

### ***Hindoloides sparsuta* JACOBI: neotype designation, taxonomic status, host plant, and distribution (Insecta: Homoptera: Auchenorrhyncha: Machaerotidae)**

With 6 Figures

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**Abstract.** *Hindoloides sparsuta* JACOBI, unrecorded since its 1944 description, is rediscovered and transferred to the genus *Taihorina* SCHUHMACHER. A neotype is newly designated. Diagnosis of the adults and some aspects of its host plant and life history are presented. Host plant of this uniphagous species is reported for the first time for populations observed in Shaanxi and Shanxi Provinces in China, e.g. *Zeltis sinensis* PERS. New distributional records for *Taihorina sparsuta* (JACOBI) are given for Shaanxi and Shanxi, and additional Fujian records are provided.

#### Introduction

*Hindoloides sparsuta* was described by JACOBI in 1944 from a single female specimen collected by JOH. KLAPPERICH from Shaowu of Fujian Province in southeastern China. Since then, the species has not been mentioned in the literature, except in METCALF'S (1960) catalogue of world Machaerotidae and MAA'S (1963) monograph of the world Machaerotidae, since the female holotype of the species was destroyed during the World War Two.

Whilst examining specimens of Machaerotidae in the Insect Collections of the Institute of Zoology, Academia Sinica, Beijing and Shanghai Institute of Entomology, Academia Sinica, Shanghai, I discovered several examples of this species. Recently, samples of this species found seriously infesting cultivated *Zeltis sinensis* PERS. in Shaanxi and Shanxi Provinces of northern China were also sent by Ms. Y.W. HUI of the Xian Botanical Garden in Xian of Shaanxi Province and Mr. Y.P. XIE of the Shanxi Agricultural University in Taigu of Shanxi Province to the Institute of Zoology, Academia Sinica, Beijing, for identification.

In this paper, I select a neotype for *Hindoloides sparsuta* JACOBI, discuss its generic placement, present its known distribution in China, provide a diagnosis of adults for recognizing the species in the Chinese machaerotid fauna, and briefly describe the known aspects of its host plant and life history.

The abbreviations used for the depositories of specimens studied are as follows:

IZAS – Institute of Zoology, Academia Sinica, Beijing, China;

SIE – Shanghai Institute of Entomology, Academia Sinica, Shanghai, China;

SMTD – Staatliches Museum für Tierkunde, Dresden, Germany.

Structural terminology follows MAA (1963).

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*Taihorina sparsuta* (JACOBI) **comb. nov.** (Figs. 1–6)

*Hindoloides sparsuta* JACOBI, 1944: 24; METCALF, 1960: 24; MAA, 1963: 16, 18. Neotype ♀, China (SMTD), here designated [examined].

**Identification:** Medium-sized, slender, slightly pubescent machaerotid, body length ♂ 5.0–5.5 mm, ♀ 6.0–6.5 mm. Colour ochraceous; pronotum olive green, with indistinct brown markings; mesosterna with a shining black spot near middle coxa; hind femora usually with brown markings; forewings brownish, nearly hyaline and irregularly punctuate, the apical margins distinctly brown; hindwings hyaline, the veins brown; abdomen above blackish, abdomen beneath ochraceous.

Vertex of head (Fig. 1) narrow, much shorter than broad, subangularly produced in front of eyes, ocelli closer to each other than to the eyes; postclypeus inflated, longer than broad, its lateral areas transversely striate; rostrum short, reaching the middle trochanters. Pronotum coarsely punctate and irregularly wrinkled, its anterior margin subangularly produced, lateral margins obliquely straight to base of forewings then obliquely and somewhat sinuately continued to base of scutellum, its base strongly concavely sinuate. Scutellum nearly plane, normal, as long as pronotum, its apex slightly depressed. Legs short, posterior tibiae with a prominent spine beyond middle and a smaller spine near apex; black-tipped spines at end of posterior tibiae and the basal joint of posterior tarsi numbering 10 and 10–12, respectively. Forewing (Fig. 2) about 2.5 times as long as broad, with 3 closed apical cells. Hindwing (Fig. 3) with 4 apical cells.

**Male genitalia:** See Figures 4–6. Subgenital plate (Fig. 4) short and broad, subtriangular, inner margin indented at middle; style (Fig. 5) elongate; aedeagus (Fig. 6) simple, shaft very elongate and slender, curved dorsally, with a pair of apical processes.

