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Genus *Tuponia* REUTER from China (Insecta, Heteroptera: Miridae)

With 27 Figures

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Tianjin

The genus *Tuponia* REUTER was little studied in China. In this paper six species are reported, in which three are new to science and one is given with a new name. Type series of the new species will be deposited in the Department of Biology, Nankai University, Tianjin, China.

Tuponia (Tuponia) roseipennis REUTER, 1879

This Central Asian species previously known from Tadzhikistan, Kirghizia and Kazakhstan (REUTER, 1879; DRAPOLYUK, 1980) is here recorded for the first time for China:

2 ♂♂, 1 ♀, Jimsar (44°N, 89°10'E), Sinkiang Autonomous Region, 1975. VII. 20.

Tuponia (Tuponia) elegans (JAKOVLEV, 1867)

The first Chinese record of this species is at the NW of Inner Mongolia Autonomous Region given by DRAPOLYUK (1980). Here we add the second record for China:

1 ♂, 1 ♀, Yin-chuan (38°30'N, 106°25'E), Ningsia Autonomous Region, 1987. VIII. 27, L. Y. Zheng leg. (on *Tamarix* sp.).

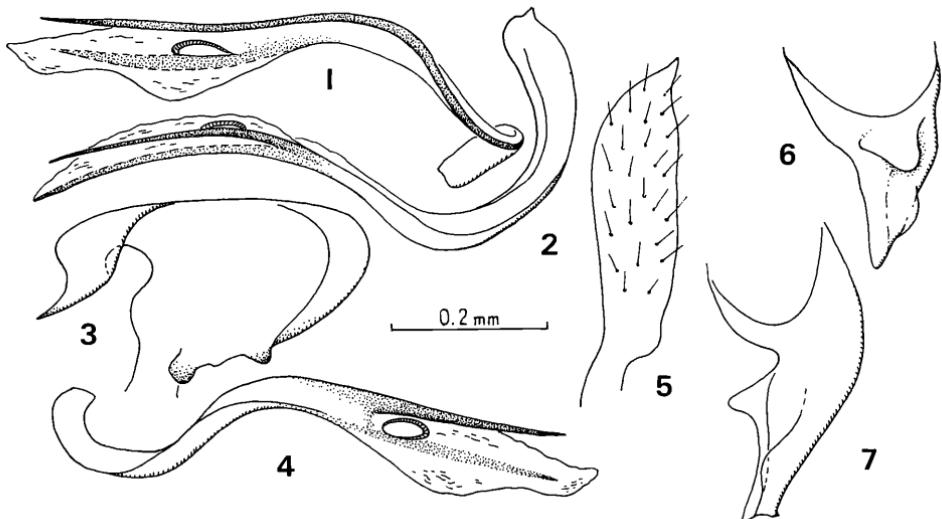
Tuponia (Tuponia) elegantulus sp. n. (Figs. 1-7)

Elongately oval. General coloration light green or whitish green. Densely covered with pale slender pubescence.

Head pale green, antennae and rostrum pale yellowish, apex of rostrum black, reaching mesocoxae or a little surpassing it. Pronotum light-colored. Scutellum orange-red with pale apex. Apex of corium and clavus with orange-colored band. Cuneus semi-transparent. Membrane brown, basal angle with a translucent spot, veins pale. Legs yellowish, tibial spines black, apex of hind femur without black spot. Body beneath pale yellowish.

Pygophore without any protuberance at the left of its opening. Right paramere comparatively narrow and elongate, hypophysis slightly pointing to one side (Fig. 5). Left paramere broad, hypophysis short and sharp, sensory lobe small and blunt (Fig. 3), theca with 2 tongue-like keels and a sub-apical tooth (Fig. 6, 7). Vesica (Figs. 1, 2, 4) weakly and smoothly bended, its apical part comparatively long, 2 spicules subequal in length, both slender and sharp, slightly divergent apicad, one is independent and the other one is surrounded by membrane, gradually weakened apicad in sclerotization; the membrane triangularly dilated near the level of secondary gonopore.

