

A new and undescribed *Myrmarachne* sp. from Karnataka (Araneae: Salticidae: Myrmarachnina)¹

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The ant-mimicking jumping spider *Myrmarachne plataleoides* (O. Pickard-Cambridge 1869) is widely distributed in tropical south and southeast Asia, well-known for its association with the Asian weaver (or green tree) ant, *Oecophylla smaragdina* Fabricius 1775 (Figures 1, 2.5-6, 3.5-6).

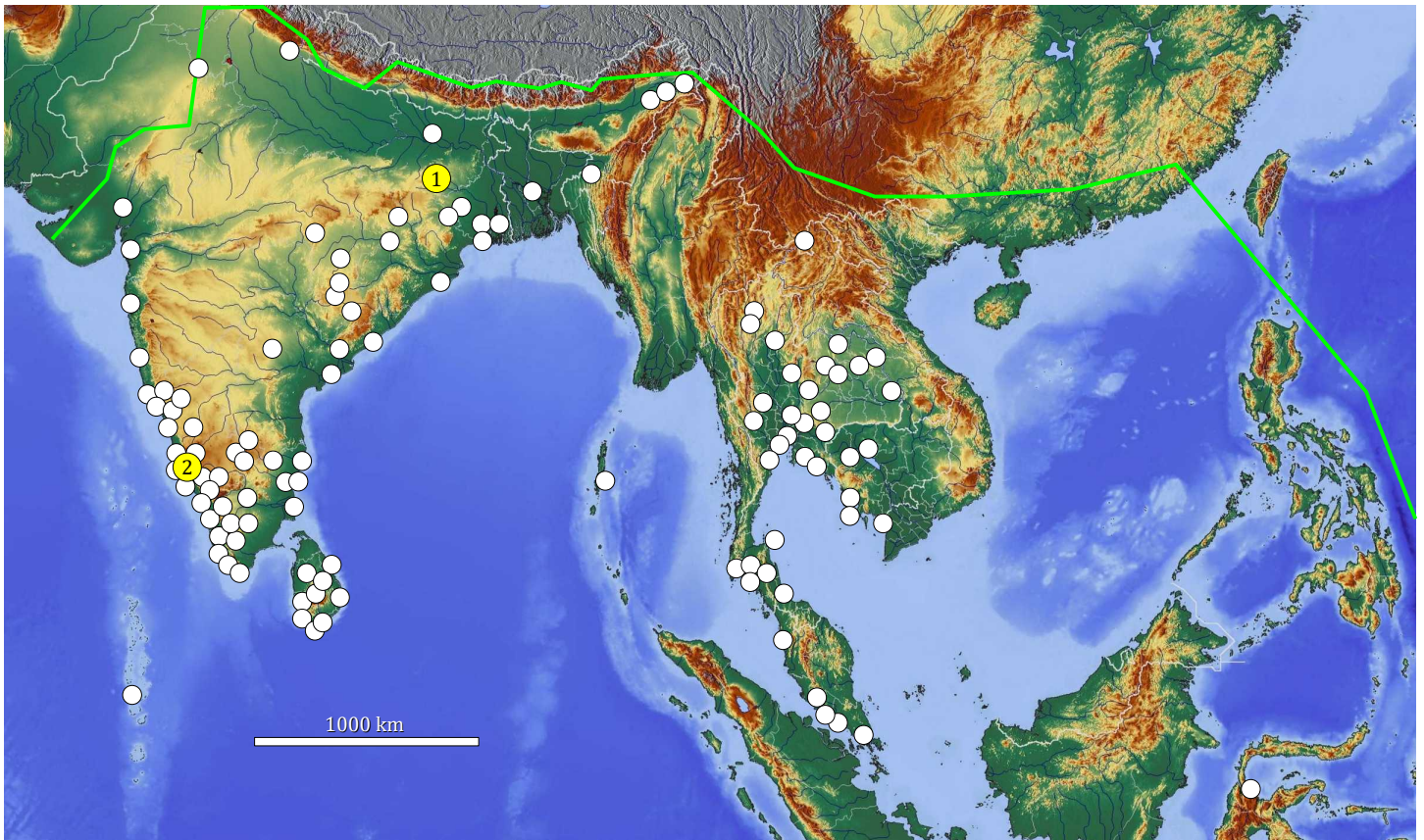


Figure 1. Distribution of *Myrmarachne plataleoides* in tropical Asia, based on verified records reported in iNaturalist (white circles). Each circle represents one or more records. Yellow circles represent the location of (1) a recent report of a black form