

*Jpn. J. Ent.*, 65(2): 407–412. June 25, 1997

On the Genus *Paraxenos* from Sri Lanka in the Collection  
of the Smithsonian Institution with a Checklist of  
Strepsiptera from Sri Lanka and India

(Notulae Strepsipterologicae—XXIV)

Teiji KIFUNE

Department of Parasitology, School of Medicine,  
Fukuoka University, Fukuoka, 814–80 Japan

**Abstract** Three male puparia and an adult female of *Paraxenos indicus* (PIERCE, 1911) (Strepsiptera: Stylopidae) were discovered in two males of *Tachytes modestus* F. SMITH and a female of *T. vischnu* CAMERON which were collected in Sri Lanka and are preserved in the collection of the Smithsonian Institution, Washington, D. C., U.S.A. The present records of the hosts and localities are new to science.

Key words: *Paraxenos*; *Tachytes*; Sri Lanka; new locality.

A few stylopized records of wasps have been recorded from Sri Lanka (KIFUNE & HIRASHIMA, 1980, 1983, 1987; KATHIRITHAMBY, 1994). By the courtesy of Dr. Karl V. KROMBEIN, I was able to examine 3 stylopized specimens of the genus *Tachytes* (Hymenoptera, Sphecidae): viz. two *T. modestus* F. SMITH and one *T. vischnu* CAMERON, the latter of which has been unknown to be stylopized until now. Very fortunately, the male parasites have been extracted from both host species, and the latter contained 1 female parasite also. All of the present specimens are identified as *Paraxenos indicus* (PIERCE, 1911) described from India and from *Tachytes xenoferus* ROHWER. No additional record has been published since the original description.

Stylopidae

*Paraxenos indicus* (PIERCE, 1911)

(Figs. 1–5)

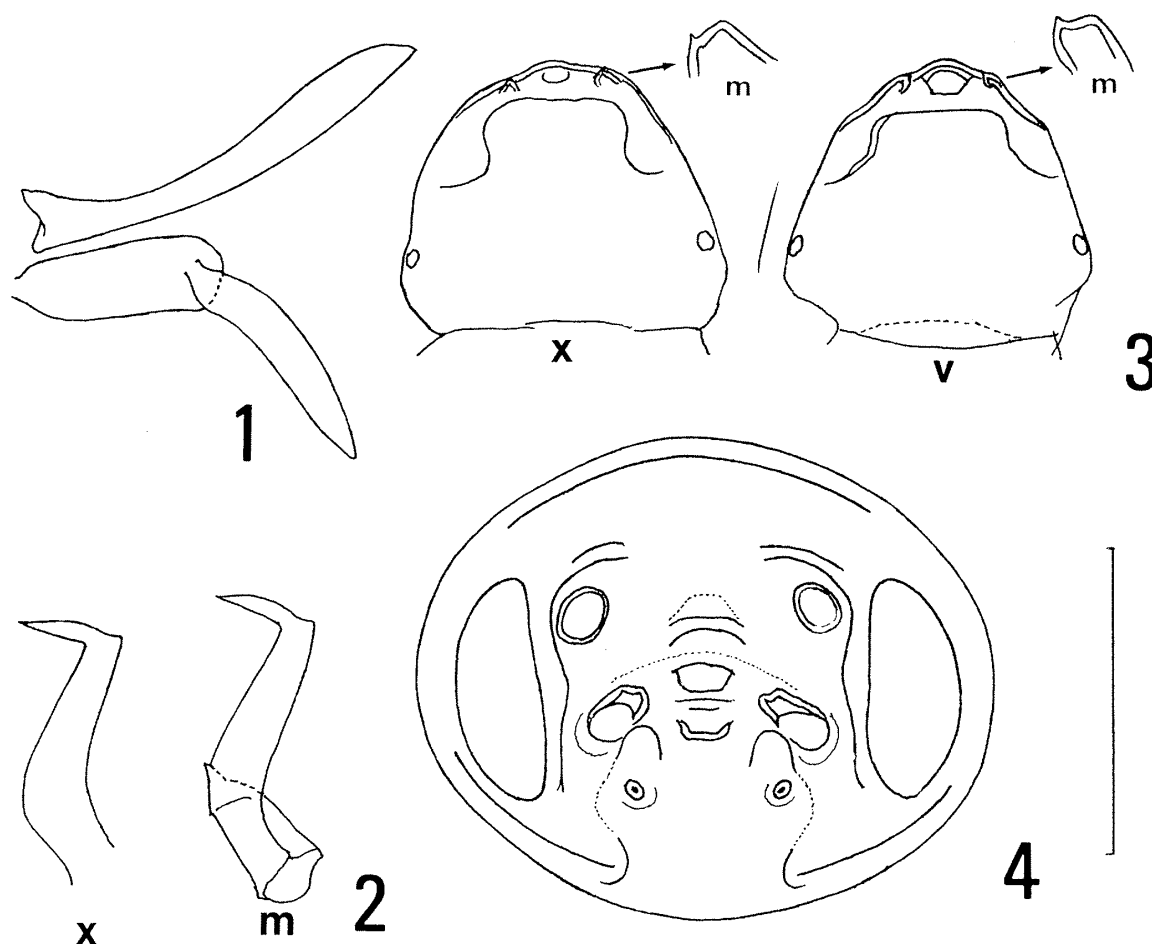
*Specimens examined.* [Host: *Tachytes modestus*] 1 mounted ♂ with cephalotheca extracted from a male host (3/4R\*), Sri Lanka, Col. Dist., Labugama Reservoir, Jungle. 13–14–X–1973, K. V. KROMBEIN, P. B. KARUNARATNE, P. FERNANDO, & J. FERDINANDO leg.; 1 mounted ♂ extracted from another male host (4/5L), Sri Lanka, Col. Dist., Ratmalana, Zoo Farm, 19 January