Body length: 3.02-3.16 mm (♂), 3.27-3.35 mm (♀). Head width: 0.67-0.73 mm (♂), 0.76-0.80 mm (♀); vertex width: 0.30-0.34 mm (♂), 0.34-0.40 mm (♀); eye width: 0.17-0.21 mm (♂), 0.20-0.22 mm (♀). Antennal segment length: 0.20 : 0.84-0.88 : 0.66-0.70 : 0.33 mm (♂), 0.30-0.34 : 0.99-1.03 : 0.65-0.73 : 0.27-0.35 mm (♀). Pronotum width: 0.96-1.0 mm (♂), 1.14-1.18 mm (♀). Body length/pronotum width: 3.14-3.18 (♂), 2.82-2.94 (♀). Vertex width/eye width: 1.47-1.97 (♂), 1.56-2.02 (♀). 2nd antennal segment length/pronotum width: 0.86-0.90 (♂, ♀). 2nd antennal segment length/head width: 1.18-1.26 (♂), 1.29-1.31 (♀).



Figs. 1-7: *Tuponia (Tuponia) elegantulus* sp. n. 1, 2, 4: Vesica 3: left paramere - 5: right paramere - 6, 7: theca.

Holotype, ♂, and paratypes, 2 ♂♂, 7 ♀♀: Fu-hai (47°N, 87°30'E), Sinkiang Autonomous Region, 1975. VII. 28.

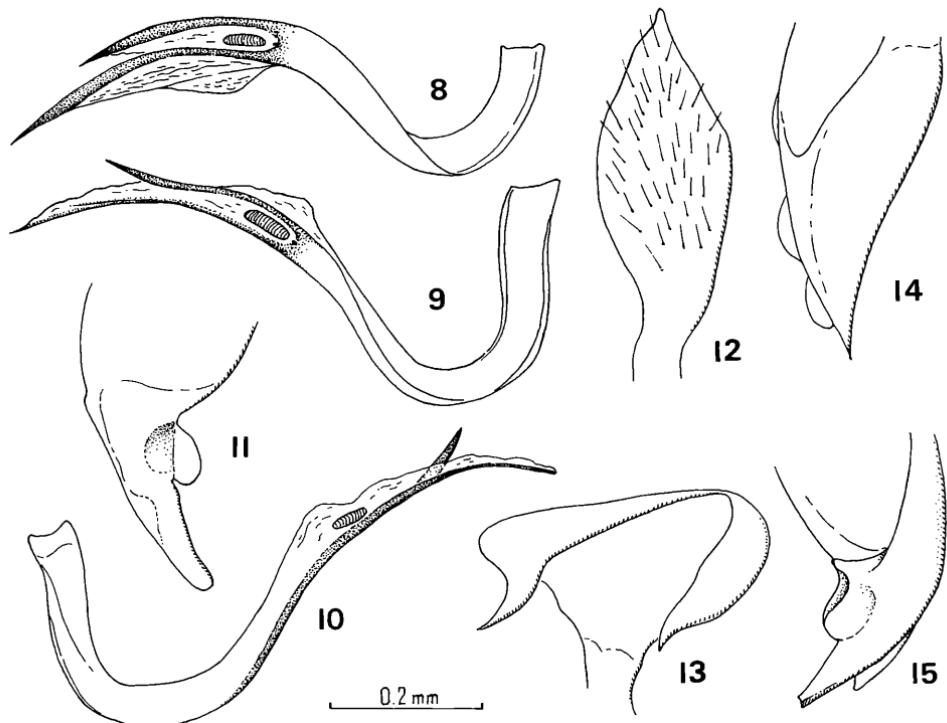
Structure of vesica close to the Central-Asian *T. roseipennis* REUTER, but in *roseipennis* the spicule surrounded by membrane is much shorter than the independent one, the theca has 2 keel-like lobes and a subapical tooth. In *roseipennis*, the body is broader, there is a black spot at the apex of hind femur, and the pygophore with a distinct conical protuberance at the left side of the pygophore opening.