of *M. plataleoides* by Kumar, Gupta & Sharma (2022), and (2) the black form that we report here that we consider to represent a different and new species. The solid green line at top represents the northernmost distribution of the Asian weaver ant, *Oecophylla smaragdina*. The background relief map shown here is in the public domain (CC0), courtesy of maps-for-free (<https://maps-for-free.com>).

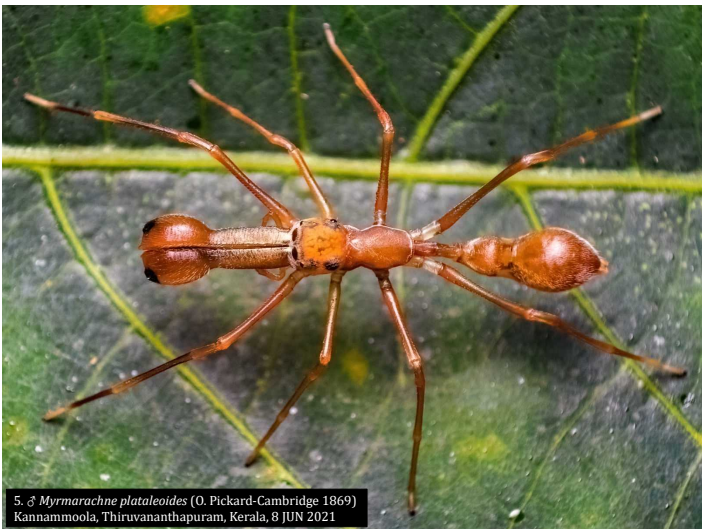
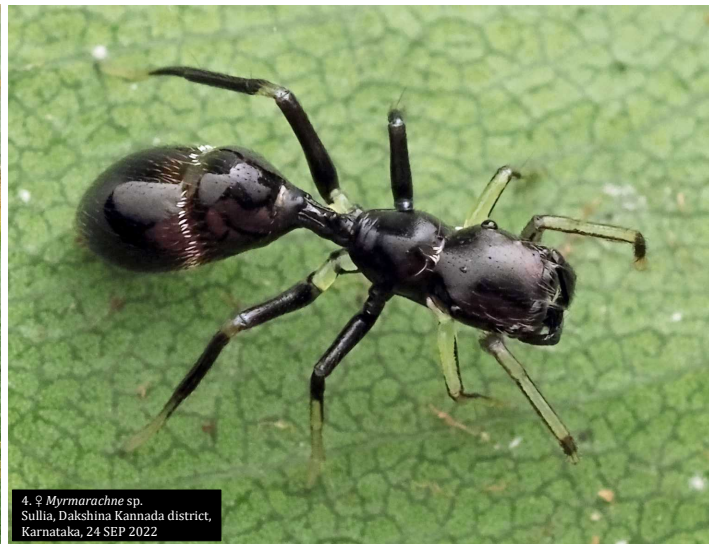


Figure 2. Comparison of a new *Myrmarachne* sp. recently found at Uduvekodi, private farm, Sullia in the Dakshina Kannada district of Karnataka (1-4) with the well-known *M. plataleoides* (5-6). Attribution and ©: 5, Harikrishnan S; 6, Roman Prokhorov.



