



A new species of the genus *Euricania* Melichar, 1898 (Hemiptera: Fulgoromorpha: Ricaniidae) from China, with a world checklist and a key to all species recorded for the country

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Abstract

One new species of the planthopper genus *Euricania* Melichar, 1898 – *E. paraclara* sp. nov. is described from Guizhou (southwest China). A checklist of all *Euricania* species and an identification key to the species of the Chinese fauna are provided. Photographs of the adult and illustrations of male and female genitalia of the new species are also given.

Key words: Fulgoroidea, planthopper, taxonomy, key, checklist

Introduction

The planthopper genus *Euricania* (Hemiptera: Ricaniidae) was established by Melichar (1898a) with the type species *Pochazia ocellus* Walker, 1851 designated subsequently by Distant (1906). It is a relatively large genus in the family Ricaniidae with 36 species and subspecies (Bourgoin 2015), widely distributed in the southeastern Palearctic (China, Japan), Oriental Region (India, Bangladesh, Indonesia, Malaysia, Taiwan), New Guinea, Solomon Islands, Vanuatu, Fiji and North Australia (Fletcher 2008).

Recent studies of the genus *Euricania* from China by Chou & Lu (1977), Chou *et al.* (1985), Yang (1989), and Xu *et al.* (2006), together with older works, results in six species known to date: *E. facialis* (Walker, 1858); *E. clara* Kato, 1932; *E. ocellus* (Walker, 1851); *E. brevicula* Xu, Liang et Jiang, 2006; *E. longa* Xu, Liang et Jiang, 2006; *E. xizangensis* Chou et Lu, 1977. This paper adds a new species *E. paraclara* sp. nov. from Guizhou (southwestern China) and provides a world checklist of *Euricania* species together with identification key to the species in Chinese fauna.

Material and methods

Dry pinned and 100% alcohol preserved specimens were used for this study.

The abdomens of the specimens examined were boiled in 10% NaOH for 1–5 minutes. Final observations and drawings of genital structures were done in glycerin using light microscope. External morphology was observed using a stereoscopic microscope (LEICA MZ-12.5) and the measurements were performed with ocular micrometer. All photos were taken using a Scientific Digital micrography system equipped with an Auto-montage imaging system and a QIMAGING Retiga 4000R digital camera (CCD).

Specimens examined for this study are deposited in the Northwest A&F University, Yangling, Shaanxi, China (NWAUFU). The terminology of wing venation after Bourgoin *et al.* (2015), the nomenclature of male and female genital structures follows Bourgoin & Huang (1990) and Bourgoin (1993), respectively.

Taxonomy

Euricania Melichar, 1898

Euricania Melichar, 1898a: 258.

Euricania Melichar, 1898b: 393.

Type species. *Pochazia ocellus* Walker, 1851, designated by Distant 1906: 385.

Checklist and distribution of *Euricania* Melichar, 1898

E. aperiens (Walker, 1858)—Fiji

E. brevicula Xu, Liang et Jiang, 2006—China (Fujian, Guangdong, Guangxi)

E. camilla Fennah, 1950—Fiji

E. camilla kandavuana Fennah, 1950—Fiji

E. clara Kato, 1932—China (Beijing, Shandong, Shaanxi, Gansu), Japan

E. cliduchus Fennah, 1950—Fiji

E. concinna (Stål, 1863)—Indonesia

E. cyane Fennah, 1950—Fiji

E. dinon Fennah, 1950—Fiji

E. discigutta (Walker, 1862)—Indonesia, Papua New Guinea, Solomon Islands, “Indian Archipelago”, “East Indies”

E. facialis (Walker, 1858)—China (Fujian, Henan, Jiangxi, Shaanxi, Zhejiang, Taiwan), Japan

E. furina Fennah, 1950—Fiji

E. fusconebulosa (Lallemand, 1935)—Australia (Northern Territory)

E. gloriosa Distant, 1911—Solomon Islands

E. hyalinocosta Melichar, 1898—Papua New Guinea

E. infesta Melichar, 1898—Papua New Guinea

E. laetoria Fennah, 1950—Fiji

E. licinia Fennah, 1950—Fiji

E. longa Xu, Liang et Jiang, 2006—China (Yunnan, Hunan)

E. moneta Fennah, 1950—Fiji

E. morio Melichar, 1898—Papua New Guinea

E. ocellus (Walker, 1851)—China (Hebei, Zhejiang, Guangxi, Hainan, Hunan, Guizhou, Taiwan), India, Japan, Bengal, Vietnam, “East Indies”