\* 3/4R means that a parasite was exerted on the right side between the 3rd and 4th tergites of the host gaster.

1975, K. V. KROMBEIN, P. B. KARUNARATNE, P. FERNANDO, & N. V. T. A. WERAGODA leg. [Host: *Tachytes vischnu*] 1 ♂ without cephalotheca (lost) (4/5R) and 1 gravid female (4/5L) mounted on a slide, both extracted from a female host, Sri Lanka, Col. Dist., Kalatuwawa Reservoir, 2–3 February 1977, K. V. KROMBEIN, P. B. KARUNARATNE, P. FERNANDO, D. W. BALASORIIYA, & V. GUNAWARDANE leg.

All of the present host wasps were identified by Dr. W. J. PUŁAWSKI. All of the specimens are in the National Museum of Natural History (USNM), Smithsonian Institution, Washington, D. C., U.S.A.

*Remarks.* By the courtesy of Dr. Gary F. HEVEL of the Smithsonian Institution, I have been able to compare the present material with the two



Figs. 1–4. *Paraxenos indicus*. 1: Right mandible and maxillary palpus of a male from *Tachytes modestus*, ventral view. 2: Aedeagi of the cotype male (x) from *T. xenoferus* and of another male (m) from *T. modestus*. 3: Cephalothorax of the cotype female (x) from *T. xenoferus* and of another female from *T. vischnu* (v) with each left mandible (m), ventral view. 4: Cephalotheca of a male puparium from *T. modestus*.

Scale: 0.25 mm for figs 1, 2, and 3 m; 1 mm for fig. 3; 0.5 mm for fig. 4.

