

Bottle brush of a male *Siler* from Hong Kong, with notes on some related spiders (Araneae: Salticidae)²

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With a range extending from East Asia south to Malaysia and Papua New Guinea, there are at least eight named and four unnamed species, all brilliantly iridescent or otherwise colorful and conspicuous, presently associated with the genus *Siler* Simon 1889 (Prószyński 1985, 1999, 2006).

Simon (1901a, 1901b) described *S. semiglaucus* (as *Cyllobelus semiglaucus*), and figured the prominent *bottle brush* setae on tibia I of a male (fig. 1).



Fig. 1. Simon's illustration of the elongated brush of dark black setae on tibia I of a male *Cyllobelus semiglaucus* (Simon 1901b, p. 541, labeled *K* in grouped figs. 654-669, or fig. 664).³

Simon's description of the genus *Cyllobellus* (1901b, p. 549) is of interest. Here the original French version is followed by an English translation:

Les *Cyllobelus* sont revêtus de squamules, longues sur le céphalothorax, très grosses, arrondies et imbriquées sur l'abdomen, de teinte métallique généralement sombre, sauf pour quelques espèces de l'Inde (*C. semiglaucus* E. Sim., etc.), qui offrent un mélange de rouge vif et de vert pâle très brillant; leurs grosses pattes antérieures sont noirâtres et longuement frangées de noir, les autres sont jaunes et rayées; le genre est largement distribué, *C. ciliatus* E. Sim. a été décrit d'Éthiopie, *C. lucipeta* E. Sim., du Zanguebar, *C. rufopictus* E. Sim., de l'Afrique occidentale et australe, *C. chionogaster* E. Sim., de l'Afrique australe, où il est commun, et de Madagascar, *C. flavocinctus* E. Sim., de Singapour, *C. severus* E. Sim., de Chine, le *C. semiglaucus* E. Sim. a été trouvé à Ceylan et aux Philippines.

Cyllobelus are covered with scales, long on the prosoma, very large, rounded, and overlapping on the opisthosoma, generally dark and metallic in appearance, except for several species from the Indies (*C. semiglaucus* E. Simon and others), which have a mixture of bright red and brilliant pale green; their large legs I are blackish and have long black fringes, the others are yellow and lineate; the genus is widely distributed, *C. ciliatus* E. Simon was described from Ethiopia, *C. lucipeta* E. Simon, from Zanzibar, *C. rufopictus* E. Simon, from western and southern Africa, *C. chionogaster* E. Simon from southern Africa, where it is common, and from Madagascar, *C. flavocinctus* E. Simon, from Singapore, *C. severus* E. Simon, from China, and *C. semiglaucus* E. Simon, was found in Sri Lanka and in the Philippines.

The opisthosomal scales (or *scalae*, Hill 2006) described here by Simon are very similar to the rounded, overlapping opisthosomal scales of *Cosmophasis* sp., described by Hill (1979; fig. 2), also found in some related spiders of the genus *Natta* (fig. 3).

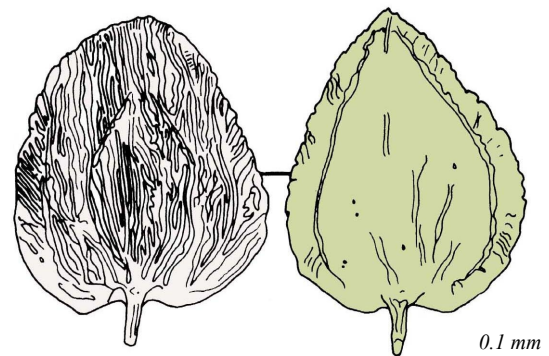


Fig. 2. Camera lucida drawing of two different opisthosomal scales (white granular at left, olive clear or transparent at right) from a male *Cosmophasis* sp., collected in Brunei in 1975.³



Fig. 3. Gravid female *Natta horizontalis* Karsch 1879 (type of *Natta*), from Richards Bay, South Africa. If you zoom in on this remarkably detailed photograph, you can see individual rounded scales on the opisthosoma, and the more frequently encountered elongated scales on the prosoma. The overlap of the array of opisthosomal scales is much greater when this spider is not gravid. This species is widely distributed across the African continent. Photograph © Hannes Mitchell.³

Of the seven species of *Cylobelus* listed by Simon, only three (*flavocinctus*, *semiglaucus*, and *severus*) are presently assigned to *Siler* (Prószyński 2006a). All of the African species (*chionogaster*, *ciliatus*, *lucipeta*, *rufopicta*) have been assigned to *Natta* (Prószyński 2006b). Thus the scales of *Siler* by itself have not been described to date, and their relationship to the distinctive scales of *Cosmophasis* and *Natta* remains to be determined. *Natta* and *Siler*, like *Cosmophasis* (Maddison *et al.* 2008), may be closely related heliophanine salticids. Prószyński's (1985) drawings of the male *N. horizontalis* indicate that these spiders also have a bottle brush on the tibia of legs I, like that found in *S. semiglaucus*.

