



<http://dx.doi.org/10.11646/zootaxa.4028.1.9>

<http://zoobank.org/urn:lsid:zoobank.org:pub:AF4259E8-B77E-4D46-8044-6F2954805450>

Remarkable sexually dimorphic *Aroidothrips longistylus* newly recorded from China (Thysanoptera: Thripidae)

XIAOLI TONG¹, ZHAOHONG WANG & CHAO ZHAO

Department of Entomology, College of Agriculture, South China Agricultural University, Guangzhou 510642, China

¹Corresponding author. E-mail: xtong@scau.edu.cn

Sexual dimorphism is a phenotypic differentiation between males and females of the same species. Thrips display a wide variety of sexual dimorphism between taxa including size, ornamentation and coloration (Crespi 1986, Mound 2005, Tyagi *et al.* 2008). During recent surveys on the thrips fauna in subtropical China, *Aroidothrips longistylus* Ananthakrishnan, an interesting and little known sexually dimorphic species, was found. This discovery greatly extends the geographic distribution of this species that has been known only from South India (Tyagi *et al.* 2008).

Aroidothrips longistylus Ananthakrishnan, 1960

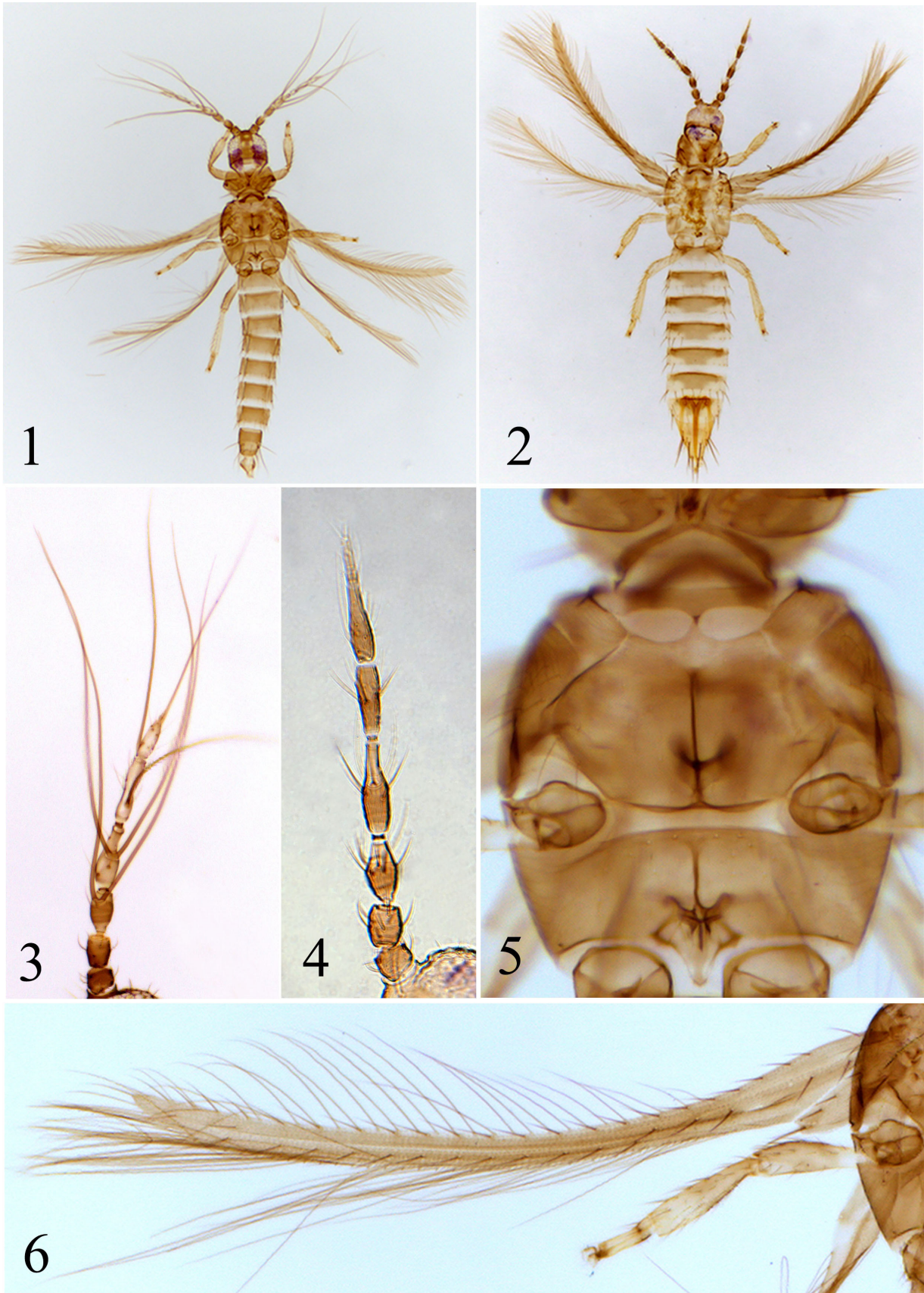
(Figs 1–6)

