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Taxonomic study of the leafhopper genus *Thagria* Melichar (Hemiptera: Cicadellidae: Coelidiinae) from Guangxi, China

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Table of contents

Abstract	451
Introduction	452
Material and methods	453
Taxonomy	454
<i>Thagria</i> Melichar	454
Checklist of the <i>Thagria</i> species from China	454
Key to species (males) of <i>Thagria</i> from Guangxi, China	455
Species descriptions	456
<i>Thagria albofascia</i> Fan, Dai & Li	456
<i>Thagria biprocessa</i> Fan & Dai sp. nov.	457
<i>Thagria birama</i> Zhang	457
<i>Thagria bispina</i> Zhang	458
<i>Thagria circumcincta</i> (Jacobi)	458
<i>Thagria conica</i> Zhang	459
<i>Thagria decussata</i> Fan & Dai sp. nov.	459
<i>Thagria digitata</i> Li	460
<i>Thagria fossa</i> Nielson	461
<i>Thagria furcata</i> Li	461
<i>Thagria irregularis</i> Fan & Dai sp. nov.	462
<i>Thagria matsumurai</i> Nielson	462
<i>Thagria multipars</i> (Walker)	462
<i>Thagria multispinosa</i> Fan & Dai sp. nov.	463
<i>Thagria paramultipars</i> Fan & Li sp. nov.	463
<i>Thagria periserrula</i> Zhang	464
<i>Thagria philagroides</i> (Jacobi)	465
<i>Thagria projecta</i> (Distant)	465
<i>Thagria triangula</i> Fan & Li sp. nov.	466
<i>Thagria trifasciata</i> Fan & Li sp. nov.	467
<i>Thagria webbi</i> Fan & Li sp. nov.	467
<i>Thagria xuae</i> Nielson nom. emend.	468
Acknowledgements	468
Reference	468

Abstract

The paper deals with 21 valid species of the genus *Thagria* from Guangxi Autonomous Region, China. Eight new species are described and illustrated: *T. biprocessa* Fan & Dai, **sp. nov.**, *T. decussata* Fan & Dai, **sp. nov.**, *T. irregularis* Fan & Dai, **sp. nov.**, *T. multispinosa* Fan & Dai, **sp. nov.**, *T. paramultipars* Fan & Li, **sp. nov.**, *T. triangula* Fan & Li, **sp. nov.**, *T. trifasciata* Fan & Li, **sp. nov.** and *T. webbi* Fan & Li, **sp. nov.**. A key is given to distinguish all species of this genus

from Guangxi, China and maps showing the geographic distribution of new species are also provided. The name *Thagria xuae* **nom. emend.** is given for *T. xui* Nielson.

Key words: Auchenorrhyncha, morphology, taxonomy, new species, biogeography

Introduction

The coelidiine leafhopper genus *Thagria* was erected by Melichar 1903, with *T. fasciata* Melichar from Sri Lanka as its type species. Recently, Nielson (2013) reviewed 235 worldwide *Thagria* species and 50 of them are distributed in China. Subsequently, Fan *et al.* (2013) added one new species *T. albofascia* Fan, Dai & Li from China (Guangxi).

Guangxi Autonomous Region is located in southern China in the Oriental Region occupying a 236,660 km² area (104°26'E–112°04'E, 20°54'N–26°24'N) bordering Guizhou, Hunan, Guangdong, Yunnan Provinces, and adjoining Vietnam in the southwest (Fig. 1). In this paper, we record 21 species of *Thagria* based on the literature and the specimens collected from Guangxi, China, including eight new species: *T. biprocessa* Fan & Dai, **sp. nov.**, *T. decussata* Fan & Dai, **sp. nov.**, *T. irregularis* Fan & Dai, **sp. nov.**, *T. multispinosa* Fan & Dai, **sp. nov.**, *T. paramultipars* Fan & Li, **sp. nov.**, *T. triangula* Fan & Li, **sp. nov.**, *T. trifasciata* Fan & Li, **sp. nov.** and *T. webbi* Fan & Li, **sp. nov.**. The genus *Thagria* now contains 244 species, including 59 from China of which 21 are distributed in Guangxi. A key to species of *Thagria* from Guangxi, China is provided with maps showing distribution of the new species (Figs. 2–5). Additionally, *T. xui* Nielson has its name emended to show agreement in gender.

