

ON THE TAXONOMY OF CARINODELPHAX DING ET YANG, WITH DESCRIPTION OF A NEW SPECIES FROM CHINA (HOMOPTERA, FULGOROIDEA, DELPHACIDAE)

QIN Dao-Zheng, ZHANG Ya-Lin

Key Laboratory of Plant Protection Resources and Pest Management of Ministry of Education, Entomological Museum, Northwest A & F University, Yangling, Shaanxi 712100, China

Abstract In the present paper, one new species of *Carinodelphax* Ding et Yang: i. e. *Carinodelphax hainanensis* sp. nov. is described and illustrated. The genus is redescribed giving details of the male genitalia and a key to the two included species is given. The type specimens are deposited in the Northwest A & F University (NWSUAF).

Key words Homoptera, Delphacidae, *Carinodelphax*, new species, China.

Carinodelphax Ding et Yang, 1987

Carinodelphax Ding et Yang, 1987. *Entomotaxonomia*, 9 (1): 33.

Type species: *Carinodelphax carinatus* Ding et Yang, 1987.

The Chinese planthopper genus *Carinodelphax* Ding et Yang, previously known from a single female of its type species, *C. carinatus* Ding et Yang, is reviewed. One new species, *C. hainanensis* sp. nov. is described and a key to separate the two species is given. Details of the male genitalia are given for the first time together with a description of other characters. Type specimens are deposited in the Northwest A & F University (NWSUAF).

The genus is redescribed as follows.

Head including eyes narrower than pronotum. Vertex at base broader than length in middle line. Lateral carina distinctly keeled and slightly convergent distad, Y-carina with stalk absent. Frons in middle line longer than wide at widest part about 2.4-1.0, lateral carina distinctly keeled and nearly straight, median carina simple, postclypeus with the same width at base as frons at apex, in profile postclypeus at an obtuse angle to anteclypeus. Rostrum reaching over meso-trochanters. Antennae with the basal segment longer or slightly longer than wide, shorter than second, two segments together reaching or not reaching to frontoclypeal suture. Pronotum and mesonotum with carina well developed. Tegmina with basal half of hind margin of clavus elevated, all veins speckled. Tibial spur with a tooth at apex, without teeth on hind margin, spinal formula of hind leg 5-6-4.

Anal segment of male collar-shaped, lateroapical angles not produced. Pygofer in posterior view with

opening longer than wide, lateral margins strongly incised resulting from the basal part being greatly produced, lateral margins in profile with "V"-shaped incision, without medioventral process. Aedeagus with phallobase, phallus tubular, simple. Genital style long, robust.

This genus belongs to the tribe Tropidocephalini, and is allied to *Acrofacies* Muir, 1915. It can be distinguished from the latter by: 1) frons with the widest part apically; 2) postclypeus in profile at an obtuse angle to anteclypeus; 3) aedeagus with phallobase; 4) pygofer with lateral margins strongly incised from posterior view, with "V"-shaped incision in profile.

Distribution. China (Yunnan, Hainan).

Key to the species of *Carinodelphax* from China

1. Antennae with two segments together not reaching to frontoclypeal suture, the second segment about 2.0 times length of first
..... *Carinodelphax carinatus* Ding et Yang, 1987
- Antennae with two segments together surpassing frontoclypeal suture, the second segment about 1.4 times length of first
..... *Carinodelphax hainanensis* sp. nov.

1 *Carinodelphax carinatus* Ding et Yang, 1987

Carinodelphax carinatus Ding et Yang, 1987. *Entomotaxonomia*, 9 (1): 33

Distribution: China (Yunnan).

2 *Carinodelphax hainanensis* sp. nov. (Figs. 1-9)

Macropt. Length of body 1.8 mm; tegmen 2.6 mm.

General colour brown, a longitudinal pale yellowish stripe from apex of postclypeus to end of scutellum bordered with blackish brown, lateral carina of

The project was supported by the Pilot Project of Standardized Curation, Data Integration and Resource Sharing of Zoological Collections (2004D KA30520).

Received 19 Jan. 2005, accepted 5 Mar. 2005

gena additionally with a pale yellowish stripe. Antennae with rings around middle and apex of first segment, and the base of second segment, blackish brown; apex of second segment brown. Pro- and mesonotum with areas around inner and outer lateral carina, apex of tegula and abdomen, blackish brown; anal segment yellowish brown.

