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NOTES ON THE LEAFHOPPER GENUS *PEDIOPSIS* (HEMIPTERA: CICADELLIDAE: MACROPSINAЕ) WITH DESCRIPTION OF ONE NEW SPECIES FROM CHINA

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ABSTRACT

A new leafhopper species *Pediopsis ningxiaensis* Dai & Li sp. nov. from Ningxia Province of China is described and illustrated, an updated checklist of the genus *Pediopsis* from the world is provided, along with a key for identification to distinguish males of species of the genus in different geographic regions.

Key Words: Auchenorrhyncha, taxonomy, distribution, China

RESUMEN

Se describe e ilustra una nueva especie de saltahojas, *Pediopsis ningxiaensis*, de la provincia de Ningxia de China. Se proporciona una lista de actualizada de las especies del género *Pediopsis* conocidas mundialmente, junto con una clave de identificación para distinguir los machos de las especies de este género de las diferentes regiones geográficas.

Palabras Clave: Auchenorrhyncha, taxonomía, distribución, China

The leafhopper genus *Pediopsis*, which belongs to the subfamily Macropsinae, was established by Burmeister (1838), as a subgenus of *Bythoscopus*. Subsequently Kirkaldy (1903) raised it to genus level and designated *Jassus tiliae* Germar, 1831 as the type species. Later, Anufriev (1971) described 1 new species from Russia. Hamilton (1980) in his world revision of the Macropsinae recorded 13 species of this genus, including 10 new combinations of species from the Australian region and 1 new species from China (Taiwan island). Tishechkin (1997) described 1 new species from Malaysia and later, Cai et al. (2005) described 1 new species from China (Shandong). So far, a total of 15 species of the genus *Pediopsis* are recorded from the world.

In the present paper, *Pediopsis ningxiaensis* Dai & Li sp. nov. is described and illustrated, and an updated checklist and distribution of the genus *Pediopsis* from the world is provided, along with a key to distinguish different geographic regions species of the genus.

MATERIALS AND METHODS

Our classification system and morphological terminology follow Hamilton (1980). The type specimen of the new species is deposited in the Institute of Entomology, Guizhou University, Guiyang, China (GUGC). Color photos of the adult habitus of the *Pediopsis* species are shown in the supplementary material online in Florida Entomologist 96(3) (2013) at http://purl.fcla.edu/fcla/entomologist/browse.

GENUS *PEDIOPSIS* BURMEISTER

Type species: *Jassus tiliae* Germar, 1831, designated by Kirkaldy subsequently, 1903: 214.

Diagnosis


Distribution

Europe, Russia, China, Malaysia, New Guinea and Australia.

KEY TO MALES OF SPECIES OF THE GENUS PEDIOPSIS RECORDED IN NEW GUINEA AND AUSTRALIA

Four species of the genus Pediopsis were recorded in New Guinea and 6 in Australia, but P. filicis (Evans, 1936) is excluded from the present key because currently it is known only by the female sex.

1. Dorsal portion of dorsal connective bifurcated to 2 slender branches (New Guinea) ............ 2
  —. Dorsal portion of dorsal connective not bifurcated to 2 slender branches, branches stout if present (Australia) ................................................................................................................. 5

2. Dorsal connective with 2 branches closer with each other ........................................ 3
  —. Dorsal connective with 2 branches distant with each other ........................................ 4

3. Dorsal connective with dorsal branch pointed dorsally (Fig. 1) .................. P. eliptaminensis (Evans)
  —. Dorsal connective with dorsal branch pointed ventrally (Fig. 4) .................. P. kassamensis (Evans)

4. Dorsal connective with dorsal branch longer than ventral one (Fig. 3) ........ P. completa (Evans)
  —. Dorsal connective with dorsal branch shorter than ventral one (Fig. 2) ...................... P. flavobrunnea (Evans)

5. Aedeagal shaft with pair of processes ........................................ 6
  —. Aedeagal shaft without any processes ...................................................... 7

6. Aedeagal processes subapical (Fig. 9) .................. P. nikitini (Evans)
  —. Aedeagal processes apical (Fig. 5) .................................................. P. lutea (Evans)

7. Dorsal connective with slender dorsal portion, tip tapered to pointed .................. 8
  —. Dorsal connective with stout dorsal portion, tip dorsoventrally elongate (Fig. 6) ........ P. emmae (Evans)

8. Dorsal connective with additional small process at middle, dorsal end twisted ventrocaudally (Fig. 8) .................. P. mandurae (Evans)
  —. Dorsal connective without additional small process at middle, dorsal end twisted dorsally (Fig. 7). .......................................................... P. thymele (Kirkaldy)
KEY TO MALES OF SPECIES OF THE GENUS PEDIOPSIS KNOWN IN CHINA, EUROPE AND MALAYSIA

Currently 3 species of the genus Pediopsis are known in China including the new species described here, 2 in Europe (including 1 in Russia) and 1 in Malaysia. Pediopsis femorata Hamilton, 1980, which occurs in Taiwan, is also known only by the female sex, and therefore is not included in the present key.

