A new species of the genus *Farynala* Dworakowska (Hemiptera: Cicadellidae: Typhlocybinae)

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Abstract: A new species, *Farynala annulata* Zhou & Huang **sp. nov.**, is described and illustrated. A checklist and key to species of the genus *Farynala* are provided.

Key words: Auchenorrhyncha; Typhlocybini; morphology; taxonomy

蕃氏小叶蝉属 *Farynala* 一新种（半翅目：叶蝉科：小叶蝉亚科）

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摘要：描记蕃氏小叶蝉属 *Farynala* 1 新种：环突蕃氏小叶蝉 *Farynala annulata* Zhou & Huang **sp. nov.**，拍摄绘制了新种的成虫外部形态及雄性外生殖器特征图，编写了物种名录和分种检索表。

关键词：头喙亚目；小叶蝉族；形态；分类

Introduction

The genus *Farynala* Dworakowska, 1970 was established with a new species *Farynala novica* as its type species from Vietnam. To date, 11 species of the genus have been described and are distributed in Vietnam, India (Sikkim), Pakistan, Thailand, Nepal and China (Dworakowska 1970, 1977, 1982, 1994; Sharma 1977; Ahmed & Naheed 1981; Chiang *et al*. 1989; Thapa 1989; Yan & Yang 2017). In this paper, we describe a new species of the genus.

Material and methods

All specimens examined are deposited in the Entomological Museum, Northwest A&F University, Yangling, China (NWAFU). The abdomens and genitalia were treated with hot 10%

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NaOH solution for 2 minutes to dissolve muscle tissue, rinsed with water, and stored in glycerine. Morphological observations and illustrations utilized Olympus SZX10 microscope and Olympus BH-2 drawing apparatus. Specimens were photographed using a Leica M205 microscope equipped with a Leica DFC425 camera, utilizing the Leica Application Suite (LAS) V3.7 software. Final image processing was performed using Adobe Photoshop 2024 (Adobe Systems).

Morphological terminology follows Zhang (1990), except wing venation, which follows Dworakowska (1993).

Taxonomy

Genus *Farynala* Dworakowska

Farynala Dworakowska, 1970: 215; Sharma, 1977: 241; Chou & Ma, 1981: 199; Dworakowska, 1982: 143; Chiang Hsu & Knight, 1989: 128; Zhang, 1990: 153; Dworakowska, 1994: 140; Yan & Yang, 2017: 520.

Type species. *Farynala novica* Dworakowska, 1970.

Type locality. Vietnam.

Description. Body with ground color white to yellowish. Crown obtusely protruding, shorter than interocular width, slightly narrower than pronotum, coronal suture distinct. Forewing with outer margin obtuse and 2nd apical cell larger. Hindwing with 2 cross veins.

Male pygofer with 2 separate macrosetal groups, near basoventral margin and posteroventral margin. Subgenital plate abruptly narrowed at outer margin subapically with one basal macroseta and row of small rigid setae along outer margin near base, a few scattered setae on apical part, and a group of peg-like setae at apex. Style slender, caudal part curved outward with row of sensory pits on caudal part and some microsetae on outer margin, without subapical process. Connective plate-like and convex. Aedeagal shaft with asymmetrical apical or subapical processes; gonopore apical.

Remarks. The genus *Farynala* resembles *Paracyba* Vilbaste, 1968 in the macrosetae on male pygofer and subgenital plate, including the peg-like setae at the end of the subgenital plate, but differs in having 2 macrosetal groups on the male pygofer, and the subapical part of the subgenital plate abruptly narrowed along the outer margin.

Check list of *Farynala*

1. *F. annulata* Zhou and Huang **sp. nov.**

   Distribution. China.

2. *F. confusa* Ahmed & Naheed, 1981

   Farynala confusa Ahmed & Naheed, 1981: 83.

   Distribution. Pakistan.

3. *F. dextra* Yan & Yang, 2017

   Farynala dextra Yan & Yang, 2017: 520

   Farynala sinistra Yan & Yang, 2017: 520; Yan, Dietrich, Yu, Jiao, Dai & Yang, 2022: 14.

   Distribution. China.

4. *F. extremita* Dworakowska, 1982

Farynala extremita Dworakowska, 1982: 143.
Distribution. Thailand.

5. *F. malhotri* Sharma, 1977
Farynala malhotri Sharma, 1977: 241.
Distribution. China; India.

6. *F. novica* Dworakowska, 1970
Farynala novica Dworakowska, 1970: 216.
Distribution. Vietnam.

7. *F. palina* Chiang, Hsu & Knight, 1989
Farynala palina Chiang, Hsu & Knight, 1989: 128.
Distribution. China.

8. *F. saiduensis* Ahmed & Naheed, 1981
Farynala saiduensis Ahmed & Naheed, 1981: 81.
Distribution. Pakistan.