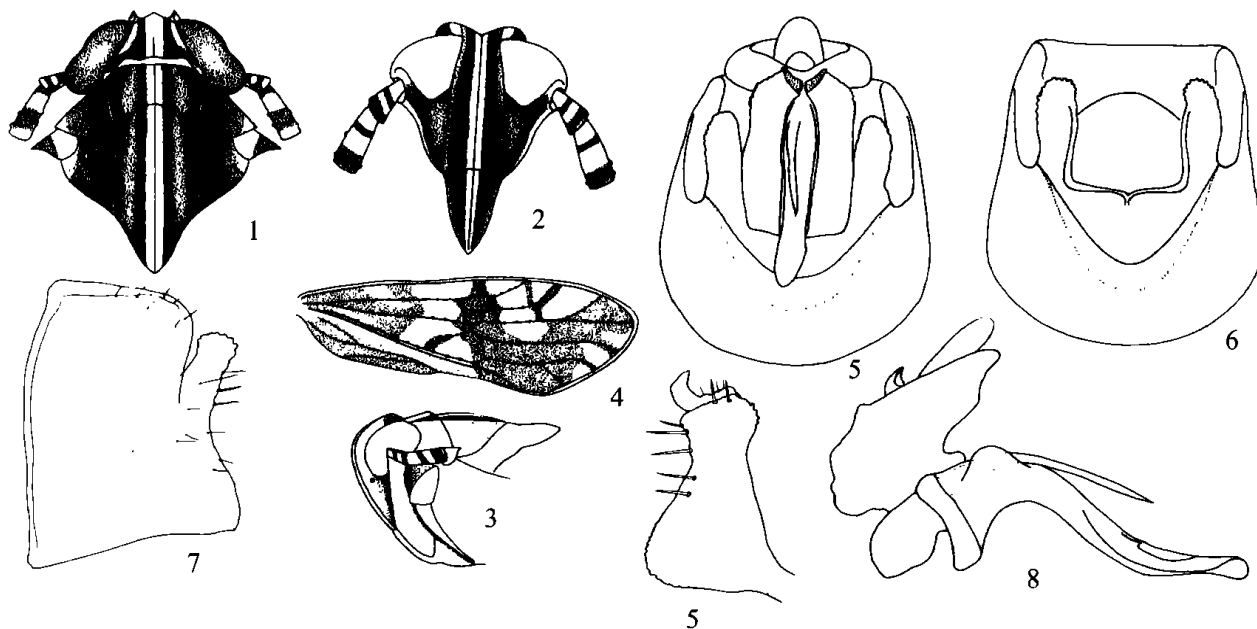
Vertex wider at base than long submedially about 1.4 1.0, submedian carina present subapically. Frons longer in middle line than wide at widest part about 2.4 1.0, widest at apex. Antennae surpassing frontoclypeal suture, basal segment longer than wide about 1.4 1.0, shorter than the second about 1.0 1.4.

Male pygofer with opening longer than wide in posterior view, in profile, broader ventrally than dorsally. Aedeagus with phallobase, phallus simple,

slender, pointed at apex, phallobase broad at base, rounded at apex in lateral view, with a lobe-like process on dorsal margin subbasally. Genital style parallel in posterior view, flattened in lateral view, tapering from base to apex, apex curved, hook-shaped.

The new species can be distinguished from *Carinodelphax carinatus* Ding et Yang by: 1) antennae with two segments together surpassing frontoclypeal suture, the second segment about 1.4 times the length of first; 2) first segment of antennae with a blackish brown ring at midlength and apex of second segment brown; 3) tibia and tarsi without dark brown annular marks.

Holotype ♂, Tongshi, Hainan Province, 7 June 1983, coll. ZHANG Ya-Lin. Paratypes 2 ♀, Yancheng, Hainan Province, 9 June 1983, coll. ZHANG Ya-Lin.



Figs. 1-9. *Carinodelphax hainanensis* sp. nov. 1. Head and thorax, dorsal view. 2. Frons and clypeus. 3. Head and thorax, lateral view. 4. Tegmen. 5. Male genitalia, posterior view. 6. Pygofer, posterior view. 7. The same, lateral view. 8. Anal segment and aedeagus, lateral view. 9. Genital style, lateral view.

Acknowledgements The writer's warmest thanks are tendered to Mr. DING Jin-Hua (College of Plant Protection, Nanjing Agricultural University, Nanjing, Jiangsu, China) for auditing this Paper.

REFERENCES

Ding, J-H and Yang, L-F 1987. A new genus of Tropidocephalini (Ho-

moptera: Delphacidae). *Entomotaxonomia*, 9 (1): 16, 33-34.

Yang, J-T and Yang, C-T 1986. Delphacidae of Taiwan () Asiracinae and the tribe Tropidocephalini (Homoptera, Fulgoroidea). *Taiwan Mus. Spec. Publ.*, 6: 1-79.

隆脊飞虱属分类并记一新种 (同翅目, 蜡蝉总科, 飞虱科)

秦道正 张雅林

西北农林科技大学植保资源与病虫害治理教育部重点实验室, 西北农林科技大学昆虫博物馆 陕西杨凌 712100

摘要 记述采于中国海南省的飞虱科隆脊飞虱属一新种: 海南隆脊飞虱 *Carinodelphax hainanensis* sp. nov., 并对该属的属征进行了修订, 编制了目前已知 2 种的检索表, 模式标本保存于西北农林科技大学昆虫博物馆。

关键词 同翅目, 飞虱科, 隆脊飞虱属, 新种, 中国.

中图分类号 Q969.364.2

新种与 *Carinodelohax carinaus* Dine et Yang, 1987 的区别为: 1) 触角伸过额唇基缝, 第 2 节为第 1 节长度的 1.4 倍; 2) 触角第 1 节中部具暗褐色环状纹, 第 2 节端部褐色; 3) 各足胫、跗节上无轮状纹。