Female. Macroptera (Fig. 2). Body yellow except for pronotum with a pair of longitudinal brown patches sub-medially, meso- and metanota light brown, fore wings brown and abdominal terga II–VIII each with a brown marking medially but yellow laterally; antennae dark brown but III light brown in apical 1/3 and IV light brown in apical half; head yellowish brown; all legs yellow. Antennae 8-segmented (Fig 4); segment I with a pair of dorso-apical setae, III shorter than IV, widest medially and tapering to apex, IV distinctly narrowed in neck-like distal third; III and IV with long forked sense-cones reaching up to 1/3 the length of the next segment, V and VI with 3 simple sense cones and the dorsal one in VI longest, reaching beyond segment VIII; III–VI covered with rows of microtrichia in basal half; VIII approximately twice as long as VII. Head with transverse anastomosed striae posteriorly; three pairs of ocellar setae present, pair I situated between bases of antennae, pair II close to anterior ocellus near margin of ocellar triangle, pair III longest and placed between anterior margin of posterior ocelli; postocular setae uniserial and short. Maxillary palp 3-segmented. Pronotum with pair of long anteromarginal setae, about 2.5 times as long as anteroangular setae; two pairs of posteroangular setae and one pair of long posteromarginal setae. Meso- and metanotum without CPS; mesonotum weakly sculpture medially; metascutum almost smooth medially but with longitudinal lines laterally and weak transversely reticulate at anterior and posterior. Meso- and metafurca with spinula (Fig. 5). Tarsi 2-segmented. Fore wing first vein with 6 setae in basal half and 2 setae near apex, second vein with 10 setae (Fig 6). Abdominal terga with transverse sculpture lines laterally but smooth between setae pair S2; tergite VIII without posteromarginal comb, IX with one pair of CPS on posterior half, X without dorsal split. Abdominal sterna without discal setae, sternum II with two pairs of marginal setae, sterna III–VII each with three pairs of marginal setae; all terga and sterna without craspedum.

Male. Macroptera (Fig 1). Most character states similar to female. Body uniformly brown including wings and abdomen. Antennae 6-segmented (Fig 3); segments III and IV each with an extremely elongate brown forked sense cone at least 10 times as long as their segment; segment V with three short transparent simple sense cones and one extremely elongate brown simple sense cone; segment VI with two extremely elongate brown sense cones and one short transparent simple sense cone apically; microtrichial rows absent on all antennal segments. Abdominal sterna without pore plate.

Specimens examined. CHINA, Guizhou, Maolan National Nature Reserve, Weng'ang (25°12'N, 107°56'E), 1 male and 1 female collected from *Mosla* sp. (Lamiaceae) beside rice paddy, 3 males from grass (Poaceae), 21.vii.2015, Tong Xiaoli.

Comments. *Aroidothrips* is a monobasic genus with the type species based on two females (Ananthakrishnan 1960). The only other report is of a small population including both sexes on *Oryza sativa* in Karnataka, India (Tyagi *et al.* 2008). At first glance, the female is very similar to *Bathrips melanicornis* (Shumsher) in appearance and color pattern, whereas the male is uniformly brown with reddish violet or lilac pigment (before treatment with NaOH). The male



FIGURES 1–6. *Aroidothrips longistylus*: (1) male; (2) female; (3) antenna of male; (4) antenna of female; (5) meso- and metafurca; (6) fore wing.

antennae have extremely elongate brown sense cones on segments III–VI which are at least 10 times as long as their segment. The sexes are so different that they might be identified as different species or even genera. Females of *A. longistylus* can be distinguished from those of *B. melanicornis* as follows: segment I with a pair of dorso-apical setae (absent in *B. melanicornis*); pair I of ocellar setae present (absent in *B. melanicornis*); pronotum with a pair of elongate anteromarginal setae (absent in *B. melanicornis*); Meso- and metafurca with spinula (metafurca without spinula in *B. melanicornis*). Judging from collection records, *A. longistylus* inhabits warm, moist and unshaded habitats. This record from southwestern China suggests that the species has a wide geographical range in tropical and subtropical areas of the Oriental Region.

Acknowledgements

This study was funded by the National Natural Sciences Foundation of China (No. 31372236) and the Key Project for National Groundwork of Science & Technology (No. 2013FY111500-5-3).

References

- Ananthkrishnan, T.N. (1960) Some Thysanoptera from Nilgiris and Kodaikanal Hills, S. India. *Journal of Bombay Natural History Society*, 57, 557–578.
- Crespi, B.J. (1986) Territoriality and fighting in a colonial thrips, *Hoplothrips pedicularius*, and sexual dimorphism in Thysanoptera. *Ecological Entomology*, 11, 119–130.
<http://dx.doi.org/10.1111/j.1365-2311.1986.tb00286.x>
- Mound, L.A. (2005) Fighting, Flight and Fecundity: Behavioural Determinants of Thysanoptera Structural Diversity. In: Ananthkrishnan, T.N. & Whitman, D. (Eds.), *Insects Phenotypic Plasticity*, Science Publishers Inc., Enfield, N.H., pp. 81–106.
- Tyagi, K., Kumar, V. & Mound, L.A. (2008) Sexual dimorphism among Thysanoptera Terebrantia, with a new species from Malaysia and remarkable species from India in Aeolothripidae and Thripidae. *Insect Systematics and Evolution*, 39, 155–170.
<http://dx.doi.org/10.1163/187631208788784093>