E. oculata (Guérin-Ménéville, 1831)—Papua New Guinea

E. opora Fennah, 1950—Fiji

E. paraclara **sp. nov.**—China (Guizhou)

E. pedicellata (Jacobi, 1928)—Australia (Western Australia)

E. procilla Fennah, 1950—Fiji

E. progne Fennah, 1950—Fiji

E. sirenia Fennah, 1950—Fiji

E. splendida (Fabricius, 1803)—Indonesia, Papua New Guinea, “Malay Archipelago”

E. stellata Distant, 1914—Indonesia

E. sterope Fennah, 1950—Fiji

E. subapicalis (Walker, 1870)—Indonesia

E. tibialis (Walker, 1858)—Papua New Guinea, Vanuatu

E. tristicula (Stål, 1865)—Fiji

E. xizangensis Chou et Lu, 1977—China (Xizang)

Key to species of *Euricania* from China (males)

1. Clypeus with median carina *E. xizangensis* Chou et Lu
- Clypeus without median carina 2
2. Tegmina without transverse fasciae 3
- Tegmina with transverse fasciae 4
3. Aedeagus with apical spinose process longer than half length of periandrium in midline at about 1 : 2 ... *E. paraclara* sp. nov.
- Aedeagus with apical spinose process shorter than half length of periandrium in midline at about 1 : 3 *E. clara* Kato
4. Tegmina without brown ringlet fasciae 5
- Tegmina with brown ringlet fasciae 6
5. Lateral carinae of frons shorter than median carina at about 1 : 3.4 *E. longa* Xu, Liang et Jiang
- Lateral carinae of frons shorter than median carina at about 1 : 1.4 *E. facialis* Melichar
6. Aedeagus with apical process longer than half length of periandrium in middle line at about 1 : 2; subapical lateral process shorter than dorsal process at about 1 : 5 *E. ocellus* Walker
- Aedeagus with apical spinose process shorter than half length of periandrium in midline at about 1 : 3, subapical lateral process shorter than dorsal process at about 1 : 2 *E. brevicula* Xu, Liang et Jiang

Euricania paraclara sp. nov.

(Figs 1–17)

Etymology. The specific epithet refers to the similarity of this new species to *Euricania clara* Kato, 1932.

Diagnosis. *Euricania paraclara* sp. nov. is similar to *Euricania clara* Kato, but differs from the latter by having long apical spinose process of aedeagus surpassing half length of periandrium in midline (apical spinose process of aedeagus short, not surpassing half length of periandrium in *E. clara*).

Description. Length (including tegmina): male 9.5–11.0 mm, female 8.5–9.5 mm.

HEAD. Head with compound eyes (in dorsal view) about as wide as mesonotum (Figs 1, 3). Vertex transverse, 9 times wider at the anterior margin than long in midline, with all margins strongly carinate, anterior and posterior margins arcuate, almost parallel; disc of vertex without median carina (Fig. 3).

Frons at upper margin 1.35 times as wide as tall in midline; frons widest at lower part of compound eyes shorter than long in midline about 1.45 : 1; upper margin slightly convex, lateral margins arcuate, not incised near ocelli, in lower part slightly curved to frontoclypeal suture; frontal disc with 3 carinae separated basally and delicately rugose vertically, median carina extending the midlength of frons, lateral carinae arcuate, shorter than median carina about 1 : 1.6, reaching the level of ocelli (Fig. 4).

Compound eyes oval, with small callus at lower margin. Pedicel elongate, barrel-shaped, with plate organs located apically. Ocelli present.

Frontoclypeal suture arcuate. Clypeus without carinae, with median portion convex (Fig. 4).

Rostrum reaching mesotrochanters, apical segment shorter than subapical.