In comparison with *T. arcufera* REUTER, the vesica is less strongly curved, the two spicules are not markedly different in length, the sensory lobe of left paramere blunt (sharp in *T. arcufera* and the apical portion of theca somewhat shorter and blunt [DRAPOLYUK, 1980]).

Tuponia (Tuponia) hsiaoii nom. nov. (Figs. 8-15)

Tuponia tamaricicola HSIAO et MENG, 1963, Acta Zool. Sinica 15 (3): 447 (nom. praeoccup., nec LINDBERG, 1939, Bul. Soc. Foul. I, Ent., 22: 20)

HSIAO & MENG (1963) described this species based on the material from Huimin (37°30'N, 117°30'E), Shantung Province and Tianjin (39°10'N, 117°14'E) collected on *Tamarix* sp. and cotton plant. DRAPOLYUK (1980) tentatively synonymized it with *T. arcufera* REUTER but waiting for a verification of the male genitalia structure. We dissected some of the paratypes and found that the vesica (Figs. 8-10) is quite different in comparison with the detailed figures of *arcufera* vesica presented by DRAPOLYUK (1980) and JOSIFOV (1961) (the latter for *T. eckerleini* WAGNER and *T. orientalis* WAGNER, both were synonymized with *T. arcufera* RT. by DRAPOLYUK, 1980): In the apical portion of vesica, the shorter spicule is the one that is isolating and independent; the longer one is surrounded by membrane, gradually attenuated, apex sharp and attaining to the very apex of the surrounding membrane, its sclerotization not weakened apicad. While in *arcufera* the longer spicule is the isolating one (JOSIFOV, 1961, Fig. 3: B-D), the shorter one gradually widened and weakened in sclerotization apicad, ending far before the apex of the surrounding membrane. In addition, the length difference between 2 spicules in *hsiaoii* is more significant than in *arcufera* and the right paramere (Fig. 12) is much broader, the ratio of female eye width and vertex width (1.7-1.9) is much larger than in *arcufera* (1.2-1.4 according to DRAPOLYUK, 1980). Thus this species should be considered as a valid species instead of a junior synonym of *T. arcufera* RT.



Figs. 8-15: *Tuponia (Tuponia) hsiaoii* nom. nov. 8, 9, 10: Vesica - 11, 14, 15: theca - 12: right paramere - 13: left paramere.

***Tuponia (Chlorotuponia) albescens* sp. n. (Figs. 16-21)**

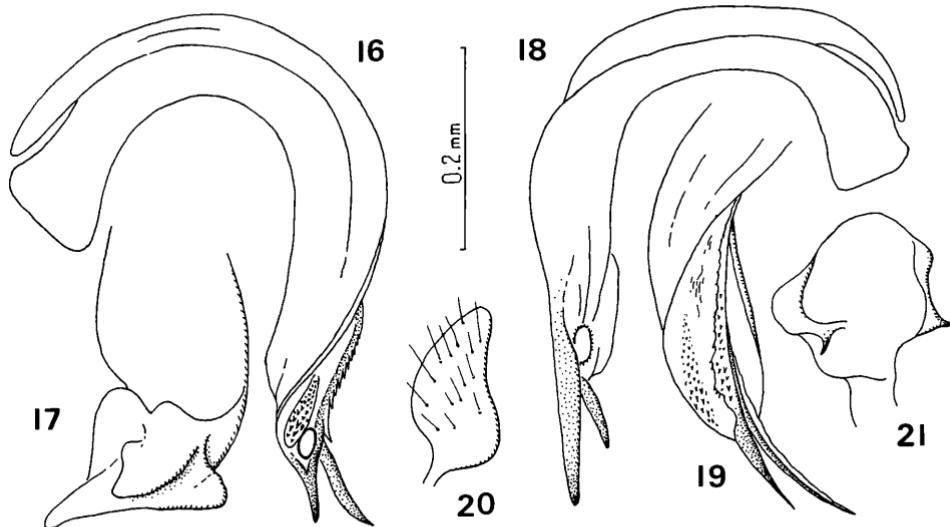
Body oval, general coloration pale greenish or pallid, pubescence silvery white, slender.