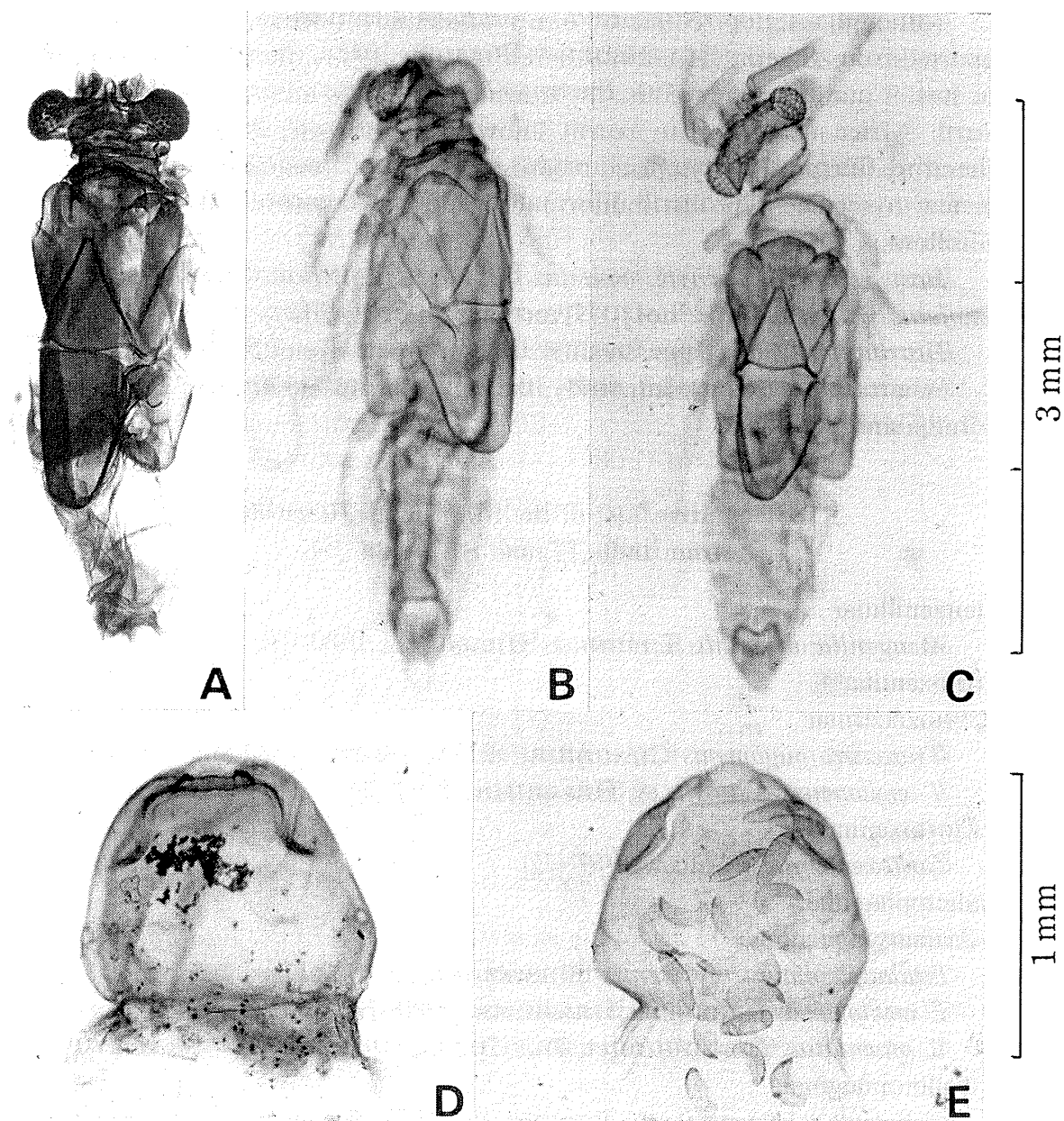


Fig. 5. *Paraxenos indicus*. A: The cotype male from *T. xenoferus*. B: A male from *T. modestus*. C: Another male from *T. vischnu*. D: Cephalothorax of the cotype female, ventral view. E: Cephalothorax of a female from *T. vischnu*, ventral view.

cotypes of *P. indicus* (PIERCE, 1911) obtained from *Tachytes xenoferus* collected in India and the identity of these species has been ascertained. The original description of this strepsipteran as *Tachytixenos indicus* by PIERCE (1911) was without any figures. He showed, thereafter, only the lateral aspect of the aedeagus in his following work (1911a). His figure, however, seems to be inaccurate. For reference, some organs of the type specimens and of the present materials are illustrated in Figs. 1–5.

Although a stylopized record of a specimen identified as *T. modestus*? was reported from Algeria (HOFENEDER & FUKMEK, 1943), the specific identity of the host is questionable because the true *modestus* does not occur as far west as North Africa according to recent knowledge (BOHART & MENKE, 1976). Therefore, the present stylopized records of the true *T. modestus* and *T. vischnu* are new to science. The distribution and the host preferences of this stylopid are as follows:

*Hosts recorded:* *Tachytes modestus* F. SMITH *T. vischnu* CAMERON, and *T. xenoferus* ROHWER [type host] (Hymenoptera: Sphecidae).

*Distribution:* India [type locality: Deesa, Gujarat] and Sri Lanka.

As a result of the present study, the following species are known to occur in India and Sri Lanka.

#### A Tentative List of the Strepsiptera Recorded from India [I] and Sri Lanka [S]

##### Mengenillidae

*Mengenilla orientalis* KIFUNE et HIRASHIMA, 1980 [S]

##### Corioxenidae

###### Triozocerinae

*Triozocera pugiopenis* CHAUDHURI et DAS GUPTA, 1979 [I]

*T. ceylonensis* KIFUNE et HIRASHIMA, 1983 [S]

###### Corioxeninae

*Corioxenos raoi* BALIGA, 1967 [I]

##### Halictophagidae

###### Tridactylophaginae

*Tridactylophagus mysorensis* SUBRAMANIAM, 1932 [I]

*T. ceylonensis* KIFUNE et HIRASHIMA, 1980 [S]

