



## Short Communication

# Re-Description and Illustration of Two Species of the Genus *Parabaliotrips* Priesner, 1935 (Thysanoptera: Thripidae), with Report of New Host Plant

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## ABSTRACT

Two species of the genus *Parabaliotrips* Priesner 1935 (*P. coluckus* and *P. takahashii*) are re-described and illustrated in detail based on specimens collected from South China. A checklist of the known species in this genus is provided. New host plant of the genus is discovered. New distinguishing characters between the two species are proposed. Specimens examined are deposited in the Entomological Museum, Northwest A&F University.

## Article Information

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## Key words

Thripinae, *Parabaliotrips*, Host plant, *Alnus cremastogyne*, Distinguishing character.

*Parabaliotrips* is a small genus of Thripidae, which was erected by Priesner in 1935 with *P. takahashii* as its type species. It is a member of the *Frankliniella* genus-group on the basis of the following combinations: presence of 3 pairs of ocellar setae, complete row of setae on both veins of forewing, lack of sternal discal setae, and presence of tergal ctenidia laterally (Gillespie *et al.*, 2002). Up to now, 6 species have been reported in this genus (Kudo, 1977; Girault, 1927; Karny, 1920; Priesner, 1935). Of these 6 species, *P. takahashii*, *P. coluckus*, and *P. grandiceps* from south-east Asia; *P. montanus*, *P. newmani* and *P. setifer* from Australia and New Zealand. Species of this genus had been assumed that they were probably flower living, like many other Thripidae (Gillespie *et al.*, 2002).

In the present paper, two species of the genus *Parabaliotrips* Priesner 1935 (*P. coluckus* and *P. takahashii*) are redescribed and illustrated in detail based on specimens collected from South China. A checklist of the known species in this genus is provided. New host plant of the genus is discovered. New distinguishing characters between the two species are proposed. Specimens examined are deposited in the Entomological Museum of Northwest A&F University (NWAUFU), Yangling, Shaanxi, China.

## Material and methods

Preserved slide specimens were used in this study. Slides were prepared following the method of Zhang *et al.* (2006). Specimens were observed with the help of an EVOS digital inverted microscope; photographs were taken using a Nikon Y-IDT microscope with a Q-image CCD; images were produced using the software Synoptic Automontage.

## *Parabaliotrips* Priesner, 1935

*Parabaliotrips*, Priesner (1935)

*Yehiella*, Chen (1976); syn. Bhatti (1990)

*Krasibothrips*, Kudo (1977); syn. Bhatti (1979)

## Type species

*Parabaliotrips takahashii* Priesner (Formosa) designated from two species.

## Checklist to species of *Parabaliotrips* worldwide

*Parabaliotrips coluckus*, Kudo (1977)

*Parabaliotrips grandiceps*, Priesner (1935)

*Parabaliotrips montanus*, Girault (1927)

*Parabaliotrips newmani*, Gillespie *et al.* (2002)

*Parabaliotrips setifer*, Karny (1920)

*Parabaliotrips takahashii*, Priesner (1935)

## *Parabaliotrips coluckus* (Kudo, 1997) (Fig. 1)

*Parabaliotrips coluckus*, Kudo (1977); syn. Bhatti (1979)

*Krasibothrips coluckus*, Kudo (1977)

