

## ***Sukunahikona popei* sp.n. (Coleoptera: Coccinellidae) feeding on scale insects (Hemiptera: Diaspididae) infesting coconut palm in Gujarat, India**

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### **Abstract**

Coccinellids reported to be feeding on the diaspidid *Chrysomphalus aonidum* (L.) infesting coconut palms in Gujarat, India, were found to belong to an undescribed species. This is described here as *Sukunahikona popei* sp.n. and is compared with other species of the genus. A key to the species is given. This is the first record of the tribe Sukunahikoni in India.

### **Introduction**

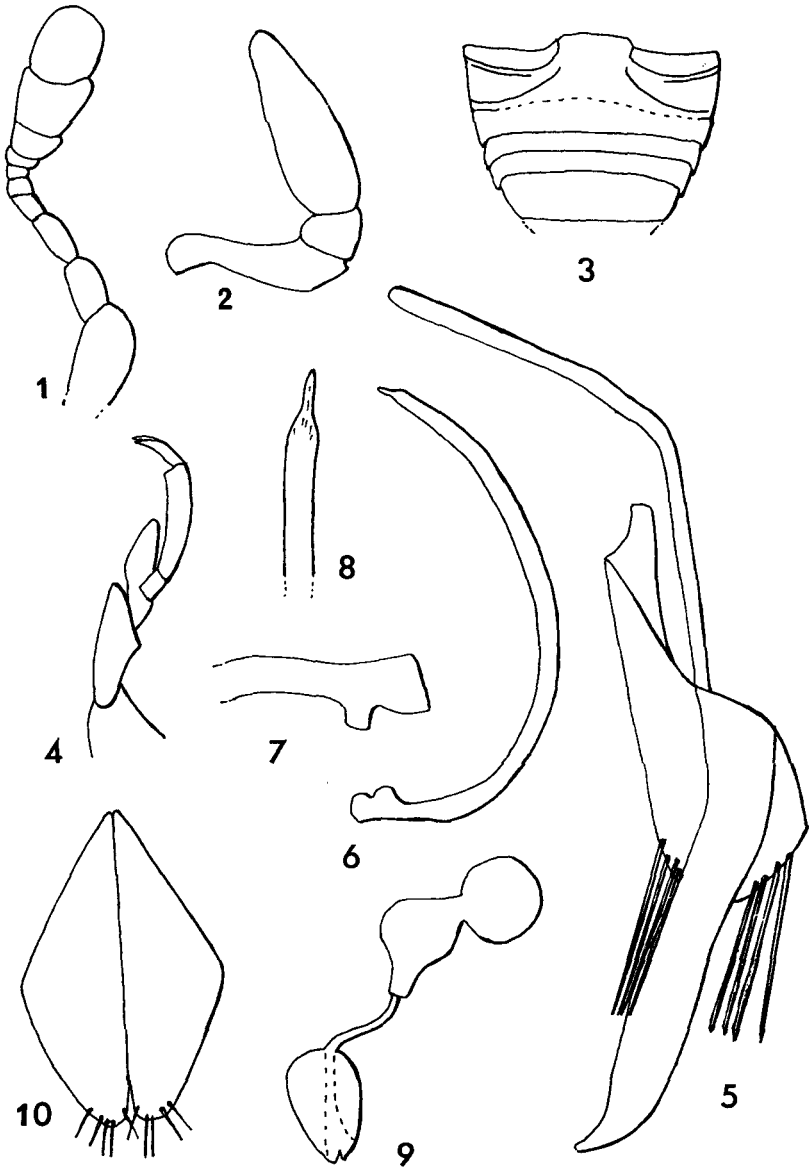
Recently, the Commonwealth Institute of Entomology, London, received for identification a number of specimens of very small coccinellids that were reported to be feeding on scale insects infesting coconut palms in the state of Gujarat, India. They belong to an undescribed species of the genus *Sukunahikona* Kamiya (1960), tribe Sukunahikoni and subfamily Sticholotidinae. This genus was hitherto known from one species from Japan and one from Japan and Taiwan, both of which are of economic importance, as they prey upon diaspidine scale insects. *S. japonica* Kamiya has been reported on *Aulacaspis difficilis* (Cockerell) and *S. bicolor* Kamiya on "Diaspididae sp. on Citrus" (Kamiya, 1966; Sasaji, 1971). This genus is closely related to *Scotoscymnus* Weise (= *Pharellus* Sicard). About the close relationship between these two genera, Gordon (1977) wrote "It is possible that *Sukunahikona* Kamiya is congeneric with *Scotoscymnus* and may be placed in synonymy at some future date". He also traced the history of the subfamily Sticholotidinae, and, while discussing the hosts of *Scotoscymnus*, considered the scale insects of the genera *Furcaspis* and *Aspidiotus* as preferred hosts, besides giving other records such as "banana scale", "on coconut" or "on orchids". He also pointed out that definitive host data are not available for most of the species. Chapin (1965) also recorded some species (as *Pharellus*) as associated with *Aspidiotus* sp. on coconut and *Furcaspis* sp. on coconut. Thus, besides close taxonomic relationships, the two genera appear to have similar food preferences.

