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A remarkable new genus and species of Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae) from China

YueHua Song[1, 2,], ZiZhong Li[1,]*, and RenHuai Dai[1]*

Abstract

A new erythroneurine genus, *Dentaneura* **gen. nov**., and a new species, *Dentaneura henanensis* **sp. nov.** (Hemiptera: Cicadellidae: Typhlocybinae) from Henan Province, China, is described. Detailed morphological descriptions and illustrations of the new genus and species and a key to the genera of Erythroneurini of China are given.

Key Words: morphology; taxonomy; new record

Resumen

Se describen un nuevo género de Erythroneurini, *Dentaneura* gen. nov., y una nueva especie, *Dentaneura henanensis* sp. nov. (Hemiptera: Cicadellidae: Typhlocybinae) de la provincia de Henan, China. Se provee descripciones morfológicas e ilustraciones detalladas de la nueva especie, y una clave de los géneros conocidos para China.

Palabras Clave: morfología; taxonomía; nuevo registro

Erythroneurini, the largest tribe in the subfamily Typhlocybinae, is distributed in all 6 faunal regions, and worldwide comprises 193 genera and more than 1,840 species. In China, 50 genera and more than 280 species have been reported (Dmitriev 2016). In the course of studying the Chinese Erythroneurini, a new genus and species, *Dentaneura henanensis* **gen. et sp. nov.**, was discovered and is described in this paper. A key to the genera of the tribe Erythroneurini in China is provided.

Materials and Methods

The type specimens were collected by sweep net in Aug 2008 in the Baiyun Mountain scenic area in Henan Province. Morphological terminology used in this work follows Dietrich (2005) and Song & Li (2013). Habitus photos were taken using a KEYENCE VHX-2000 digital microscope. The body measurements are from the apex of vertex to the tip of forewing. An Olympus SZX7 dissecting microscope was used for viewing and an Olympus CX41 stereoscopic microscope for drawing. The type-series of the new species were deposited in the Institute of Entomology, Guizhou University, Guiyang, China (GUGC).

SYSTEMATICS

Dentaneura **gen. nov.**

Type species: *Dentaneura henanensis* **sp. nov.**

DIAGNOSIS

Head narrower than pronotum. Crown fore margin weakly produced medially, with pair of preapical spots. Face with frontoclypeus long and narrow, anteclypeus relatively broad. Pronotum with medial markings. Scutellum with basal triangles obvious. Forewing long and narrow, clavus with continuous vitta parallel to suture.

Male: Second sternal apodemes (2S) bladelike, extending 4th sternite.

Pygofer side broad, with single large dorsal macroseta, hind margin rounded, basolateral area without setae in distinct group, microsetae and microtrichia near caudal margin of lobe well developed. Pygofer dorsal appendage movably articulated, bifurcate near base, extended beyond pygofer apex, slightly curved downward in lateral view. Ventral appendage absent. Subgenital plate (Fig. 8) short, not extended to apex of pygofer lobe, expanded at subbase, with 3 macrosetae along upper margin subbasally and 4 macrosetae forming row on lateral surface, upper marginal microsetae absent, with 2 strong teethlike setae apically, some microsetae scattered on distal and ventral area. Style (Fig. 9) long and slender, footlike apically. Preapical lobe small but distinct, hooklike at apex. Connective (Fig. 12) Y-shaped, central lobe present. Aedeagus (Fig. 11) simple, with pair of short processes apically. Aedeagal shaft equal to or slightly shorter than preatrium. Preatrium expanded at base. Dorsal apodeme small in lateral view. Gonopore terminal, ventrad.