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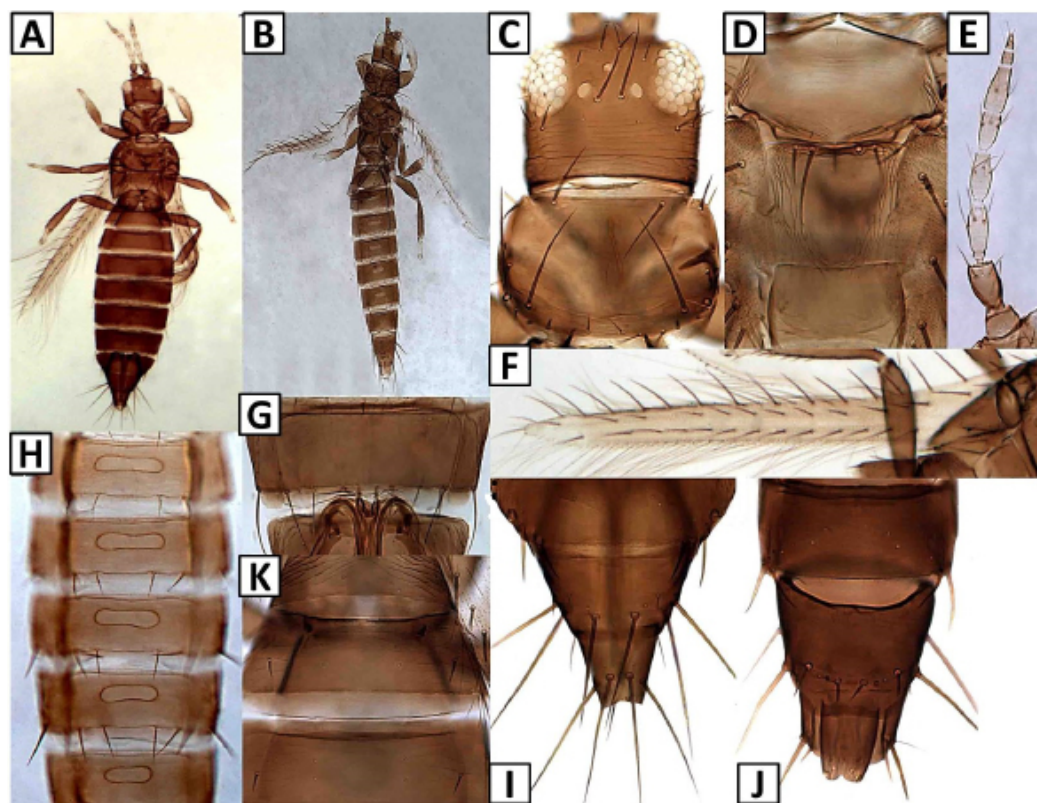


Fig. 1. *Paraballothrips colockus* (Kudo, 1977). A, Female; B, male; C, head and pronotum; D, meso- and metanota; E, Antenna; F, fore wing; G, abdominal sternite VII; H, male abdominal sternites III-VII; I, female abdominal tergites VIII-X; J, male abdominal tergites VIII-X; K, abdominal tergites I-III.

### Description

#### Female

Body color brown, length 1.3 mm. Antennal segments I-II brown, III-VIII yellow. Forewings with basal 1/4 and distal 1/10 yellow, other parts brown. Femora and tibiae brown, distal part of fore tibiae lighter, tarsi yellow.

Head: Head longer than wide. Cheeks nearly straight. 3 pairs of ocellar setae present, both pair I and II located in front of fore ocellus. Pair III exceptionally long, placed on the ligature of the outer margin of hind ocelli. Postocular setae i and iii small, ii and iv much longer. Areas behind eyes with transverse lines. Antennae 8-segmented, III and IV with small sense cones forked.

Thorax: Pronotum with wider than long, nearly smooth, without striae and discal setae except the setae around. 2 pairs of anteromarginal setae present, median pair much longer than the other pair. 2 pairs of anteroangular setae, inner pair longer than outer pair. 2 pairs of long setae at posterior angle. 4 pairs of postero-marginal setae, S1 longer than others. Mesonotum with transverse lines of sculpture unclear, MD setae nearly on the posterior margin. Metanotum with longitudinal lines on lateral sides,

other parts smooth. Median setae and sub-median setae all located on the antero-marginal setae. Campaniform sensilla absent. Both meso- and metasternum without spinula. Forewing with 16 anteromarginal setae, first vein with complete setal row, about 13-15, second vein with 11-13 setae.

Abdomen: Tergite I with clear transverse striae, II-VIII with transverse reticulations on two lateral sides, but longitudinal lines are obscure. S2 on tergites IV-VII and S4 on VI-VII small. Posterior comb on tergite VIII sparse but complete. Sternites without discal setae. 3 pairs of postero-marginal setae present on sternites III-VII, all located at the posterior margin.

#### Male

Length about 1.1 to 1.2 mm. Abdominal sternites III-VII with dumbbell-shaped sternal glands, which length about 1/4 of the length of the sternites.

#### Host plant

Evergreen *Quercus* (Fagaceae) (Kudo, 1977); *Alnus cremastogyne* (Betulaceae), “qimushu”.