Several color photographs, at least of female *Siler semiglaucus* or a related species, are available (Murphy and Murphy 2000, Prószyński 2000b). The female *Siler* shown here (fig. 4), from Singapore, is similar to those earlier photographs of *S. semiglaucus*.



Fig. 4. Female *Siler semiglaucus* (Simon 1901a), from Singapore. Photograph by Marcus Ng.³ Note the absence of the dark black bottle brushes found on tibia I of the male. The areas of bright, iridescent blue scales are joined on each side of the opisthosoma.

Cambridge (1871) first described the related *Siler collingwoodi* (as *Salticus Collingwoodi*), a spider presently reported from Hong Kong and parts of mainland China (Prószyński 2000a). Simon (1901b) later assigned this spider (misspelled as *Collingwodi*) to the genus *Cosmophasis*.

In both the original French and an English translation, here is Simon's (1901b, pp. 548-549) brief description of the coloration of *collingwoodi*, as part of his new genus, *Cosmophasis*:

Le genre *Cosmophasis* beaucoup d'espèces plus petites (*C. laticlavata* Th., *Collingwodi* Cambr., *quadricincta*, *miniacemicans*,

Weyersi E. Sim (2), etc., etc.) sont en partie d'un beau rouge, en partie d'un vert pâle métallique, diversement disposés.

The genus *Cosmophasis* ... [includes] many smaller species (*C. laticlavata* Thorell, *Collingwoodi* Cambridge, *quadricincta*, *miniacemicans*, *Weyersi* E. Simon (2), and others) that are variously decorated partly in bright red, and partly in a pale metallic green.

This description is of interest because Simon provided very similar, and accurate, descriptions for the color of his (*Cosmophasis*) *Collingwoodi* and (*Cylobelus*) *semiglaucus*, yet placed these very similar spiders into two different genera. Now they are both placed in a third genus (*Siler*) that Simon described several years earlier (Simon 1889, Prószyński 1985, 1999, 2000a, 2000b).

Prószyński's (1985) description and drawing of the dorsal opisthosoma of *S. collingwoodi* agree with the male *Siler* from Hong Kong depicted here in figs. 5 and 6.



Fig. 5. Dorsal view of an adult male *Siler* from Hong Kong. Photograph by Charles Lam.³ The dorsal-ventral bottle brushes on tibiae I cannot be seen in this dorsal view. Note the distinct separation of two patches of iridescent blue scales on the dorsal opisthosoma. This spider was missing leg L3 (left III).



Fig. 6. Second view of the adult male *Siler* from Hong Kong shown in fig. 4, with a lateral perspective. Photograph by Charles Lam.³ In this lateral view, the long, black dorsal-ventral bottle brush setae of the male tibia I can be seen clearly, as well as a smaller group of dark setae on the underside of femur I.

Note the presence of a pair of red spots at the rear of the prosoma of this spider, and the separation of two round patches of light-blue, iridescent scales on the dorsal opisthosoma. Published figures of the male pedipalps of the two species (*S. collingwoodi*, *S. semiglaucus*) suggest that they should be relatively easy to separate under the microscope (Prószyński 1985, 2000a, 2000b).

Initially, when I reviewed the photographs presented in figs. 5 and 6, I thought that they might illustrate an ability of these spiders to extend the setae of each bottle brush. Whether this is true will require a study of the behavior of live spiders, as the difference in perspective of the two images may by itself account for this difference in appearance. Judging from photographs of both male and female *Siler*, these spiders appear to wave their legs as they move about on vegetation. The development of these bottle brushes on the tibiae of males is clearly sex-linked, and must have something to do with the performance of the males during courtship. This may involve visual effect, tactile effect (as many if not most salticids stroke the female rhythmically as they approach from the front), or some combination of the two.

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