*T. maculatus* CHAUDHURI et DAS GUPTA, 1980 [I]

###### Halictophaginae

*Halictophagus australensis* PERKINS, 1905 [S] (formerly *H. spectrus* Yang, 1964)

*H. peradeniya* (PIERCE, 1911) [S]

*H. compactus* (PIERCE, 1914) [I]

*H. membraciphaga* (SUBRAMANIAN, 1927) [I]

*H. indicus* BOHART, 1943 [I]

*H. sodeni* HOFENEDER, 1949 [S] (probably a synonym of *H. australensis* PERKINS, 1905)

*H. kifunei* CHAUDHURI et DAS GUPTA, 1983 [I]

*H. tenebrosus* CHAUDHURI, GHOSH et DAS GUPTA, 1983 [I]

*H. radialis* KIFUNE et HIRASHIMA, 1983 [S]

*H. minimus* KIFUNE et HIRASHIMA, 1983 [S]

#### Elenchidae

*Elenchus japonicus* (ESAKI et HASHIMOTO, 1931) [S]

#### Myrmecolacidae

*Lychnocolax similis* CHAUDHURI, GHOSH et DAS GUPTA, 1983 [I]

*Myrmecolax nietneri* WESTWOOD, 1858 [S]

*M. flagellatus* (DE MEIJERE, 1908) [S]

*M. plantipes* (CHAUDHURI, 1978) [I]

*M. pierci* (CHATTOPADHYAY et CHAUDHURI, 1980) [I]

*Stichotrema dallatorreanum* HOFENEDER, 1910 [S]

*S. acutipenis* (KOGAN et OLIVEIRA, 1964) [S] (probably the male of *S. dallatorreanum* HOFENEDER, 1910)

*S. ceylonense* KIFUNE et HIRASHIMA, 1980 [S]

*S. ambiguum* KIFUNE et HIRASHIMA, 1980 [S]

*S. krombeini* KIFUNE et HIRASHIMA, 1980 [S]

*S. simile* KIFUNE et HIRASHIMA, 1980 [S]

*S. minus* KIFUNE et HIRASHIMA, 1980 [S]

#### Stylopidae

##### Xeninae

*Xenos hebraei* KINZELBACH, 1978 [I]

*Paraxenos indicus* (PIERCE, 1911) [I, S]

*P. krombeini* KIFUNE et HIRASHIMA, 1987 [S]

### Acknowledgements

I am grateful to Drs. K. V. KROMBEIN and G. F. HEVEL, the Smithsonian Institution, Washington, D. C., for their kind consideration on the present materials, the loan of the two type specimens of *Tachytixenos* (= *Paraxenos*) *indicus* described by PIERCE (1911), and for their valuable comments on the manuscript.

### References

- BOHART, R. M., & A. S. MENKE, 1976. Sphecids Wasps of the World. A Generic Revision. ix + 695 pp. Univ. Calif. Press, Berkeley, Los Angeles & London.
- HOFENEDER, K., & L. FULMEK, 1943. Verzeichnis der Strepsiptera und ihrer Wirte. *Arb. physiol. ang. Ent. Berl.-Dahl.*, **10**: 32–58.
- KATHIRITHAMBY, J., 1994. Records and a checklist of Strepsiptera (Insecta) from Sri Lanka. *J. S. Asian nat. Hist.*, **1**: 17–25.
- KIFUNE, T., & Y. HIRASHIMA, 1980. Records of the Strepsiptera of Sri Lanka in the collection of the Smithsonian Institution, with descriptions of seven new species (Notulae Strepsipterologicae—VI). *Esakia*, (15): 143–159.

- , 1983. Records of the Strepsiptera from Australia and Sri Lanka in the collection of the Smithsonian Institution, with descriptions of four new species (Notulae Strepsipterologicae—XI). *Esakia*, (20): 157–165.
- , 1987. Three new species of the genus *Paraxenos* (Strepsiptera: Stylopidae) parasitic on *Bembix* (Hymenoptera: Sphecidae) of Sri Lanka and Australia in the collection of the Smithsonian Institution (Notulae Strepsipterologicae—XVII). *Esakia*, (25): 155–160.
- PIERCE, W. D., 1911. Notes on insects of the order Strepsiptera, with descriptions of new species. *Proc. U. S. Nat. Mus.*, **40**: 487–511.
- , 1911a. Strepsiptera. In *Wytsman*, P. (ed.): *Genera Insectorum*, (121): 1–32.

(Received October 31, 1996; Accepted January 30, 1997)