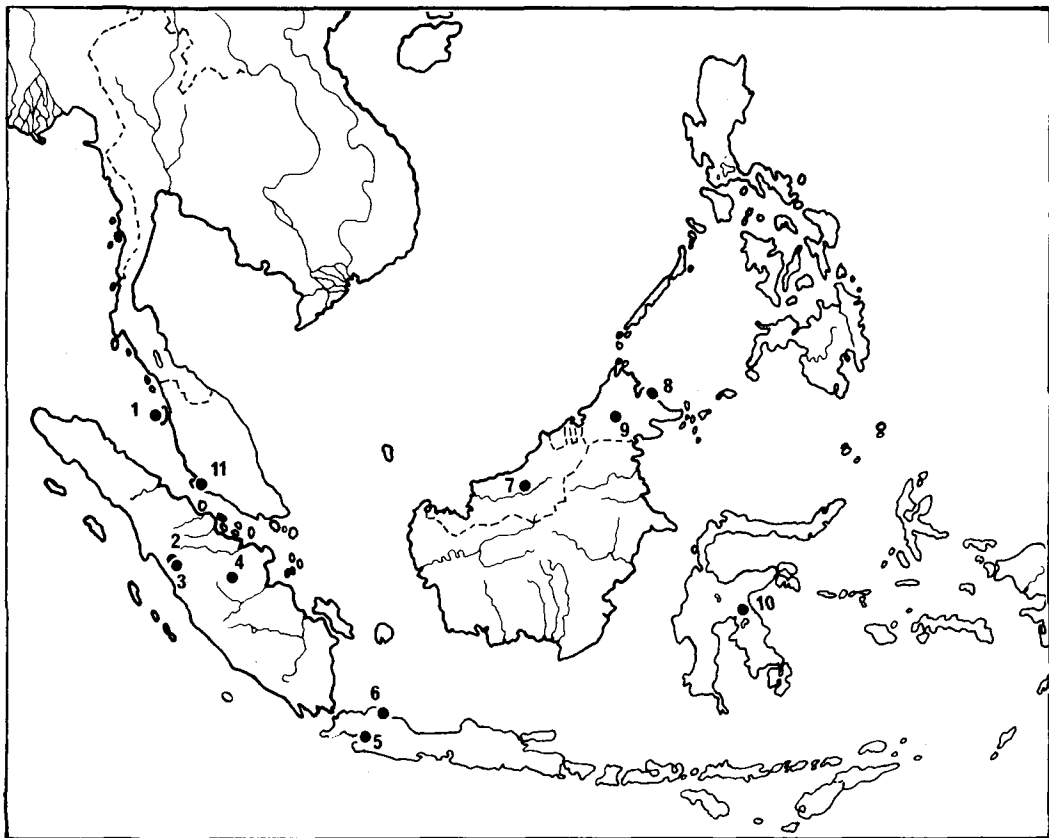
<sup>1</sup>In that context I will also respond to Savory's (1977) argument for raising Cyphophthalmida to full ordinal status — with which I disagree strongly.

