

## A NEW ANT-LIKE SPIDER OF THE GENUS *MYRMARACHNE* (SALTICIDAE) FROM INDIA

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### ABSTRACT

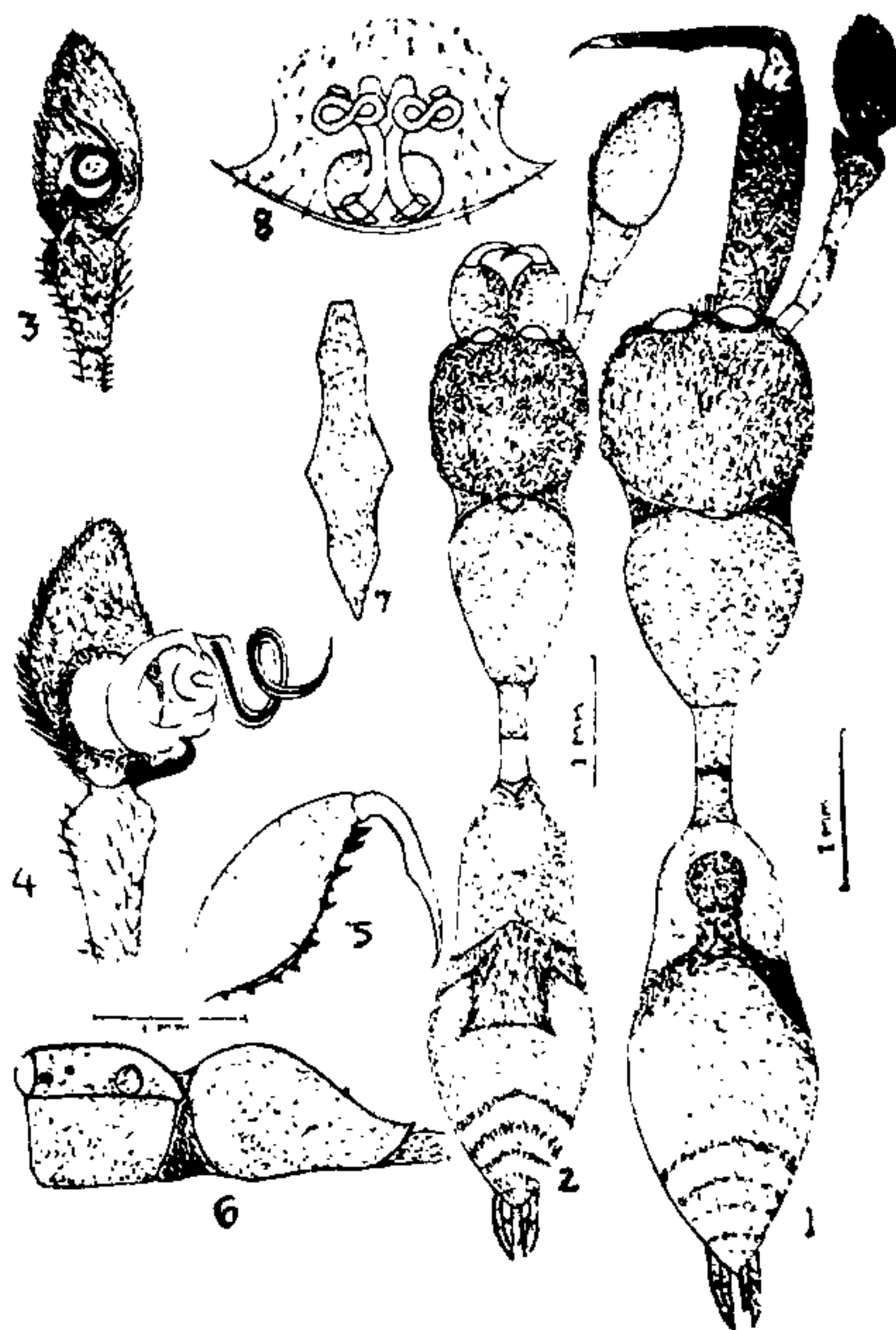
Description of a new ant-like spider, *Myrmarachne platypalpus* sp. nov. (Araneae: Salticidae) which mimics the common black ant *Camponotus* sp. is given.

THE ant-like spiders of the family Salticidae are not so well known from India. Even the classical work on Indian spiders by Pocock<sup>1</sup> gives no information on these spiders. Narayan<sup>2</sup> and Tikader<sup>3</sup> reported ant-like spiders of the two genera, *Myrmarachne* Mac Leay, and *Harmochirus* Simon, from India. The genus *Bellotta* Peckham was reported by Dyal<sup>4</sup> from Lahore. Tikader<sup>5</sup> recorded four new species namely, *Myrmarachne orientalis*, *M. poonaensis*, *M. maratha* and *M. bengalensis* from India. Mittal and Bradoo<sup>6</sup> reported two new species, *M. cheliceraus* from Kashmir and *M. chandigarhensis* from Chandigarh. The genus *Myrmarachne* is now represented by a total of 18 species from India, including the new species reported in this paper. The new species mimics the workers of the black ant *Camponotus* sp.