The species described below is the first of this tribe to be recorded from India, though it is known from Japan, Taiwan, Java and the Micronesian Islands in the east, and Africa and the New World in the west. As in the case of *S. japonica*, the new species was collected together with nitidulid beetles (*Cybocephalus* sp.). Presumably, both were feeding on the same species of scale insects.

### ***Sukunahikona popei* sp.n.**

Length 0.95-1.10 mm, breadth 0.7-0.8 mm.

Form short, oval, dorsal surface convex, pubescent. Colour dark brown to black except for yellowish-testaceous mouthparts, antennae and legs. Head shining, surface



Figs. 1-10.—*Sukunahikona popei* sp.n. 1, antenna; 2, maxillary palp; 3, abdominal sternites i-v; 4, fore-tarsus; 5, lateral view of male genitalia without siph; 6, siph; 7, capsule of siph; 8, apical portion of siph; 9, spermatheca and bursa copularis; 10, genital plates in female.

reticulated; eyes semi-circular, coarsely faceted. Antennae (Fig. 1) ten-segmented, with three-segmented club, basal segment stout, longer than broad, second segment a little narrower, third segment cylindrical and a little longer than second, about twice as long as broad; segments four to six small, subquadrate and subequal, seventh a little transverse; segments eight to ten forming a club. Apical segment of maxillary palpus (Fig. 2) elongate, conical. Pronotum shining; surface reticulated, with an oblique carina on its anterior corner; punctation coarse, separated by more than twice its own diameter, with suberect hairs. Elytron black, but indistinctly paler towards apex; reticulation and punctation as on pronotum; punctures not arranged in rows; pubescence composed of uniformly suberect hairs; humeral callus present; lateral carina extending well beyond the middle and touching the lateral margin at about three-fourths its length from the base. Functional wings present. Prosternal process narrow, slender; prosternum not lobed anteriorly. Legs normal. Abdomen (Fig. 3) with six visible sternites, with incomplete fusion between the first and second sternites. Meso- and metasternum not fused. Posterior coxal lines (femoral lines) arched, extending almost to lateral margin of first sternite as well as its posterior margin; an oblique line at lateral part of each side also present. Tarsi (Fig. 4) cryptotetramerous.

Male genitalia (Fig. 5) with basal lobe (median lobe) about five times as long as broad, bent ventrally at apex; parameres short, greatly reduced, each with four elongate setae; siphon (Fig. 6) slender, weakly curved, capsule (Fig. 7) very short, apex (Fig. 8) acuminate, not bisinuate.

Female genitalia (Fig. 9): spermathecal capsule composed of a large round basal lobe and an irregular lobe connected by the duct to the bursa copularis. Each half of the ninth sternite (genital plate) (Fig. 10) elongate triangular and with long styli plus a few setae.

*Material examined.* Holotype ♂, INDIA: Gujarat, Mahuva, on slide, feeding on the diaspidid *Chrysomphalus aonidum* (L.) on coconut palm. Paratypes, 2 ♂, 1 ♀, on slide, 16 others unsexed on pins, same data as the holotype. Deposited in British Museum (Natural History), London.

*Comments.* This species is closer to *S. bicolor* in the shape of its male genitalia and posterior coxal lines than to *S. japonica* but differs from the former in (i) being uniformly black or dark brown on dorsal surface, (ii) having longer parameres and (iii) the apex of the siphon being acuminate as against bisinuate.

#### KEY TO SPECIES OF *Sukunahikona*

- 1 Dorsal surface entirely brown or black ..... 2
- Dorsal surface not entirely brown or black; head and pronotum dark red or reddish brown; elytra dark brown or black with a blackish suture; Japan, Taiwan ..... *bicolor*
- 2 Posterior coxal lines on first abdominal sternite reaching posteriorly one-seventh of its length from posterior margin; male genitalia with basal lobe laterally compressed and quadrate; Japan ..... *japonica*
- Posterior coxal lines on the first abdominal sternite almost reaching its posterior margin; male genitalia, with basal lobe not laterally compressed as above and not quadrate, more elongate, and bent at apex ventrally; India .... *popei* sp.n.

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