1. Dorsal connective with dorsal portion pointed ventrally ........................................ 2
   — Dorsal connective with dorsal portion pointed dorsally .................................. 4

2. Dorsal part of dorsal connective tapered to apex, indistinctly bifurcated (Fig. 11) .......................................................................................................................... P. cudraniae Cai & Wang
   — Dorsal part of dorsal connective slightly tumid subapically, not bifurcated ........... 3

3. Aedeagal shaft slender, dorsal connective inconspicuously inflated near dorsal end (Figs. 32 and 34) .......................................................... P. kurentsovi Anufriev

—. Aedeagal shaft stout, dorsal connective inconspicuously inflated near dorsal end (Figs. 29 and 31)  

**Pediopsis ningxiaensis** Dai & Li sp. nov.

4. In lateral view, aedeagal shaft strongly sinuated, apical 1/3 of shaft angled as right angle, then directed caudally (Fig. 8) (Fig. 12)  

**P. malayana** Tishechkin

—. In lateral view, aedeagal shaft slightly sinuated, not angled (Fig. 10)  

**P. tiliae** (Germar)

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**Checklist and Distributions of Species of the Genus Pediopsis**


**P. cudraniae** Cai & Wang  Distribution: China (Shandong Province).

**P. eliptaminensis** (Evans)  Distribution: New Guinea (Eliptamin Valley).

**P. emmae** (Evans)  Distribution: Australia (New South Wales).

**P. flavobrunnea** (Evans)  Distribution: New Guinea (Daulo Pass, Simbai, Chimbu Valley).

**P. kassamensis** (Evans)  Distribution: New Guinea (Kassam, Wau).

**P. kurentsovi** Anufriev  Distribution: Russia (Maritime Province).

**P. lutea** (Evans)  Distribution: Western Australia (Bruce Rock).

**P. malayana** Tishechkin  Distribution: Malaysia (Fahang).

**P. mandurae** (Evans)  Distribution: Western Australia (Mandurah).

**P. ningxiaensis** Dai & Li  Distribution: China (Ningxia).

**P. nikitini** (Evans)  Distribution: Australia (New South Wales).

**P. thymele** (Kirkaldy)  Distribution: Australia (Queensland).

**P. tiliae** (Germar)  Distribution: Widespread in Europe, European part of Russia, North America (records from Tishechkin 1997).

**P. filicis** Evans  Distribution: Australia (Victoria).

**P. femorata** Hamilton  Distribution: China (Taiwan).

**Pediopsis ningxiaensis** Dai & Li sp. nov. (Figs. 16-18, 22-31)

**Measurement**

Length including tegmen: ♂, 5.1 mm.

**Description**

Body (Figs. 16-18) yellowish. Head and face yellowish brown, ocelli and clypellus dark brown, eyes dark red. Pronotum yellowish, striations on surface dark brown. Scutellum orange, with dark brown maculae except in bilateral corners and around coalescent suture between mesonotum and scutellum. Forewings brown, spotted with brown maculae. Legs yellowish with brown mottles.

Head (Fig. 16) including eyes clearly narrower than pronotum, produced forward. Face (Fig. 18) across eyes wider than long, relatively smooth; frons with longitudinal carina; distance between ocelli nearly 5 times as wide as that between ocellus and adjacent eye; clypellus small, tapered. Pronotum (Fig. 16) broad, 2.2 times as long as wide, with median longitudinal carina medially, posterior margin slightly concave, striations on surface dense, oblique. Scutellum (Fig. 16) triangular, coalescent suture between mesonotum and scutellum distinct, bisegmented. Forewings (Fig. 17) transparent, with 3 anteapical cells. Hind tibia with 9 macroseta on AD row. 2nd tergal apodemes (Fig. 22) wider, parallel margined, tips truncate, relatively closer; 2nd sternal apodemes (Fig. 23) broader basally, tapering, tips sharpened or slightly blunt.

**Male Genitalia.** Pygofer (Fig. 24) broader, nearly square, surface with few small setae, unarmed. Subgenital plates (Fig. 25) slender with marginal setae, of equidistance to ventral margin of pygofer. Styles (Fig. 26) slender, lateral margins with few fine setae, ventral margin with triangular protrusion near middle, tips narrowed and truncate. Connective (Figs. 27 and 28) stout, with finger-like protrusion in middle, both lateral arms short, bent to dorsum. Aedeagus (Figs. 29 and 30) tubular, dorsally twisted, aedeagal shaft nearly of same width from base to rounded apex; gonopore apical. Dorsal connectives (Fig. 31) narrow, apex slightly inflated, then sharpened.

**Female.** Unknown.

**Type Material**

**HOLOTYPE:** ♂, CHINA: Ningxia Province, Liupanshan, 2050 m, 29-VII-2008, collected by Song Qiong-Zhang (GUGC).

**Distribution**

China (Ningxia Province).
Figs. 22-34. Male genitalia of Pediopsis species. 22-31. *P. ningxiaensis* sp. nov. 32-34. *P. kurentsovi* Anufriev.
Etymology

The new species name refers to the type locality, Ningxia.

Discussion

_Pediopsis ningxiaensis_ Dai & Li _sp. nov._ is similar to _P. femorata_ in having the same number of hind tibial macrosetae, but differs in body form and coloration. It also resembles _P. tiliae_ (Germar, 1831) and _P. kurentsovi_ Anufriev, 1971, but can be distinguished from _P. tiliae_ by the aedeagal shaft being much more stout than in the latter, dorsal connectives not projecting beyond caudal margin of pygofer and directed ventrally (directed dorsally in _P. tiliae_) with subapex definitely inflated and tip sharpened; and lacks situated aedeagal shaft. _Pediopsis ningxiaensis_ can be distinguished from _P. kurentsovi_ in that _P. ningxiaensis_ has a stout aedeagal shaft, conspicuously inflated dorsal connective near dorsal end, and less brown marked forewings and body coloration.

_Pediopsis femorata_ was described based on the female by Hamilton (1980), later it was transferred to subgenus _Pediopsoides_ (_Pediopsoides_) Matsumura, 1912 and the male individual was described and illustrated by Huang & Virakta-math (1993). The external morphological characters and original description of _femorata_ distal lateral lobes of frontoclypeus not expanded; stra-tions on pronotum are distinct and oblique; forewings with 3 anteapical cells are consistent with those of the genus _Pediopsis._

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