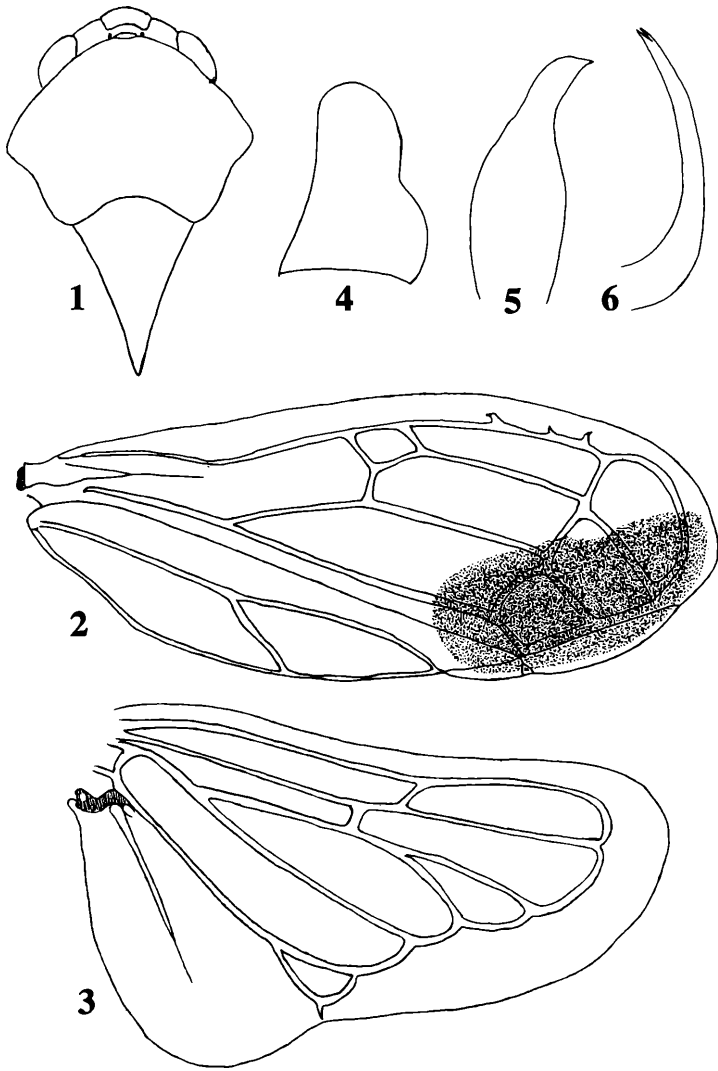
**Type designation:** The original female holotype of *Hindoloides sparsuta* JACOBI was destroyed in the World War Two (EMMRICH and LAMPE, pers. comm.). For nomenclatural stability, I therefore designate a neotype collected near the type locality to maintain JACOBI's name. The female specimen selected as neotype is in excellent condition, except for the missing right leg, and bears the following label data: "CHINA: Fujian Province, Jianyang County, Huangkeng, Guiling, 270–410 m [white label]/6. v. 1960, Y. ZUO [white label]/NEOTYPE ♀, *Hindoloides sparsuta* JACOBI, desig. A.P. LIANG 1994 [red label, hand-written]/*Taihorina sparsuta* JACOBI, det. A.P. LIANG [white label, hand-written]"; deposited in the type collection of the Staatliches Museum für Tierkunde, Dresden, Germany.

**Other specimens examined:** China, Fujian Province: 1 ♀, same data as neotype (IZAS); 2 ♀♀, Guangze County, 200–300 m, 2. iv. 1960, G.T. JIN & Y.M. LIN (SIE). China, Shaanxi Province: 4 ♂♂, 3 ♀♀, Xian Botanical Garden, ex *Zeltis sinensis* PERS., iv. 1992, Y.W. HUI (IZAS). China, Shanxi Province: 16 ♀♀, Taigu County, ex *Zeltis sinensis* PERS., 10. v. 1991, Y.P. XIE (IZAS).

**Taxonomic note:** JACOBI (1944) described *sparsuta* as a *Hindoloides* species. MAA (1963) in his monograph of the world Machaerotidae did not give any comments on the taxonomic status of the species because of the lack of the specimens. My examination of *Hindoloides sparsuta* suggests a relationship with *Taihorina* SCHUHMACHER. I am here moving *sparsuta* to the genus *Taihorina* on the basis of its veins of the hindwing and the structures of the male genitalia.

**Distribution:** China (Fujian, Shanxi and Shaanxi Provinces). At present, *Taihorina sparsuta* (JACOBI) has been found in Fujian Province of southeastern China and in Shaanxi and Shanxi Provinces of northern China; however, the distribution gap in the south and north may be an artifact of lack of collecting. The distribution of this species likely will expand because the nymphal food plant is distributed widely across China. *Zeltis sinensis* PERS. is common along roadsides, clearings, and disturbed areas, and is cultivated in some regions.

**Host plant:** *Zeltis sinensis* PERS. (Ulmaceae).



Figs. 1–6: *Taihorina sparsuta* (JACOBI). 1 head, pronotum and scutellum, dorsal view; 2: forewing; 3: hindwing; 4: left subgenital plate, ventral view; 5: left style, lateral view; 6: aedeagus shaft, lateral view.

**Life history:** Some known aspects of the life history of *T. sparsuta* observed in Shaanxi and Shanxi Provinces of northern China are here included to give an idea of its biology. This machaerotid has one generation each year. It overwinters with full-grown nymphs in the calcareous tubes it constructs on the twigs of the host. In early April the overwintering nymphs of *T. sparsuta* feed on the sprouting *Z. sinensis*. The adults were found in abundance towards the end of April and May. On *Zeltis sinensis* the eggs are laid in early May in clusters of 2 to 14 mostly on the surface of fruits. Few eggs are laid on the surface of twigs. One female may lay up to 80 eggs. The eggs are about 0.9–1.0 mm long and 0.25–0.30 mm wide, elongate, and fusiform in shape. When freshly laid they are grey white. Nymphs hatch from the eggs in early June. There are five nymphal stages, lasting about 320 days. The 1st instar nymphs construct their tubes in June and July. In August the 3rd instar

nymphs move to the new twigs and construct new tubes, inhabit them, feed and overwinter. Both adults and nymphs do damage, sucking the juices of the host. The attacked leaves and twigs become pale and wilted, and the growth of the plant is checked. Besides, the tubes constructed by the machaerotid interfere with the proper functioning of the twigs.

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