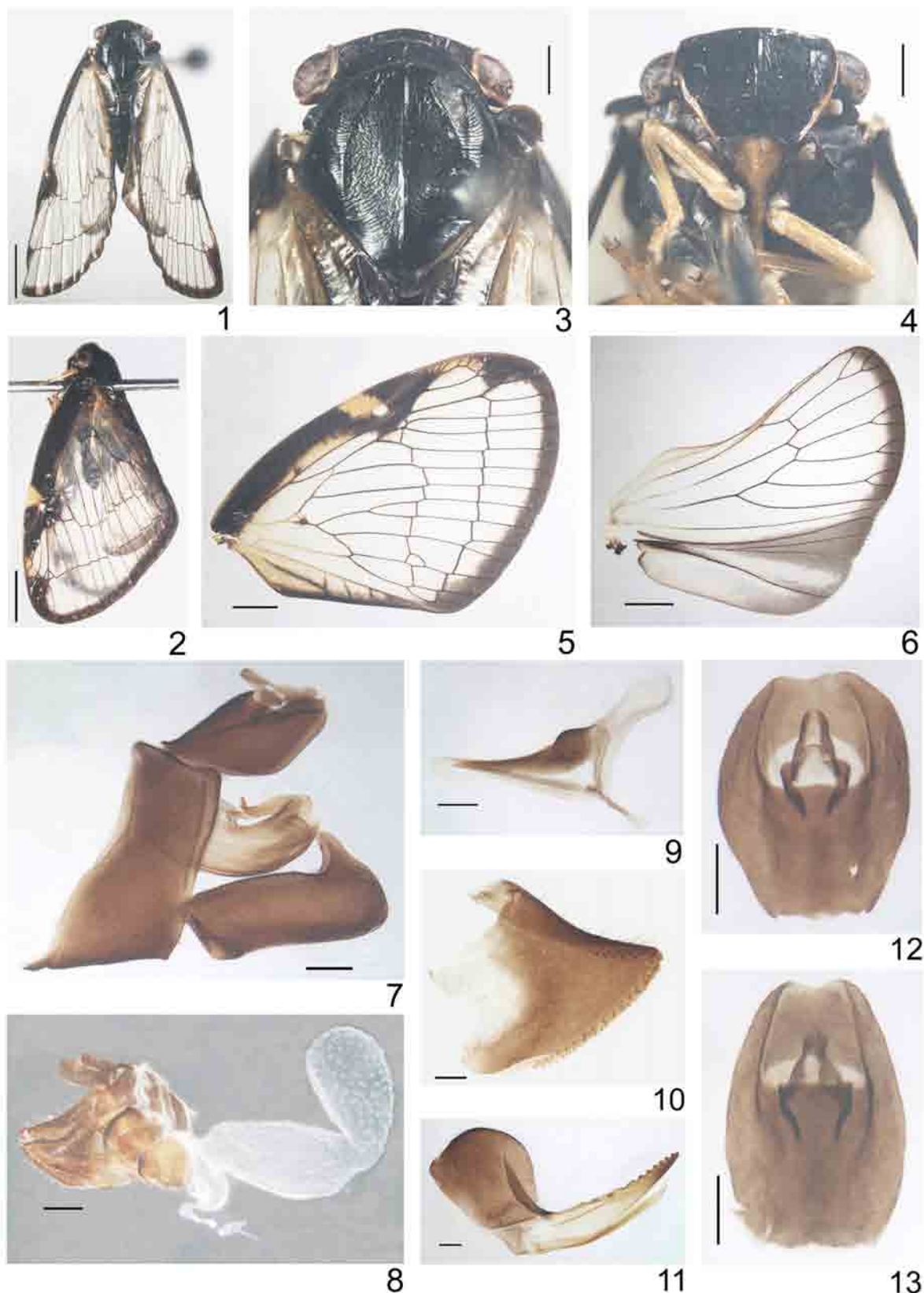
THORAX. Pronotum distinctly longer in midline than vertex; disc of pronotum with median carina and two lateral impressions, anterior and posterior margins in median portion almost parallel (Fig. 3).

Mesonotum elongate, distinctly longer than cumulative length of vertex and pronotum in midline; median carina distinctly visible, keel-shaped and reaching almost scutellum; lateral carinae connected basally, reaching posterior margins; anterolateral carinae not surpassing the lateral angles of mesonotum, connected with lateral carinae (Figs 1–3).

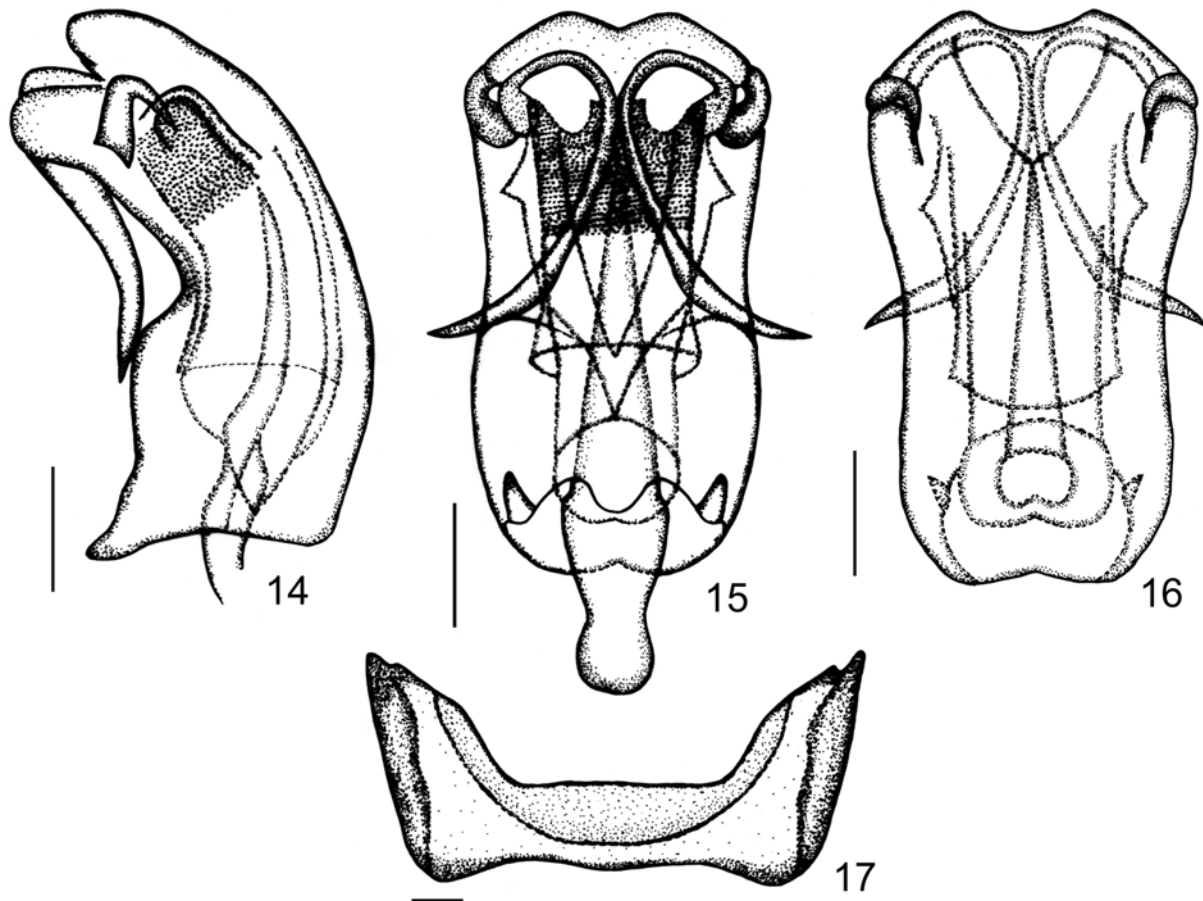
Tegmina (Figs 1, 2 & 5) membranous, elongately-triangular; costal margin weakly arcuate, anterior angle broadly rounded, placed distad to claval angle, posterior margin angulate. Costal area of tegmen with transverse veinlets, a little wider than postcostal cell and widened apically; postcostal cell narrower than costal area with a few incomplete transverse veinlets, basal cell widely rounded; veins ScP+RA, MP and CuA separated at base. ScP+RA vein forked a bit distad than MP fork, CuA stem distinctly longer than other stems, forked after MP₁₊₂ and MP₃₊₄. Tegmen with 2 lines of transverse veinlets, apical and subapical cells longer than wide. Cubital cell without transverse veinlets, *icu* veinlet present. Claval veins Pcu and A1 fused about midlength of clavus, transverse veinlets present between CuP-Pcu and Pcu+A1-CuP.

Wings small, with precostal cell longer than wide, and 2 transverse veinlets *r-m* and *m-cu* (Fig. 6).

Metatibia longer than metafemur, with 2 lateral spines placed distally and with 6 apical teeth; basitarsomere as long as cumulative length of meta- and hind tarsomere, with 8 apical teeth. Metatibiotarsal formula 2/6/8.



FIGURES 1–13. *Euricania paraclara*, sp. nov. (1) female adult, dorsal side; (2) female adult, left side; (3) vertex and thorax, dorsal side; (4) frons and clypeus; (5) tegmen; (6) wing; (7) male genitalia, left side; (8) female genitalia, left side; (9) gonapophysis IX and gonospiculum bridge, right side; (10) gonoplac, left side; (11) gonopophysys VIII and endogonocoxal process, left side; (12) male anal segment, dorsal side; (13) female anal segment, dorsal side. Scale bars = 2.00 mm (Figs 1–2); 1.00 mm (Figs 5–6); 0.50 mm (Figs 3, 4, 8); 0.20 mm (Figs 7, 9, 10, 11, 12, 13).



