

**THE CICADA TRIBE *Platypleurini* Schmidt, 1918 (HEMIPTERA:
CICADIDAE) FROM VIETNAM, WITH KEY TO SPECIES**

PHAM HONG THAI

*Vietnam National Museum of Nature,
Vietnam Academy of Science and Technology*

BUI MINH HONG

Hanoi National University of Education

NGUYEN THI HUYEN

Department of Agriculture and Rural Development, QuangNinh Province

There are 23 genera belonging to tribe *Platypleurini*, subfamily *Cicadinae*, family *Cicadidae* in the world. They are distributed in the Afrotropical and Oriental regions. Within Australian territories only known from Christmas Island, Indian Ocean.

The first record species of the tribe *Platypleurini* in Vietnam was made by Distant, 1889 with the species *Poecilopsaltria ciliaris* from Chochin-china [South Vietnam]. It is transferred to *Platypleura ciliaris* (Linnaeus, 1758) by Distant, 1906.

I. MATERIAL AND METHODS

Specimens were collected by netting and light trapping at the localities indicated in the item of material examined. Previously collected specimens were included in our evaluations. Specimens are deposited at the Department of Insect Systematics of the Institute of Ecology and Biological Resources, Hanoi, and the Museum National d'Histoire Naturelle, Paris.

The tribal classification of this study is based mainly on that of Moulds (2005). Genus and species names, as well as synonymies, follow the catalogues of Metcalf (1963), and Lee (2008).

Specimens examined are listed by provinces (given in bold). Abbreviations are as follows: MNHN=Museum National d' Histoire Naturelle, Paris; NP=National Park; NR=Natural Reserve.

The map showing the collecting localities for this study was created using the software CFF (Barbier & Rasmont, 2000) (Fig. 1).

II. RESULTS AND DISCUSSION

Tribe *Platypleurini* Schmidt, 1918

Platypleurini Schmidt, 1918: 378.

Platypleurinae Handlirsch, 1925: 1117.

Cryptotympanini Handlirsch, 1925 (*partim*). – Boulard, 1998: 117.

Type genus. *Platypleura* Amyot & Serville (type species *Cicada stridula* L.).

Distinguishing characters (after Moulds 2005) Head, thorax and abdomen vertically compressed; pronotal collar with lateral margin strongly ampliate so that head is always narrower than the pronotum; fore leg femoral primary spine nearly always prostrate; theca straight or curved in an arc. In some genera the strongly ampliate lateral margin to the pronotal collar is characteristically sharply angular around mid point.

Remarks. There are 23 genera belonging to the tribe *Platypleurini* in the world. *Platypleura* Amyot & Serville and *Pycna* Amyot & Serville are represented in Vietnam.

Key to the genera of Platyleurini from Vietnam

1. Head including eyes about as wide as base of mesonotum.....*Platyleura*
- Head including eyes about narrower than base of mesonotum *Pycna*

Genus *Platyleura* Amyot & Serville, 1843

Platyleura Amyot & Serville, 1843, Hist. Nat. Ins. Hem., 465.

Type species: *Cicada stridula* Linnaeus, 1758, Syst. Nat., