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Two new species of the leafhopper genus *Anidiocerus* (Hemiptera: Cicadellidae: Idiocerinae) from China

QINGQUAN XUE¹, M. D. WEBB² & YALIN ZHANG^{1,3}

¹Key Laboratory of Plant Protection Resources and Pest Management, National Ministry of Education, Entomological Museum, P. O. Box 55#, Northwest A&F University, Yangling, Shaanxi 712100, China

²Department of Entomology, The Natural History Museum, Cromwell Road, South Kensington, SW7 5BD, London, UK.

³Corresponding author. E-mail: yalinzhang@nwsuaf.edu.cn

Abstract

Two new species of *Anidiocerus* from China, *A. brevispinus* Xue & Zhang **sp. nov.** and *A. longimus* Xue & Zhang **sp. nov.** are described and illustrated, and *A. variabilis* Maldonado-Capriles, 1976 is placed as a senior synonym of *A. flavidus* Cai & Shen, 1998, **syn. nov.** A redescription of the genus is provided together with a checklist and key for the separation of males.

Key words: Homoptera, Auchenorrhyncha, morphology, taxonomy, China

Introduction

Idiocerinae is a subfamily of Cicadellidae (leafhoppers), approaching 800 species feeding mainly on shrubs and trees and distributed worldwide (Viraktamath, 2007; Zhang & Li, 2009; Krishnankutty & Dietrich, 2011). The endemic Chinese idiocerine genus, *Anidiocerus* Maldonado-Capriles 1976, was described for its type species, *A. variabilis* Maldonado-Capriles, from Taiwan. Subsequently, Cai & Shen (1998) added *A. flavidus* from Henan, Zhang & Li (2005) described *A. fanjingensis* from Guizhou, Zhang & Li (2008) added *A. bimaculatus* from Hainan and *A. curvatus* from Guizhou. At present, the genus consists of 5 species.

Anidiocerus can be distinguished by its narrow appearance, overall yellow colour with variable dark brown markings, sometimes with dorsum and face mainly dark brown, face with dark brown spot between eye and midline; vertex with fine transverse striations; apex of male rostrum expanded; forewing with two subapical cells; male pygofer with long anterodorsal apodemes, dorsum usually with long membranous area between anal tube and anterior bridge and with a dorsolateral hyaline band; and aedeagus usually with pair of subapical lateral processes, usually moderately long and narrow, directed dorsally to near apex of shaft, sometimes toothlike.

In the present paper we describe two new species of *Anidiocerus*, synonymise *A. flavidus* with *A. variabilis* and provide a checklist and key to species.

Material and methods

Materials studied in this paper are deposited in the Entomological Museum, Northwest A&F University, Yangling, China (NWAUFU), except *A. variabilis* deposited in Illinois Natural History Survey, Champaign, USA (INHS).

The male terminalia were dissected out, treated with 8–10% NaOH solution at approximately 80°C for about half an hour, rinsed with water and stored in glycerol. Illustrations were made using a Nikon SMZ1500 dissecting microscope and an Olympus BH-2 stereoscopic microscope.

Morphological terminology mainly follows Zhang (1990) and Dietrich (2005).

Anidiocerus variabilis Maldonado-Capriles

(Figs. 11–L, 4)

Anidiocerus variabilis Maldonado-Capriles, 1976: 141–143, Figs. 11–21.

Anidiocerus flavidus Cai & Shen, 1998: 28–30, Fig. 3, **syn. nov.**

Material examined. 1♂, Taiwan Prov., Hantou, Ruiyen Reserve Research Station, 2300m, 14-vi-2004, coll. C.H. Dietrich, mercury vapor light (INHS); 1♂, Henan Prov., Longyuwan, 13-vii-1996, coll. Zhang Wenzhu (NWAUFU).

Distribution. China (Henan and Taiwan).

Remarks. This species is re-figured to show some details not shown in its original description. Comparison of specimens matching the descriptions of *A. variabilis* and *A. flavidus* indicates that they belong to the same species. Both descriptions indicate variability of the markings with our figure showing a darker form than that shown in the original *A. variabilis* figure. The figure of the connective in lateral view, given in the original description of *A. flavidus*, shows a dorsal process apically which is actually the remains of the dorsal keel in this genus (Fig. 2E).

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References

- Cai, P. & Shen, X.C. (1998) Eight new species of Idiocerinae from Mt. Funiu (Homoptera: Cicadellidae). *In*: Shen, X.C. & Shi, Z.Y. (Eds.), *Insets of Mt. Funiu*. China Agricultural Science and Technology Press, Beijing, pp. 27–36. [in Chinese]
- Dietrich, C.H. (2005) Keys to the families of Cicadomorpha and subfamilies and tribes of Cicadellidae (Hemiptera: Auchenorrhyncha). *Florida Entomologist*, 88 (4), 502–517.
[http://dx.doi.org/10.1653/0015-4040\(2005\)88\[502:kttfoc\]2.0.co;2](http://dx.doi.org/10.1653/0015-4040(2005)88[502:kttfoc]2.0.co;2)
- Krishnankutty, S.M. & Dietrich, C.H. (2011) Taxonomic revision and phylogeny of an endemic leafhopper genus *Nesocerus* (Hemiptera: Cicadellidae: Idiocerinae) from Madagascar. *Zoological Journal of the Linnean Society*, 162, 499–543.
<http://dx.doi.org/10.1111/j.1096-3642.2010.00690.x>
- Maldonado-Capriles, J. (1976) Studies on Idiocerinae leafhoppers: xiii. *Idioceroides* Matsumura and *Anidiocerus*, a new genus from Taiwan (Agallinae: Idiocerinae). *Pacific insects*, 17 (1), 139–143.
- Viraktamath, C.A. (2007) New genera and species of Idiocerine Leafhoppers (Hemiptera: Cicadellidae) from India, Sri Lanka and Myanmar. *Biosystematica*, 1 (1), 21–30.
- Zhang, B. & Li, Z.Z. (2005) A new species of the genus *Anidiocerus* from China (Hemiptera, Cicadellidae, Idiocerinae). *Acta Zootaxonomica Sinica*, 30 (4), 801–803. [in Chinese]
- Zhang, B. & Li, Z.Z. (2008) Two new species of the genus *Anidiocerus* (Hemiptera, Cicadellidae, Idiocerinae). *Acta Zootaxonomica Sinica*, 33 (1), 143–146. [in Chinese]
- Zhang, B. & Viraktamath, C.A. (2009) New placement of the leafhopper genus *Idioceroides* Matsumura (Hemiptera: Cicadellidae: Idiocerinae), with description of a new species. *Zootaxa*, 2242, 64–68.
- Zhang, Y.L. (1990) *A taxonomic study of Chinese Cicadellidae (Homoptera)*. Tianze Eldonejo, Yangling, Shaanxi, China, 218 pp. [in Chinese]