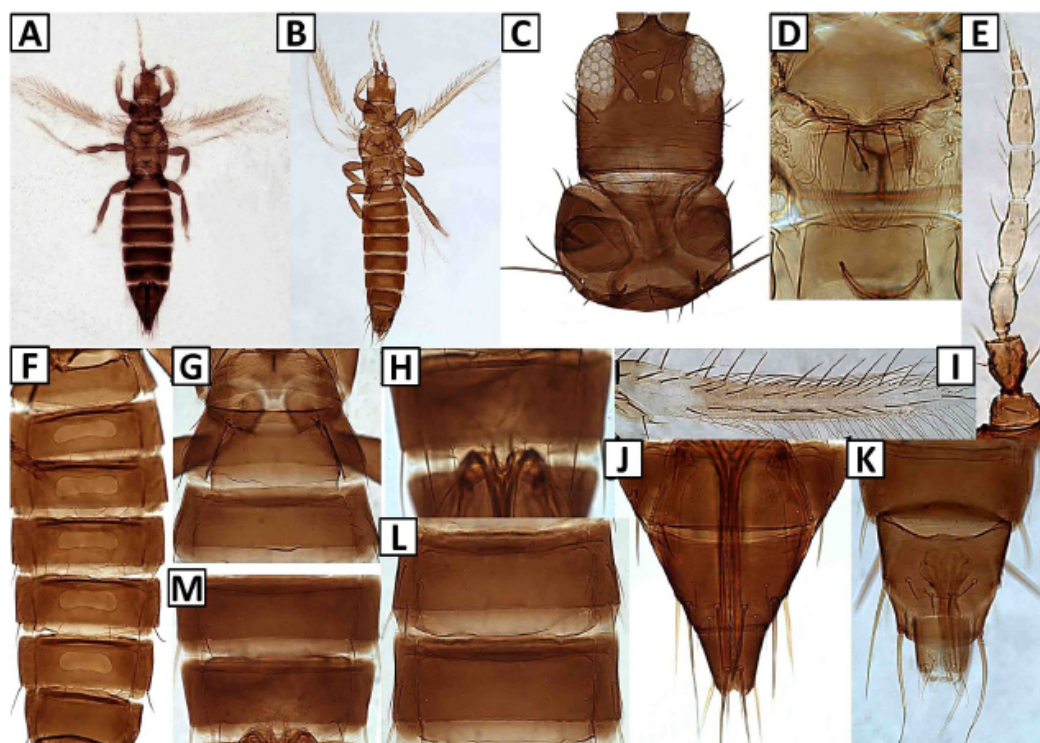


Fig. 2. *Paraballothrips takahashii* Priesner, 1935. A, Female; B, male; C, head and pronotum; D, meso- and metanota; E, Antenna; F, male abdominal sternites; G, abdominal tergites I-III; H, abdominal sternite VII; I, fore wing; J, female abdominal tergites VIII-X; K, male abdominal tergites VIII-X; L, abdominal tergites IV-V; M, abdominal tergites VI-VII.

#### Distribution

China (Yunnan, Guangdong, Fujian), Nepal, Malaysia.

#### Material examined

10♀♀10♂♂, Mt. Cang, Dali, Yunan Province, 2124m, 8-VI-2011, Qingling Hu Collected from leaves of *Alnus cremastogyne*; 2♀♀1♂♂, Zhina Town, Yunnan Province, 1086m, 3-VI-2011, Qingling Hu collected from leaves of “qimushu”.

#### *Paraballothrips takahashii* Priesner, 1935

(Fig. 2)

*Paraballothrips takahashii*, Priesner (1935)

#### Description

##### Female

Body color brown, length 1.4 mm. Antennal segments I-II brown, III-VIII yellow. Forewings with basal 1/4 and distal 1/4 yellow, median 1/2 brown. Femora and tibiae brown, distal part of fore tibiae lighter, tarsi yellow.

Head: Head longer than wide. Cheeks straight, not serrated. 3 pairs of ocellar setae present, both pair I and II located far ahead of fore ocellus. Pair III exceptionally

long, placed on the ligature of the outer margin of hind ocelli. Postocular setae i and iii small, ii and iv much longer. Areas behind eyes with transverse lines. Antennae 8-segmented, III and IV with small sense cones forked.