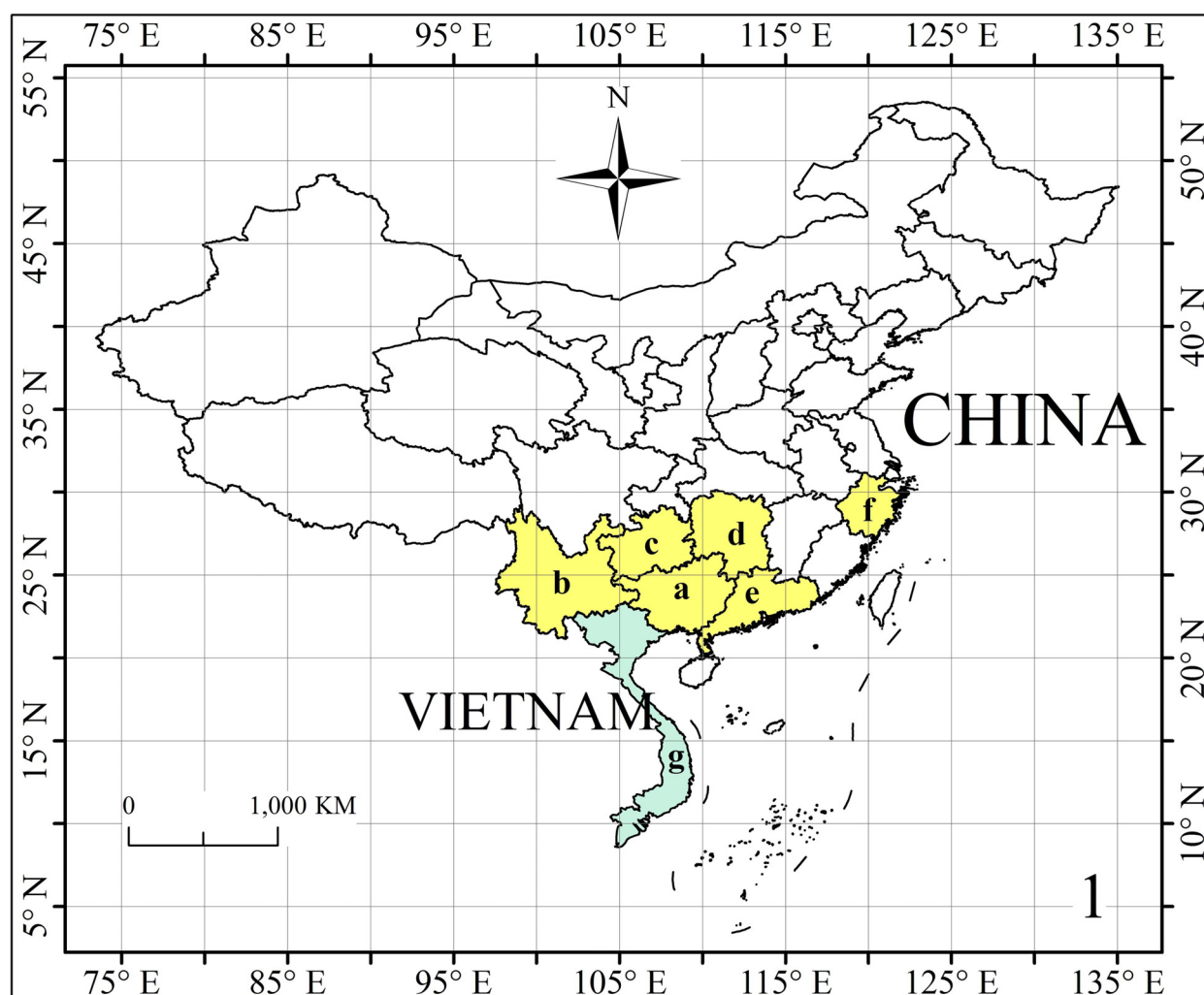


FIGURE 1. Guangxi adjacent regions graph and new species locations. a-f in CHINA: a. Guangxi; b. Yunnan; c. Guizhou; d. Hunan; e. Guangdong; f. Zhejiang. g. Vietnam.