BIOLOGY

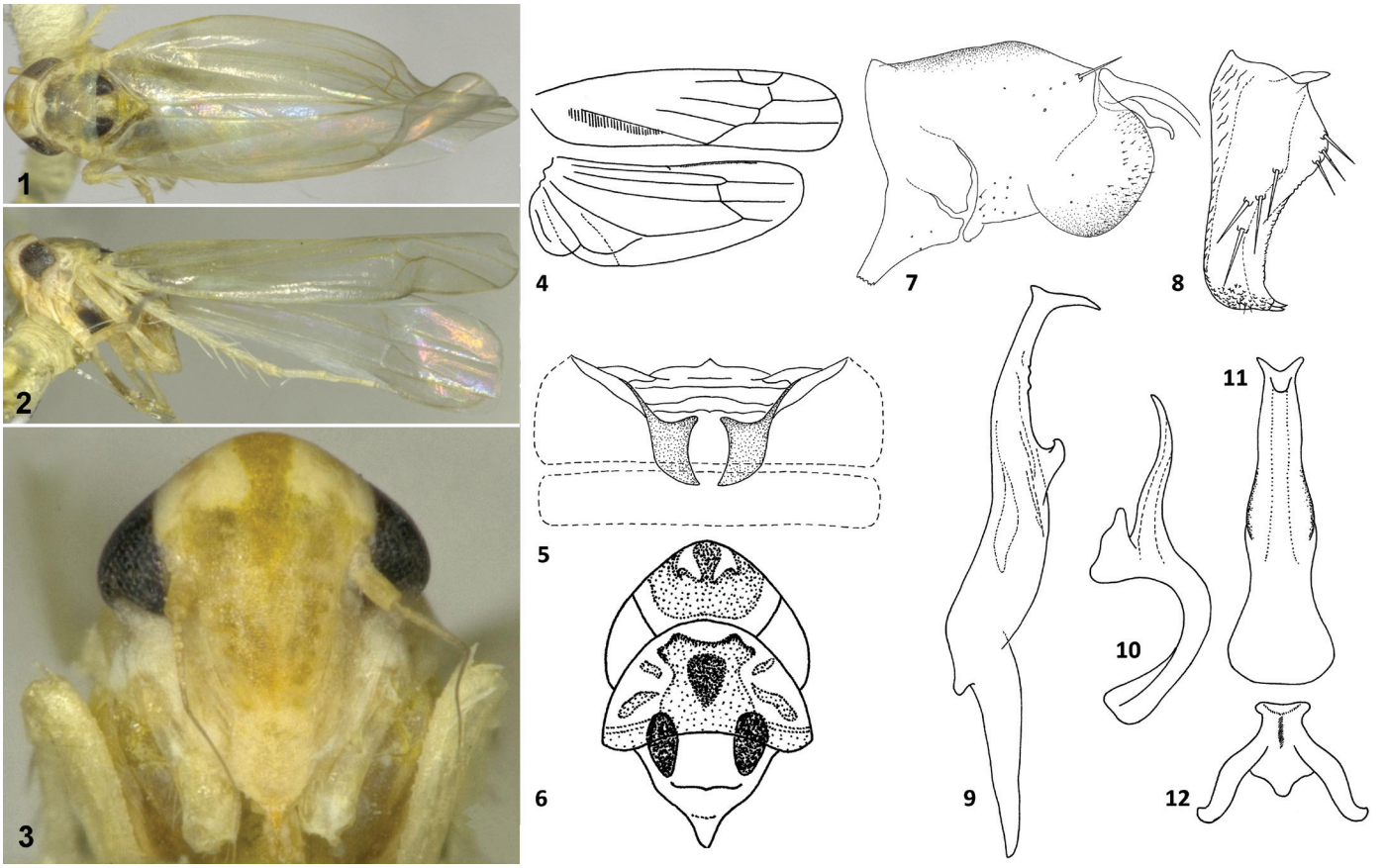
Species in this tribe feed on trees, shrubs, and grasses. Some species harm economic crops including apple, grape, cherry, hawthorn, pear, peach, mulberry, maple, and *Lonicera*. The body is small, the forewing and head often have bright coloration and distinct patterns.

DISTRIBUTION

Palearctic region.

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Figs. 1–12. *Dentaneura henanensis* Song, Li & Dai **sp. nov.** (male). 1. Habitus, dorsal view; 2. habitus, lateral view; 3. face; 4. wings (forewing and hind wing); 5. abdominal apodemes; 6. head and thorax, dorsal view; 7. pygofer, lateral view; 8. subgenital plate; 9. style; 10. aedeagus, lateral view; 11. aedeagus, ventral view; 12. connective.

NOTES

The new genus resembles *Arboridia* (Zachvatkin 1946) in the following morphological characteristics: crown fore margin weakly produced medially, with paired preapical spots, scutellum with dark basal triangles. It is also somewhat similar to *Tautoneura* Anufriev, 1969 in the Y-shaped connective, with median anterior lobe, but can be distinguished from the formers by the pygofer with 1 dorsal macroseta, without macrosetae in group at basal lower angle; the subgenital plate very short, with 3 macrosetae at upper margin subbasally and 2 robust teethlike setae at apex, some rigid microsetae along upper margin disappeared; connective median anterior lobe present.

ETYMOLOGY

The generic epithet is derived from the noun “denta” and the suffix “-neura” in view of the subgenital plate with 2 strong teethlike setae at apex. The gender is feminine.