*Myrmarachne platypalpus* sp. nov. (Figs. 1-8)

**Holotype male** (Fig. 1).: General colour dark, cephalic region black, thoracic reddish-brown; legs banded with dark longitudinal streaks. Total length including chelicerae, 7.5 mm; cephalothorax, 2.2; petiole, 1.0; abdomen, 3.0; chelicera (basal segment) 1.3; I leg, 4.5; II, 3.1; III, 4.0; and IV, 6.0 mm, long. **Cephalothorax**: Longer than wide, cephalic part high with dorsum flat and covered with dense grey hairs near the anterior margin; separated from the thoracic by a distinct groove, marked dorsally by a small brown spot and laterally by short, forwardly directed grey hairs. Eyes with anterior row recurved, medians bluish; posterior medians small, located closer to the antero-laterals; postero-laterals pigmented, but larger than the antero-laterals. Pedipalps reddish-brown near base; apical two segments dark and flat. Palpal organ as shown in Figs. 3 and 4, with embolus reaching upto the center of the bulb. The palpal organ is provided at the base by a characteristic chitinous spur bearing a minute denticle on the inner surface (Fig. 4).

**Chelicerae** (Fig. 5): Large, black and flat from above; inner surface broad; cheliceral teeth 9 in the dorsal row, present in a decreasing order towards the base; 5 in the ventral row that are minute and placed so close to the dorsal row that the cheliceral



FIGS. 1-8. *Myrmarachne platypalpus* sp. nov. Fig. 1. Male. Fig. 2. Female. Fig. 3. Palpal organ (normal). Fig. 4. Palpal organ expanded to show the details. Fig. 5. Chelicera of male. Fig. 6. Cephalothorax of female, in side view. Fig. 7. Sternum of female. Fig. 8. Female epigynum and genitalia.

groove is indistinct. **Legs**: thin and long; anterior two pairs paler, provided with longitudinal dark marginal streaks. Leg III with coxa, trochanter, femur, patella apically and tibia near base, black. Hind coxa, trochanter, femur, patella and tibia partially black. Tarso-metatarsal joints of all the legs with a ring of spines. Claws black. Leg formula, 4132. **Abdomen**: Wider than cephalothorax; petiole long and distinct; lateral tracts of short grey hairs present near the anterior constriction join a circular brown

spot on the dorsal side of the abdomen. Posterior dorsal end with few transverse rows of grey hairs.

*Allotype female* (Fig. 2): General colour similar to that of the male. Total length, 6.6–8.8 mm (Allotype, 6.6); cephalothorax, 2.8; petiole, 1.0; abdomen, 2.8; Leg I, 3.5; II, 3.0; III, 4.0; and IV, 6.0 mm long. *Cephalothorax*: Longer than wide, cephalic part with dorsum flat and black, sides rounded, separated from the thoracic by a distinct groove, marked dorsally by a small brownish spot and laterally by forwardly directed, thin, short grey hairs like those of the male. Thoracic part reddish-brown to black, gradually sloping behind into a blunt posterior end turned slightly upward (Fig. 6). Eyes arranged as in the male but they are darker and indistinguishable from rest of the cephalic region. Pedipalps with apical two segments very large, flat and black (hence the specific name *platypalpus*), with outer surface smooth and hairs restricted to the margins only. Sternum (Fig. 7) is dark and long like that of the male. *Legs*: anterior two pairs similar to those of the male. Leg III with basal three segments black. Leg IV with coxa, trochanter partially, femur completely, patella near apex and whole of the tibia and metatarsus, black; tarsus clear. Claws black and tarso-metatarsal spines present. Leg formula, 4312. *Abdomen*: Wider than cephalothorax; petiole long and distinct. Lateral tracts of grey hairs present near the anterior constriction, which join a rectangular grey spot on the dorsal side of the abdomen. Transverse rows of grey hairs present on the posterior dorsal side which gives a segmented appearance to the abdomen. Epigynum and female genitalia characteristic with highly coiled ducts as shown in Fig. 8.

*Locality*: *Holotype*, one male; *allotype*, one female; *paratypes*, 3 females and 2 males, preserved in alcohol, collected by B. L. Bradoo, from Sector-15, Chandigarh, between 14-4-1977 to 15-9-1977. All the specimens will be deposited in the collections of the Zoological Survey of India, Calcutta.

*Remarks*: *M. platypalpus* sp. nov. closely resembles *M. chandigarhensis* Mittal and Bradoo but differs from it in size, shape of the pedipalps, structure of the genitalia and the palpal organ. The cheliceral teeth are 9 in the dorsal row, arranged in a decreasing order towards the base, and the shape and position of the 5 minute ventrals that are so close to the dorsals that the cheliceral groove is indistinct.

*Biology*: Males and females of *M. platypalpus* sp. nov., when placed together in observation jars, showed mating behaviour which is similar to *M. platyleoides* (Camb.) as reported by Mathew<sup>7</sup>. The male takes his position in opposite direction on one side of the female to introduce its palpal organ into the female epigynum. Then it moves back and takes a new position on the other side of the female, to use the second palp. Each palp is thus used only once in every mating and introduced into the epigynum for 2–3 minutes. After a few days, the impregnated female makes a silken platform on which she deposits only 6 yellowish eggs that are covered with loose silk threads. The mother sits guard for few days and spins an elongated dome-like web over her body resting on the eggs. According to Mathew<sup>8</sup>, the low fertility among ant-like spiders is well compensated by the protective value of their mimicry. The morphological adaptations of this type of mimicry have been discussed in detail by Reiskind<sup>9,10</sup>.

*M. platypalpus* sp. nov. was observed frequently inside the kitchens and the bathrooms to feed on small and numerous moth flies (Psychodidae) and small nymphs of cockroaches like *Periplaneta americana*. I have never found this spider feeding on any kind of ants during my field studies and thus feeding habits of ant-like spiders and the advantages of their mimicry requires detailed investigations.

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