FIGURES 14–17. *Euricania paraclara*, sp. nov. (14) phallic complex, left side; (15) same, dorsal side; (16) same, ventral side; (17) pregenital sternite. Scale bars = 0.10 mm (Figs 14–17).

Coloration. General colour of body dark brown to dark (Figs 1–2). Posterolateral corner of vertex has a visible brown macula on each side (Fig. 3). Lateral margins of vertex, frons in apical $\frac{2}{3}$, clypeus and rostrum yellowish brown (Figs 1–3). Eyes sordid brownish ornamented with irregular black patches (Figs 1–4). Tegmina with costal marginal fascia dark brown, with a yellow, rhomboid patch near middle, beneath with a white small spot; apical and inner margins with brown fasciae (Figs. 1, 4 & 5). Costal and inner margins of wings with narrow, brown fasciae; apical marginal fascia brown and broad, vannal region brownish except for a grayish longitudinal band between veins A1 and A2 (Fig. 6). Abdomen dark brown, each tergite with a narrow brown stripe posteriorly (Fig. 1). Legs yellow (Fig. 3).

MALE TERMINALIA. Anal tube oval in dorsal view, widest in middle, length at midline: maximum width ratio = 1.44 : 1, posterior margin slightly concave, basal margin almost straight, lateral margins strongly convex, anus placed a bit after midlength (Figs 7 & 12). Anal tube in lateral view (Fig. 7) not extending the end of the genital styles; ventral margin strongly arcuate.

Pygofer, in lateral view (Fig. 7), taller than wide; dorsal part narrower than ventral, posterior margin almost straight; posterior-dorsal angle without process, caudoventral angle obtuse (Fig. 7).

Genital styles (in lateral view, Fig. 7), distinctly longer than wide and bearing distinct spine-like process at the end of dorsal margin; lower and upper margin weakly arcuate, almost parallel; hind margin of caudo-dorsal angle widely rounded, surpassing the posterior margin of process.

Phallic complex (Figs 7, 14–16). Periandrium with lateral split shorter than the half of its length. Basal part of periandrium elevated without any additional structures; dorsal periandrium shorter than ventral one, upper median lateral fold of periandrium well developed, narrow and smooth.

Aedeagus a bit longer than periandrium, with pair of well sclerotized, smooth, spinose processes. Each process with a single apex, base of the process placed under the lateral lobe of dorsal periandrium. Apical process distinctly longer than subapical one, surpassing the midlength of periandrium, oriented cephalad and laterad; subapical lateral process distinctly shorter than apical, strongly curved, with apex oriented basad.

FEMALE TERMINALIA. Pregenital sternite with median portion distinctly narrower, comparing to well developed lateral lobes; anterior margin weakly convex medially, posterior margin almost straight (Fig. 17).

Anal tube in lateral view with ventral margin convex (Fig. 8).

Anal tube in dorsal view egg-shaped, widest at basal third, length at midline: maximum width ratio = 1.67 : 1, lateral margins convex, basal margin nearly straight, posterior margin concave, anus placed after midlength (Fig. 13).

Gonoploc unilobate, triangular, with posterior margins bearing 2 rows of blunt and short teeth, posteroventral part partly membranous (Fig. 10).

Gonapophysis VIII partly laterally flattened, tapering apicad; dorsal margin shallowly concave with sharp apex and well visible teeth at the postero-dorsal margin, near apex with spiniferous microsculpture; endogonocoxal process narrower and shorter than gonapophysis VIII (Fig. 11).

Gonapophysis IX with posterior connective lamina sclerotized, gonospiculum bridge finger-like dorsobasally, needle-like ventrobasally (Fig. 9).

Bursa copulatrix with widely connected 2 pouches; first pouch with well visible cells and sclerotized ornamentation, the second one without cells but with well visible numerous superficial pores (Fig. 8).

Spermatheca well developed; *ductus receptaculi* wrinkled, longer than *diverticulum ductus*.

Type materials. Holotype, male: [China: Guizhou, Dabanshui, 1000m, coll. Lifang Zheng, 26 Aug. 2012].

Paratypes: 12 males and 40 females, same data as holotype.

Distribution. China (Guizhou).

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