Updated Key to Genera of Erythroneurini from China (Modified from Song & Li 2014)

1.— Hind wing submarginal vein reduced, not fused with Cu1 vein. 2

1′.— Hind wing submarginal vein fused with Cu1 vein 3

2.— Head, thorax, and forewing with numerous spots and markings; pygofer with dorsal appendage only . . . . . *Diomma* Motschulsky

2′.— Head, thorax, and forewing without spots and markings; pygofer with dorsal and ventral appendage . . . . . *Watara* Dworakowska

3.— Anal tube with hooks or processes 4

3′.— Anal tube without hooks or processes. . . . . 7′

4.— Pygofer lobe with several enlarged setae at basolateral angle 5

4′.— Pygofer lobe without several enlarged setae at basolateral angle 7

5.— Pygofer microtrichia well developed . . . . . *Raabeina* Dworakowska

5′.— Pygofer microtrichia absent or inconspicuous 6

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6.— Pygofer ventral appendage absent . . . . . *Gladkara* Dworakowska

6′.— Pygofer ventral appendage present . . . . . *Thailus* Mahmood

7.— Pronotum with single diamond-shaped impression medially 8

7′.— Pronotum without diamond-shaped impression medially 11

8.— Pygofer lobe with 1–2 dorsal macrosetae . . . . . *Sanatana* Dworakowska

8′.— Pygofer lobe without dorsal macrosetae 9

9.— Aedeagus fused to connective . . . . . *Andrabia* Ahmed

9′.— Aedeagus articulated to connective 10

10.— Pygofer lobe with appendage . . . . . *Thaia* Ghauri

10′.— Pygofer lobe without appendage . . . . . *Niedoida* Dworakowska

11.— Pygofer lobe with sparse long fine setae 12

11′.— Pygofer lobe without sparse long fine setae . . . . . *Kaukania* Dworakowska

12.— Forewing with irregular red dots . . . . . *Tautoneura* Anufriev

12′.— Forewing without irregular red dots 13

13.— Pygofer without dorsal appendage . . . . . *Thapaia* Dmitriev & Dietrich

13′.— Pygofer with dorsal appendage 14

14.— Pygofer dorsal appendage movably articulated at base 15

14′.— Pygofer dorsal appendage not movably articulated at base . . . . . *Gambialoa* Dworakowska

15.— Pygofer with oblique dorsolateral internal ridge . . . . . *Kapsa* Dworakowska

15′.— Pygofer without oblique dorsolateral internal ridge 16

16.— Pygofer lobe microtrichia well developed . . . . . *Chagria* Dworakowska

16′.— Pygofer lobe microtrichia disappeared or unobvious . . . . . *Frutioidia* Zachvatkin

17.— Forewing 4th apical cell extended to distal margin 18

17.— Forewing 4th apical cell not extended to distal margin 22

18.— Style apex bifurcate . . . . . *Irenaneura* Cao, Huang & Zhang

18′.— Style apex unbranched 19

19.— Pygofer inner side with 2 pairs of well pigmented separate lobes . . . . . *Variolosa* Cao & Zhang

19′.— Pygofer inner side without lobes . . . . . ···20

20.— Preatrium of aedeagus with single large atrial process . . . . . *Singapora* Mahmood

20′.— Preatrium of aedeagus without atrial process 21

21.— Pygofer lobe with a strong appendage at caudal margin medially . . . . . *Fractata* Song & Li

21′.— Pygofer lobe without any appendage at caudal margin . . . . . *Dentaneura* **gen. nov.**

22.— Pygofer basolateral with macrosetae in distinct group 23

22′.— Pygofer basolateral without macrosetae in group 26

23.— Apex of scutellum without black spot 24

23′.— Apex of scutellum with single black spot 25

24.— Style apex truncate . . . . . *Coloana* Dworakowska

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24′.— Style apex slender . . . . . *Ossuaria* Dworakowska

25.— Subgenital plate with lamelliform process on inner lateral surface near apex and several long white fine setae at apex . . *Plumosa* Sohi

25′.— Subgenital plate without lamelliform process on inner lateral surface near apex, with several short stout setae at apex . . . . . *Davmata* Dworakowska

26.— Hind wing with truncate apex. 27

26′.— Hind wing with rounded apex. 29

27.— Hind wing with RA vein . . . . . · *Erythroneura* Fitch

27′.— Hind wing without RA vein 28

28.— 2S abdominal apodemes small, narrow, not exceeding 3rd sternite . . . . . *Gredzinskiya* Dworakowska

28′.— 2S abdominal apodemes large, broad, exceeding 3rd sternite . . . . . *Erythroneura* Fitch

29.— Pygofer with dorsal and ventral appendage 30

29′.— Pygofer with dorsal or ventral appendage only or without appendage 31

30.— Pygofer lobe with 1 or more dorsal macrosetae . . . . . *Salka* Dworakowska

30′.— Pygofer without dorsal macorsetae . . . . . *Alnetoidia* Dlabola

31.— Crown fore margin weakly produced, rounded apically. 32

31′.— Crown fore margin strongly produced, angulate medially 36

32.— Pronotum with diamond-shaped impressions medially. 33

32′.— Pronotum without diamond-shaped impressions medially 34

33.— Pygofer without dorsal appendage . . . . . *Pseudothaia* Kuoh

33′.— Pygofer with dorsal appendage . . . . . *Matsumurina* Dworakowska

34.— Scutellum with single black medial spot . . . . . *Elbelus* Mahmood

34′.— Scutellum without single black medial spot 35

35.— Style preapical lobe cheliform . . . . . *Rufitidia* Dworakowska

35′.— Style preapical lobe lamellalike . . . . . *Yakuza* Dworakowska

36.— Style apex long and slender, tapering apically. 37

36′.— Characters not as above 40

37.— Pygofer often with 1 or more dorsal macrosetae . . . . . *Kabakra* Dworakowska