Thorax: Pronotum with wider than long, nearly smooth, without striae and discal setae except the setae around. 2 pairs of anteromarginal setae present, median pair much longer than the other pair. 2 pairs of anteroangular setae, inner pair longer than outer pair. 2 pairs of long setae at posterior angle. 4 pairs of postero-marginal setae, S1 longer than others. Mesonotum with transverse lines of sculpture unclear, MD setae nearly on the posterior margin. Metanotum with longitudinal lines on lateral sides, other parts smooth. Median setae and sub-median setae all located on the antero-marginal setae. Campaniform sensilla absent. Both meso- and metasternum without spinula. Forewing with 16-17 anteromarginal setae, first vein with complete setal row, about 14-15, second vein with 12 setae.

Abdomen: Tergite I with clear transverse striae, II-VIII with transverse reticulations on two lateral sides, but longitudinal lines are obscure. S2 on tergites V-VIII and S4 on VI-VII small. Posterior comb on tergite VIII sparse but complete. Sternites without discal setae. 3 pairs



of postero-marginal setae present on sternites III-VII, all located at the posterior margin.

#### Male

Length about 1.0 to 1.1 mm. Abdominal sternites III-VII with dumbbell-shaped sternal glands, which length about 1/2 of the length of the sternites.

#### Host plant

*Liquidambar formosana* (Hamamelidaceae) (Chen, 1976); *Castanea mollissima* (Fagaceae).

#### Distribution

China (Sichuan, Guizhou, Taiwan).

#### Material examined

2♀♀1♂, Hailuogou, Luding, Sichuan Province, 2400m, 1-VIII-2009, Xiaowei Li collected by sweeping nets from grass; 2♀♀4♂♂, Wudongcun, Mt. Leigong, Guizhou Province, 1276m, 2-VIII-2009, Xiaowei Li collected by sweeping nets from grass; 7♂♂, Mt. Zhougong, Sichuan Province, 1000m, 28-VII-2009, Xiaowei Li collected from leaves of *Castanea mollissima*.

#### Discussion

Species of this genus had been assumed that they were probably flower living, like many other Thripidae. Gillespie *et al.* (2002) gave evidence for proving the members of this genus live on leaves rather than in flowers. When collecting thrips in South China in the last few years, we collected *P. coluckus* from the leaves of *Alnus cremastogyne* (Betulaceae) and a kind of plant called “qimushu” by the local residents, *P. takahashii* from the leaves of *Castanea mollissima* (Fagaceae). In general, only when larvae and adults are found on a plant that we consider it as the host plant of the thrips species, but this usually occurs on short and small plants. The thrips we discussed here were collected from trees more than ten meters high, and when we found the existence of thrips in this tree, we swept leaves of the tree more than one times, and the specimens were collected every time even few in number which may lead to no catching of larvae. Considering the limited flying ability of thrips, we considered this plant as the host of *Parabaliathrips* species. This agrees with the discovery of Gillespie *et al.* (2002).

Gillespie *et al.* (2002) gave a key to species of *Parabaliathrips*. In this key, he distinguished *P. coluckus* and *P. takahashii* by the length of setae on anterior margin

of pronotum and the length of ocellar setae I. In this paper, the author proposed new distinguishing characters between the two species: *P. coluckus* with S2 on abdominal tergites IV-VIII and S4 on VI-VII small (vs. *P. takahashii* with S2 on abdominal tergites V-VIII and S4 on VI-VII small), male abdominal sternites III-VII with dumbbell-shaped sternal glands, which length about 1/4 of the length of the sternites (vs. *P. takahashii* with sternal gland much larger, the length of sternal gland is about 1/2 of the length of the sternites).

According to the description and illustration from Gillespie *et al.* (2002) and the author's collections, it seems that *Parabaliathrips* can be separated into Australia group and South-east Asia group by the location of ocellar pair II and the presence or absence of posterior comb on abdominal tergite VIII (Australia group with ocellar pair II located on either side of fore ocellus, and posterior comb on abdominal tergite VIII absent, while South-east Asia group with ocellar pair II far ahead of fore ocellus, and posterior comb on abdominal tergite VIII sparse but absent) (*P. montanus* unknown).

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#### Statement of conflict of interest

The authors declare no conflict of interest.

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