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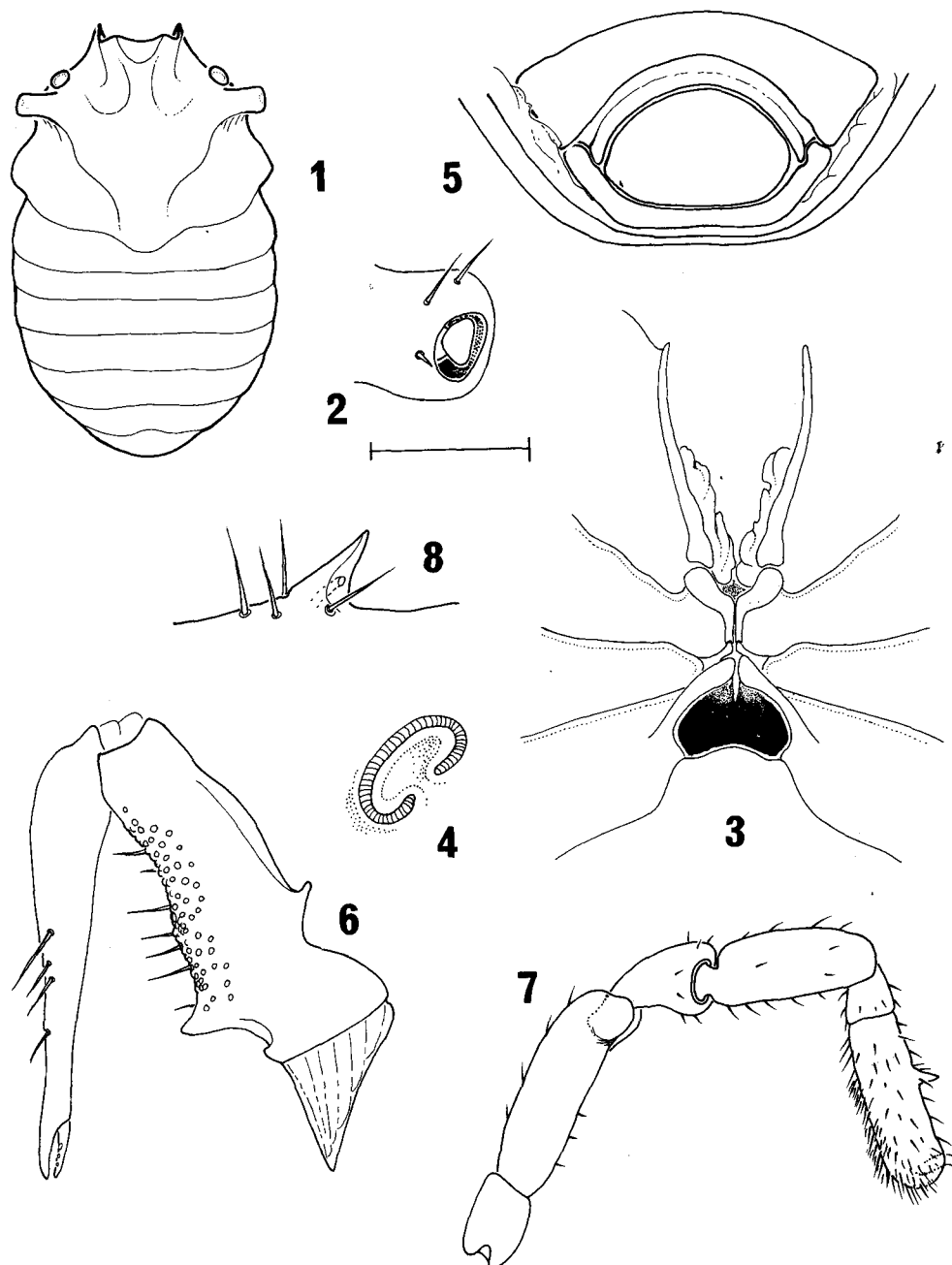
which Juberthie (1970) recognized to be a sironid and transferred to his new genus, *Suzukielus*. Hansen & Sørensen (1904) pointed out that there was little in Thorell's description to ally *Miopsalis* to *Stylocellus*, and that they only tentatively placed it near the latter genus. They also stated that it was not possible to tell from the description if the type specimen was a mature female or not. Thus the status of the generic name *Miopsalis* is not clear.

*Miopsalis pulicaria* as a species name is of particular interest in this case because it was described from "Pulo (Island) Pinang". Is it a female or juvenile of the species described below? The absence of eyes (or Thorell's failure to detect them) is evidence that it is not. The small size (2.25 mm) and

lack of secondary sexual characters (or Thorell's failure to detect them) suggests that it may be, but we do not know if more than one species of *Stylocellus* inhabits Penang. This is certainly possible, since every collection of *Stylocellus* so far has proven to be a new species. From a practical aspect, Thorell's holotype is in the Museo Civico Storia Naturale in Genoa, which museum has the unfortunate policy of not making loans of type material. Even if the type were to be examined, it seems unlikely that the problem would be solved, except that we would know if the species belonged in *Stylocellus*. Taking all of this into consideration, I decided to describe my material as new.



Map 1: Southeast Asia, showing distribution of twelve described species of *Stylocellus*. Localities in quotation marks were given by authors only in that general form, so dots are placed near the centre of the named region. 1 *S. sedgwicki* (Penang, Malaysia); 2 *S. beccari* (Mt Singalang, Sumatra); 3 *S. thorelli* (Mt Singalang, Sumatra); 4 *S. weberi* and *S. sumatranus* ("Sumatra"); 5 *S. sulcatus* (Mt Gede, Java); 6 *S. javanus* (Teibodas, Java); 7 *S. spinifrons* ("Sarawak"); 8 *S. lionotus* (Sandakan, Sabah, Borneo); 9 *S. pococki* ("British North Borneo"); 10 *S. modestus* ("E. Celebes"); 11 *S. laevichelis* (Malacca, Malaysia).



Figs. 1-8: Anatomy of *Stylocellus sedgwicki* male. 1 body, dorsal view; 2 tip of ozophore, posteriolateral view; 3 ventral thoracic complex, ventral view; 4 right spiracle, ventral view; 5 anal region, ventral view; 6 right chelicera, mesal view; 7 right leg 4, mesal view; 8 adenostyle, posteriomasal view. Scale line is 1.5 mm for Fig. 1, 1.0 mm for Fig. 7, 0.4 mm for Figs. 3 and 5, 0.28 mm for Fig. 6, and 0.25 mm for Figs. 2, 4 and 8.

## Family STYLOCELLIDAE Hansen &amp; Sørensen

Genus *Stylocellus* Westwood*Stylocellus sedgwicki*, new species (Figs. 1-11)

**Type:** Male holotype from Penang Island, Malaysia, collected 7 June 1976 by W. Sedgwick. Deposited in the American Museum of Natural History, New York, NY 10024, USA.

**Etymology:** I am pleased to name this species after Mr Walter (Terry) Sedgwick, an indefatigable collector of arachnids in exotic locales.