9. *F. shengai* Dworakowska, 1994
Farynala shengai Dworakowska, 1994: 140.
Distribution. India.

10. *F. silacea* Thapa, 1989
Farynala silacea Thapa, 1989: 116.
Distribution. Nepal.

11. *F. starica* Dworakowska, 1977
Farynala starica Dworakowska, 1977: 41.
Distribution. China; Vietnam.

12. *F. sternata* Ahmed & Naheed, 1981
Farynala sternata Ahmed & Naheed, 1981: 79.
Distribution. Pakistan.

Key to species of *Farynala* (♂)

1. Pygofer with three macrosetae at base ····· *F. silacea* Thapa
-. Pygofer with macrosetae not as above ····· 2
2. Subgenital plate with more than one macroseta at base ····· 3
-. Subgenital plate with 1 macroseta at base ····· 5
3. Aedeagal shaft with 1 pair of processes····· *F. sternata* Ahmed & Naheed
-. Aedeagal shaft with 2 pairs of processes····· 4
4. The middle of subgenital plate with macrosetae····· *F. confusa* Ahmed & Naheed
-. The middle of subgenital plate without macrosetae ····· *F. saiduensis* Ahmed & Naheed
5. Aedeagal shaft with 2 asymmetrical processes ····· *F. novica* Dworakowska
-. Aedeagal shaft with more than 2 processes····· 6
6. Aedeagal shaft with 4 processes ·····*F. palina* Chiang, Hsu & Knight
-. Aedeagal shaft with 3 processes ····· 7

7. The middle of aedeagal shaft with processes····· *F. dextra* Yan & Yang
-. The middle of aedeagal shaft without processes ····· 8
8. Aedeagus shaft with 2 processes strongly curved in posterior view····· 9
-. Aedeagus shaft with 1 or 3 processes strongly curved in posterior view ····· 11
9. Apical processes of aedeagal shaft with the ends encircling each other ····· *F. annulata* **sp. nov.**
-. Apical processes of aedeagal shaft without the ends encircling each other····· 10
10. Aedeagal shaft with middle part significantly widened in lateral view····· *F. starica* Dworakowska
-. Aedeagal shaft without middle part significantly widened in lateral view ····· *F. extremita* Dworakowska
11. All processes of aedeagal shaft strongly curved····· *F. shengai* Dworakowska
-. Only one process of aedeagal shaft strongly curved····· *F. malhotri* Sharma

***Farynala annulata* Zhou & Huang sp. nov.** (Figs 1, 2)

Measurement. Male 2.80–2.95 mm (including wings).

Description. Body with ground color yellowish (Fig. 1A). Crown and scutellum yellowish; central part of pronotum and scutellar triangles orange (Fig. 1C). Forewing translucent with apical area infuscate, posterior margin of clavus yellowish, with brown spot near CuA" vein (Fig. 1A).

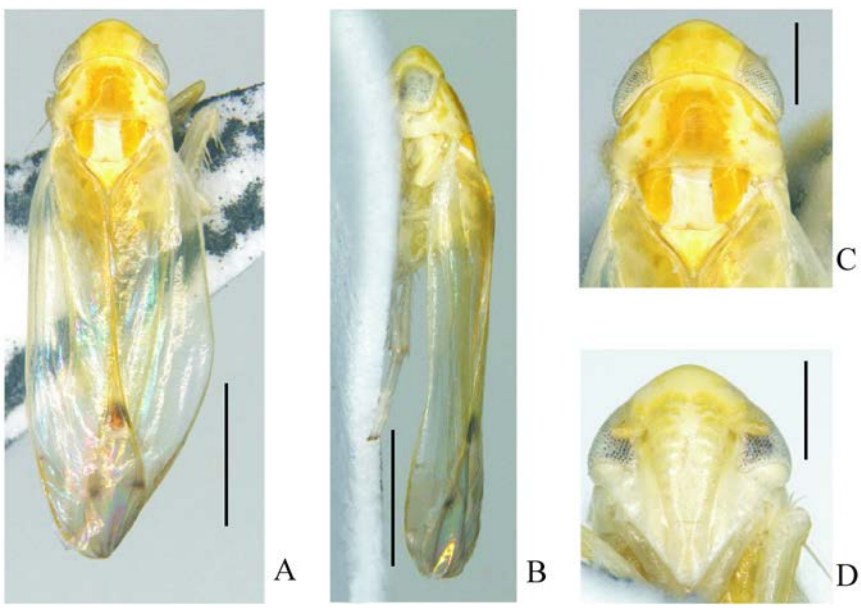

Figure 1. *Farynala annulata* Zhou & Huang **sp. nov.** A, B. Habitus, dorsal and lateral views; C. Head and thorax, dorsal view; D. Face. Scale bars = 0.75 mm (A, B); 0.3 mm (C, D).