Head slightly darker in color. Antennae pale, segment I in male sometimes a little darker. Legs pale, femora without black spots, tibial spines blackish brown. Body beneath light green or pallid, covered with thick, silvery pubescence.

Right paramere small, apex bluntly rounded, hypophysis undistinguishable (Fig. 20). Left paramere somewhat rounded in overall appearance, hypophysis and sensory lobe small, short (Fig. 21). Theca short, with 2 tongue-shaped keels (Fig. 17). Vesica L-shaped, comparatively robust and short, apical part with 2 slender and sharp spicules, divergent apicad after leaving the wrapping membrane, one of which with a series of marginal teeth throughout the basal half of its length (Figs. 16, 18, 19); at the side of secondary gonopore there is an elongate sclerite with numerous fine teeth (Fig. 16).

Body length: 2.36-2.50 mm (♂), 2.30-2.72 mm (♀). Head width: 0.65-0.71 mm (♂), 0.66-0.70 mm (♀); vertex width: 0.30-0.34 mm (♂), 0.36-0.40 mm (♀); eye width: 0.17-0.19 mm (♂), 0.15 mm (♀). Antennal segment length: 0.10-0.21 0.70-0.78 0.47-0.53 0.24-0.32 mm (♂), 0.16-0.20 0.70 0.42-0.52 mm (♀). Pronotum width 0.88-0.98 mm (♂), 0.97-1.01 mm (♀). Body length/pronotum width: 2.56-2.70 (♂), 2.30-2.72 (♀). Vertex width/eye width: 1.68-1.86 (♂), 2.39-2.65 (♀). 2nd antennal segment length/pronotum width: 0.77-0.83 (♂), 0.70-0.72 (♀). 2nd antennal segment length/head width: 1.06-1.14 (♂), 1.0-1.06 (♀).

Holotype, ♂, and paratypes, 5 ♂♂, 8 ♀♀: Shan-shan (42°50'N, 90°20'E), Sinkiang Autonomous Region, 1975. VI. 30.



Figs. 16-21: *Tuponia (Chlorotuponia) albescens* sp. n. 16, 18, 19: Vesica - 17: theca - 20: right paramere 21: left paramere.

The structure of vesica in this new species is outstanding as in subgenus *Chlorotuponia* the vesical spicules are very rarely armed with teeth.

***Tuponia (Chlorotuponia) chinensis* sp. n. (Figs. 22-27)**

Body elongately oval (σ) to oval (φ). General coloration yellowish to green, usually brighter and deeper in male than in female. Pubescence long, moderately dense, brownish to blackish brown.