**Description:** Length 4.2 mm; width across ozophores 2.1 mm, greatest width (at posterior part of cephalothorax) 2.15 mm. Dorsum (Fig. 1) smooth or very finely granulate. Eyes a little in advance of bases of ozophores; ozophores fairly long, subcylindrical, extending straight laterad, opening by round pores at their tips. Pores (Fig. 2) with peculiar chitinous plug structure. Cephalothoracic transverse sulcus pronounced. Abdomen ovoid, divisions between abdominal tergites clearly indicated. Ventral thoracic complex (Fig. 3) with mesosterna of typical form, metasterna much reduced, eusternum not detected; anterior and lateral walls of gonostome formed by fourth coxae, which appear to be fused in the midline and form the dorsal wall of the gonosome as well; no sternal element could be detected in that position. Posterior margin of gonostome formed by extension from abdominal segment. Spiracles C-shaped (Fig. 4). Corona analis (Fig. 5) not present in the strict sense, sternites 8 and 9 and tergite 9 free. No indication of anal glands; male anal region not modified. Chelicera (Fig. 6) with basal article 1.58 mm long, 0.83 mm wide (measured from tip to tip of the dorsal and ventral crests), lightly pebbled (surface with regular raised rounded nodules) beneath; distal article 1.8 mm long, 0.83 mm wide, distally attenuate. Movable

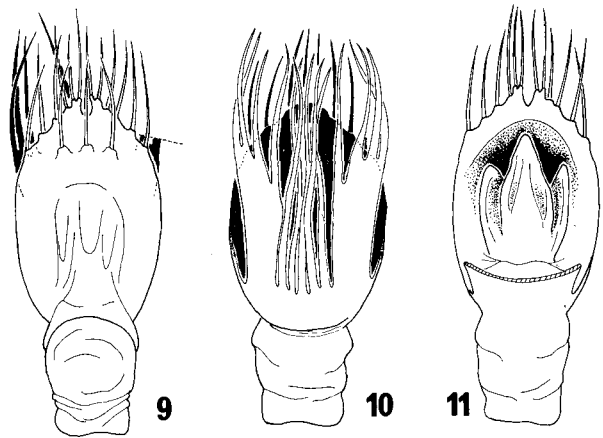


Fig.9-11: Penis of male *S. sedgwicki*. 9 dorsal view; 10 ventral view; 11 ventral view, ventral plate removed. Scale: penis is 0.46 mm long.

finger 0.30 mm long, set with three large rounded teeth; two similar teeth on fixed finger. Pedipalp typical (measurements given in Table 1), trochanter unarmed ventrally. Legs relatively short, stout (measurements given in Table 1), cuticle of trochanters, femora, and patellae smooth, but that of distal part of tibiae, entire metatarsi and tarsi distinctly and heavily pebbled. Fourth tarsus (Fig. 7) with short adenostyle located 0.6 mm from distal end; pore of adenostyle opening posteriorly (Fig. 8). All claws smooth. Penis in ventral view (Fig. 9) with distal two-thirds expanded, ventral plate with three subapical setae and twelve marginal setae; in dorsal view (Fig. 10) with dorsal plate of thirteen setae with fused bases, forming two lateral groups of four each and a central group of five; removal of this plate (Fig. 11) reveals a trifid structure covering the genital pore. Colour dark brown, palpi light tan. Eyes with reflective tapetum.

Female not known.

**Notes:** The unusual plug-like valve of the ozopore has not been observed before in *Stylocellus*. Hansen & Sørensen (1904) described the ozopore of *S. beccari* as an oblique, transverse slit. The plug illustrated here is not a solidified secretion, but is cuticular and tops a stem which arises from within the pore. Due to the uniqueness of the holotype specimen, further dissection seemed unwise.

Among other characters, the ornamentation of the

	Tr	F	P	Ti	Mt	T
Pedipalp	0.53	0.90	0.51	0.60	—	0.53
Leg I	0.54	1.50	0.75	1.17	0.45	1.29
Leg II	0.53	1.37	0.68	0.92	0.44	1.13
Leg III	0.53	1.29	0.62	0.87	0.38	0.96
Leg IV	0.57	1.38	0.69	1.05	0.39	1.20

Table 1: Measurements in mm of pedipalp and legs of right side of holotype of *Stylocellus sedgwicki*.

basal part of the distal cheliceral article seems to separate the known species of *Stylocellus* quite well (Hansen & Sørensen, 1904). Only *S. beccari* has this region completely smooth, as in *S. sedgwicki*, but it is from Sumatra, as well as being 5.5-5.8 mm long.

In the course of preparing this paper, Mr F. Wanless kindly loaned me the types of two *Stylocellus* species from the collections of the British Museum (Natural History). The holotype of *S. lionotus* Pocock is a male, not a female as Hensen & Sørensen (1904) inferred; at 6 mm body length it has the distinction of being the largest known cyphophthalmid. *Stylocellus pococki* Hansen & Sørensen seems quite similar to *S. lionotus* but has a different pattern of granulation on the chelicera; it is a female and both species are from Sabah (North Borneo).

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