1. *Polyrhachis*, subgenus *Myrmhopla* sp.
Sullia, Dakshina Kannada district,
Karnataka, 24 SEP 2022



2. *Polyrhachis*, subgenus *Myrmhopla* sp.
Sullia, Dakshina Kannada district,
Karnataka, 24 SEP 2022



3. *Camponotus compressus* (Fabricius 1787)
Khargar, Maharashtra, 23 MAY 2015



4. *Camponotus compressus*
Anantapur, Andhra Pradesh, 18 FEB 2022



5. *Oecophylla smaragdina* Fabricius 1775
Si Kung, New Territories,
Hong Kong, 10 MAY 2022



6. *Oecophylla smaragdina*
Singapore, 2 JAN 2017

Figure 3. Ant associates of *Myrmarachne* jumping spiders in India. **1-2**, *Polyrhachis* (subgenus *Myrmhopla*) ants found with the new *Myrmarachne* from Sullia. **3-4**, Ground-nesting Indian black ants (*Camponotus compressus*), a species found with the black form of *M. plataleoides* recently described by Kumar, Gupta & Sharma (2022). **5-6**, Group activities of Asian weaver ants (*Oecophylla smaragdina*), a species usually found with *M. plataleoides*. Attribution and ©: 3, Soumendra Mukhopadhyay; 4, Girish Gowda; 5, paulmckenzie; 6, budak.

Here we report a new *Myrmarachne* from Uduvekodi, private farm, Sullia, Dakshina Kannada district of Karnataka (Figure 2.1-4), clearly related to *M. plataleoides* but also distinct from that species. These spiders were found on sapodilla (*Manilkara zapota*) leaves on a plant that was full of black *Polyrhachis* ants (Figure 3.1-2). Curiously, sapodilla is a native of southern Mexico, Central America, and the Caribbean. These *Polyrhachis* are weaver ants, like *Oecophylla*, and they also build their nests by joining adjacent leaves together. *O. smaragdina* were also found in the area.

Prószyński (2016) recently separated several *Myrmarachne* into a new genus, *Myrmaplatys*. Of the species that he transferred to this genus only one, *M. plataleoides*, has been reported from India (Kumar, Gupta & Sharma 2022; WSC 2022). Although similar in shape to *M. plataleoides*, the new *Myrmarachne* sp. from Sullia differs by its color and setation, and its association with black *Polyrhachis* ants. There are other differences that may be more significant. The distal half of each paturon of the male *Myrmarachne* sp. is inflated. Significant less than half of the paturon of the male *M. plataleoides* is inflated. The carapace of the male and female of this *Myrmarachne* species is considerable wider than in *M. plataleoides*. This is particularly evident when one compares the narrow thoracic region of the carapace of the female *M. plataleoides* to the wider, rounded thoracic region of the female *Myrmarachne* sp. We have not examined the genitalia of this species, but experience with other salticids (e.g. *Maratus*) has shown that even the detailed structure of genitalia is not always a reliable indicator of species.

In their description of a black form of *M. plataleoides* that associated with a different species, the ground-dwelling ant *Camponotus compressus* (Figure 3.3-4) at the Hazaribagh Wildlife Sanctuary in Jharkand, India, Kumar, Gupta & Sharma (2022) provided illustrations of the genitalia that agree favorably with earlier descriptions of *M. plataleoides*. The association of this species with a ground-dwelling ant that is completely different from *O. smaragdina* is certainly unusual. In addition, from their published figures, fully $\frac{1}{2}$ of each paturon of the males that they found was inflated, more like our *Myrmarachne* sp. than *M. plataleoides*, where only the distal $\frac{2}{5}$ of each paturon is inflated. This suggests that more study of these spiders is in order.

The ant associates of the earlier stages of *Myrmarachne plataleoides* need more study. The early instars of *M. plataleoides* are quite different from the adults (Figure 4). Although they are not known to associate with these ants, they have been reported to resemble either the tropical fire ant *Solenopsis geminata* (Fabricius 1804), or the yellow crazy ant *Anoplolepis gracilipes* F. Smith 1857; by the 5th instar, however, they resemble *Oecophylla smaragdina* workers in both size and coloration (Bhattacharya 1936, 1937; Marson 1946).



Figure 4. Early instars of *Myrmarachne plataleoides* in Karnataka. **1-2**, Emergent (instar II) spiders. **3**, Later immature.

Acknowledgments

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