Abdominal apodemes extending to apex of 4th abdominal sternite (Fig. 2A). Male pygofer with prominent protruding posterior margin bearing small setae, 2 macrosetae near basoventral margin and 3 macrosetae on posteroventral margin (Fig. 2B). Subgenital plate with 1 macroseta at base (Fig. 2D); row of peg-like setae near middle along outer margin (Fig. 2D); some scattered small setae on apical part and some peg-like setae at apex (Fig. 2D). Style with row of small setae on middle of outer margin (Fig. 2E). Connective with prominent central ridge (Fig. 2F). Aedeagus with dorsal apodeme present (Fig. 2G); aedeagal shaft with 2 apical processes crossing each other distally, and 1 right lateral process (Figs 2G, 2H).

Holotype. ♂, **China**, Yunnan, Menghai county, Nanguohe Village, 03-VI-2022, coll. Xian ZHOU. **Paratypes**. 7♂, same data as holotype; 6♂, **China**, Yunnan, Kunming, Jiu town, 08-VII-2021, coll. Xian ZHOU; 3♂, **China**, Yunnan, Jinghong, Mandian Village, 30-V-2022, coll. Xian ZHOU; 15♂, **China**, Guizhou, Xishui county, Zhaiba town, 21-VII-2022, coll. Yulin HU.

Etymology. The specific epithet is derived from the Latin word "*annulatus*" which refers to the 2 apical processes of the aedeagal shaft crossing each other in posterior view (Fig. 2H).

Remarks. The new species is similar to *F. starica* in the shape of aedeagus and presence of three distal processes, but differs in having the aedeagal shaft with 2 apical processes crossing each other distally in posterior view (Fig. 2H).

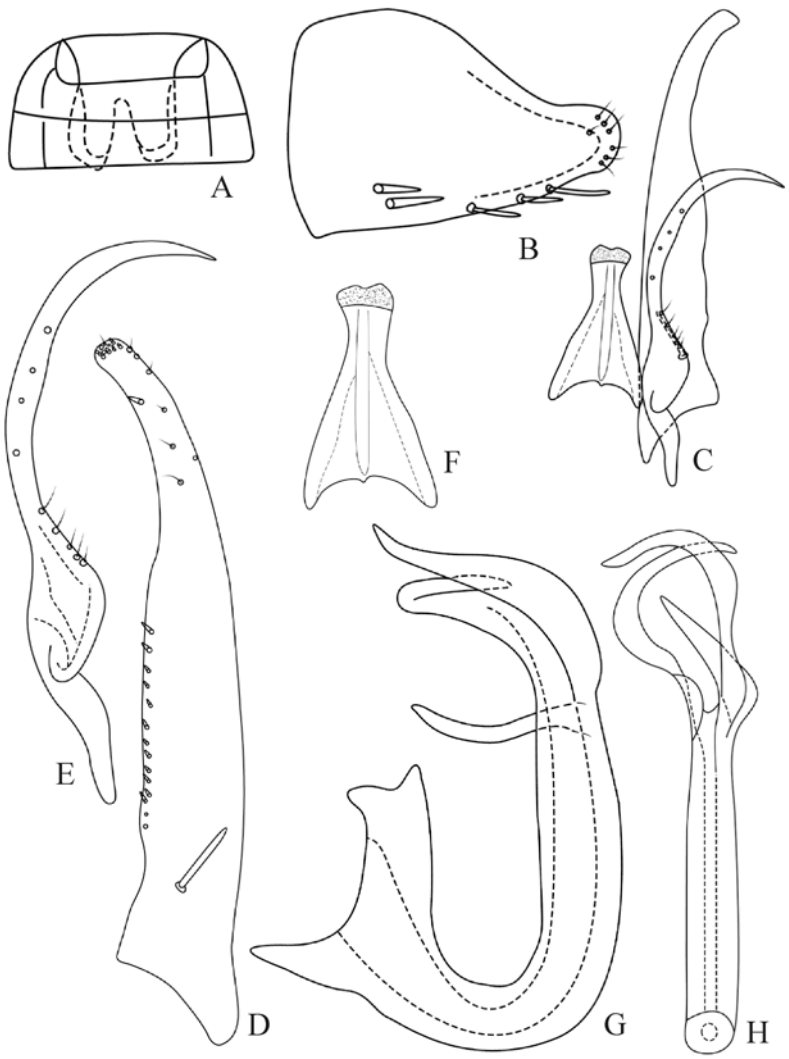

Figure 2. *Farynala annulata* Zhou & Huang **sp. nov.** A. Abdominal apodemes; B. Male pygofer, lateral view; C. Style, connective and subgenital plate, dorsal view; D. Subgenital plate, lateral view; E. Style, dorsal view; F. Connective, dorsal view; G, H. Aedeagus, lateral and posterior views.

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