Type material. Holotype: 1♂, CHINA: Guizhou, Kuankuoshui, Xiasi, 13 Aug. 2010, coll. Yu Xiaofei (GUGC). Paratypes: 1♂, CHINA: Hunan, Zhangjiajie, 9 Aug. 2001, coll. Chen Xiangsheng; 1♂, same data as holotype; 1♀, CHINA: Guangxi, Damingshan, 5–10 Aug. 2011, coll. Yang Zaihua; 3♂6♀, CHINA: Guizhou, Fanjingshan, 21 Sep. 2011, coll. Long Jiankun, Zheng Weibin, Huang Rong & Fan Zihua (GUGC). 1♀, CHINA: Hunan, Zhangjiajie, 9 Aug. 2001, coll. Chen Xiangsheng; 1♂, CHINA: Guizhou, Fanjingshan, 21 Sep. 2011, coll. Huang Rong (BMNH).

Etymology. This new species is named for Mr. Webb M.D., Natural History Museum, London, UK.

Remarks. This species is similar to *T. biprocessa* Fan & Dai, **sp. nov.**, but can be separated by the color pattern of the forewing (Figs. 6, 259) and the following combination of genitalia features: dorsal connective stem and arm length ratio 1:3 in *T. biprocessa* (Fig. 11), 1:1.8 in *T. webbi* (Fig. 264); style (Fig. 266) not as latter (Fig. 13), reaching middle of paraphysis, two apical processes of paraphysis (Figs. 266, 267) also different (Figs. 13, 14).

***Thagria xuae* Nielson nom. emend.**

Thagria bidentata Xu & Kuoh, 1998: 310

Thagria xui Nielson, 2013: 104, nom. nov. for *Thagria bidentata* Xu & Kuoh, 1998, nec Nielson, 1982: 463 [lapsus calami]

This species was named for Xu Guilan. The name is emended to show agreement in gender.

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Reference

- Fan, Z.H., Li, Z.Z. & Dai, R.H. (2013) Two new species of Coelidiinae leafhoppers from China (Hemiptera: Cicadellidae). *Proceedings of the Entomological Society of Washington*, 115 (2), 140–147.
<http://dx.doi.org/10.4289/0013-8797.115.2.140>
- Freytag, P.H. (2010) Fifteen new species of *Thagria* Melichar from Thailand (Hemiptera: Cicadellidae; Coelidiinae). *Entomological News*, 121 (5), 416–439.
<http://dx.doi.org/10.3157/021.121.0503>
- Li, Z.Z. (1989) Five new species of Coelidiidae from Guizhou Province (Homoptera: Cicadelloidea). *Journal of Guizhou Agricultural College*, 8 (1), 1–5.
- Li, Z.Z. (1993) A taxonomic study of Chinese genus *Thagria* (Homoptera: Coelidiinae). *Journal of Guizhou Agricultural College*, 12 (Suppl 23), 29–33.
- Li, Z.Z. & Wang, L.M. (1991) *Agriculture and forestry insect fauna of Guizhou Vol.4 (Homoptera: Cicadellidae)*. Guizhou Science and Technology Publishing House, Guiyang, Guizhou, China, 304 pp.
- Nielson, M.W. (1977) A revision of the subfamily Coelidiinae (Homoptera: Cicadellidae) II. Tribe Thagriini. *Pacific Insects Monograph*, 34, 1–218.
- Nielson, M.W. (2013) New species in the genus *Thagria* Melichar from the Oriental and Australian regions, with a revised key to genera and species and a synoptic catalogue of the genus (Hemiptera: Cicadellidae: Coelidiinae). *Zootaxa*, 3625 (1), 1–105.
<http://dx.doi.org/10.11646/zootaxa.3625.1>
- Wang, L.M. & Li, Z.Z. (2002) A new species of genus *Thagria* from Guizhou province in China (Homoptera: Cicadellidae, Coelidiinae). *Entomological Journal of East China*, 11 (2), 1–2.
- Xu, G.L. & Kuoh, C.L. (1998) Two new species of the genus *Thagria* in China (Homoptera: Cicadellidae: Coelidiinae). *Acta Entomologica Sinica*, 41 (3), 310–313.
- Zhang, Y.L. (1990) *A taxonomic study of Chinese Cicadellidae (Homoptera)*. Tianze Eldonejo, Yangling, Shaanxi, China, 218 pp.
- Zhang, Y.L. (1994) *A taxonomic study of Chinese Coelidiinae (Homoptera: Cicadellidae)*. Henan Science and Technology Press, Zhengzhou, Henan, China, 151 pp.