37′.— Pygofer often without dorsal macrosetae 38

38.— 3S apodemes present and distinctive . . . . . *Saccata* Cao & Zhang

38′.— 3S apodemes absent 39

39.— Connective central lobe absent . . . . . *Kusala* Dworakowska

39′.— Connective central lobe present. . . . . *Mitjaevia* Dworakowska

40.— Pygofer with dorsal appendage 41

40′.— Pygofer without dorsal appendage 42

41.— Pygofer with single macroseta arising from caudal margin medially . . . . . *Laciniata* Song & Li

41′.— Pygofer without macroseta arising from caudal margin. . . . . *Duanjina* Kuoh

42.— Connective with central lobe 43

42′.— Connective without central lobe 46

43.— Pygofer lobe with numerous, conspicuous long fine setae . . . . . *Zygina* Fieber

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43′.— Pygofer lobe without numerous, conspicuous long fine setae 44

44.— Pygofer with oblique dorsolateral internal ridge 45

44′.— Pygofer without oblique dorsolateral internal ridge. . . . . *Lectotypella* Dworakowska

45.— Vertex without spots . . . . . *Motaga* Dworakowska

45′.— Vertex often with pair of preapical spots or large median apical spot . . . . . *Empoascanara* Distant

46.— Style apex with 3 points 47

46′.— Style apex truncate and expanded. 48

47.— Forewings with continuous zigzag pattern . . . . . *Ziczacella* Anufriev

47′.— Forewings without continuous zigzag pattern. . . . . *Arboridia* Zachvatkin

48.— Pygofer with macrosetae at basolateral angle 49

48′.— Pygofer without macrosetae at basolateral angle . . . . . *Seriana* Dworakowska

49.— Aedeagus with pair of long atrium processes; hindwing without RA vein . . . . . *Qadria* Mahmood

49′.— Aedeagus without atrium processes; hindwing with RA vein . . . . . *Anufrievia* Dworakowska

Dentaneura henanensis Song, Li & Dai **sp. nov.** (Figs. 1–12)

TYPE LOCALITY

China: Henan Province, Mt. Baiyun.

DESCRIPTION

Body length: ♂, 3.1–3.2 mm.

Vertex (Figs. 1 and 6) brownish yellow, with pair of milky irregular preapical spots and with longitudinal milky stripes along inner sides of eyes. Eyes (Figs. 1, 2, 3) brown black. Pronotum (Figs. 1, 6) whitish yellow, with median and posterior margin dark. Face (Fig. 3) brown yellow, frontoclypeus long and narrow, with 2 large milky white markings apically; anteclypeus broad, whitish yellow. Forewing (Figs. 1 and 4) pale, with 1 continuous light brown vitta parallel to clavus suture.

Male: Second sternal apodemes (2S) (Fig. 5) bladelike, extended to 4th sternite.

Pygofer side (Fig. 7) broad, with 1 dorsal macroseta, numerous microtrichia scattered at caudal area. Pygofer dorsal appendage movably articulated, bifurcate at base, dorsal branch longer than ventral branch, extended beyond apex of lobe. Subgenital plate (Fig. 8) with 3 marginal macrosetae at base, 4 macrosetae on lateral surface, and 2 robust teethlike setae at apex. Style (Fig. 9) with apex inverted-footlike, preapical lobe small, with apex hooklike. Connective (Fig. 12) Y-shaped, with stem truncate apically, central lobe much short than lateral arms. Aedeagus (Figs. 10 and 11) with paired short apical processes, preatrium little longer than aedeagal shaft, dorsal apodeme small in lateral view, gonopore apical on ventral surface.

Female: Unknown.

MATERIAL EXAMINED

HOLOTYPE: 1 male; CHINA: Henan Prov., Mt. Baiyun (33.6° N, 111.83° E), 1,300–1,400 m, 17-VIII-2008, coll. Yuehua Song and Can Li. PARATYPE: 1 male, same data as Holotype.

DISTRIBUTION

China (Henan Province).

DIAGNOSIS

The new species can be distinguished from other species with its subgenital plate extremely short, with 3 macrosetae along upper margin sub-basally and 2 strong toothlike setae apically; pygofer lobe with a single dorsal macroseta.

ETYMOLOGY

The specific name refers to the type-locality.

Acknowledgments

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