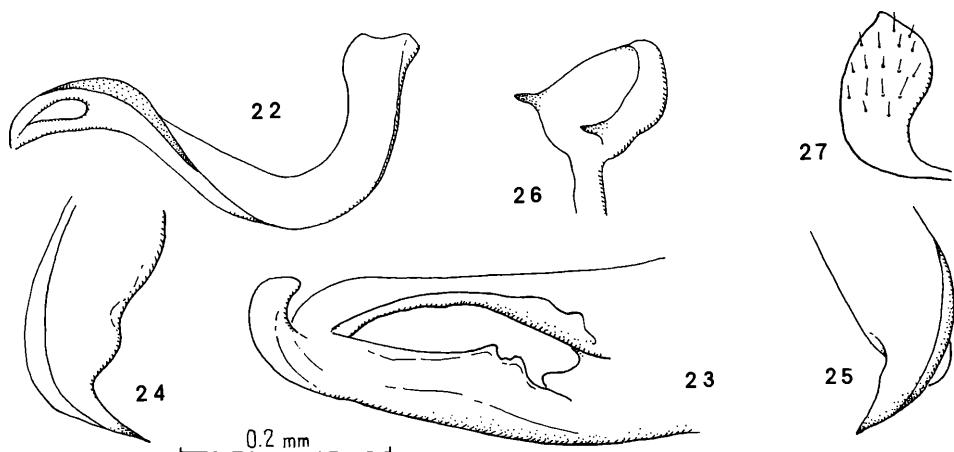
Head yellowish to green. Antennae yellowish to yellowish brown. Pronotum and scutellum completely yellow to green, or with anterior half yellow and posterior half green. Hemelytra green in male, yellowish green to green in female, most of male and a part of female with deep green to brownish green embolium and lateral rim of cuneus, outer basal angle of cuneus sometimes darkened into a blackish brown spot. Basis of cuneus sometimes paler. Membrane smoky, outer basal angle with a semi-transparent round spot. Legs yellowish, femora without dark spots, tibial spines black, no dark spot at its base. Body beneath yellowish.

Right paramere short, basally bending, hypophysis very small (Fig. 27). Left paramere with hypophysis and sensory lobe sharp (Fig. 26). Theca with a tongue-like keel, apical part sharply bending into a right angle, attenuated, with sharp apex (Figs. 24, 25). Vesica moderately robust and short, apex with 2 thick spicules surrounding secondary gonopore and then running convergently, with their blunt apices crossing each other in front of secondary gonopore (Figs. 22, 23).

Body length: 1.96-2.19 mm (σ), 1.92-2.28 mm (φ). Head width: 0.53-0.57 mm (σ), 0.55-0.57 mm (φ); vertex width: 0.29-0.31 mm (σ), 0.30-0.34 mm (φ); eye width: 0.12-0.14 mm (σ), 0.11-0.13 mm (φ). Antennal segment length: 0.13-0.17 : 0.54-0.60 : 0.36-0.40 : 0.22-0.26 mm (σ), 0.13-0.17 : 0.50-0.60

0.34-0.40 0.20-0.24 mm (φ). Pronotum width 0.74-0.80 mm (σ), 0.73-0.81 mm (φ). Body length/pronotum width: 2.6-2.8 (σ), 2.5-2.9 (φ). Vertex width/eye width: 2.1-2.7 (σ), 2.4-3.0 (φ). 2nd antennal segment length/head width: 0.94-1.06 (σ), 0.9-1.1 (φ). 2nd antennal segment length/pronotum width: 0.66-0.74 (σ), 0.65-0.75 (φ).

Holotype, σ , and **paratypes**, 17 σ σ , 21 φ φ , Tianjin (39°10'N, 117°15'E), 1964. V. 21; 8 σ σ , 4 φ φ , Bai-dai-ho (39°50'N, 119°25'E), Hopei Province; 1 σ , 2 φ φ , Huimin (37°30'N, 117°30'E), Shantung Province (all taken on *Tamarix chinensis*).



Figs. 22-27: *Tuponia (Chlorotuponia) chinensis* sp. n. 22, 23: Vesica - 24, 25: theca - 26: left paramere - 27: right paramere.

Closely allied to *T. (Ch.) kerzhneri* DRAPOLYUK, 1982. The vesica is of the same type but shorter and more robust, the inner margin of spicules surrounding the secondary gonopore is armed with only a few irregular coarse teeth (Fig. 23) while there are numerous fine ones in *kerzhneri*. The apex of spicules is blunt but in *kerzhneri* it is sharp. In *kerzhneri*, there is a white spot at the inner angle of clavus and the middle of the lateral corial margin (though not always present), and there are some dark spots on the apex of hind femora and a small black spot at the base of tibial spines.

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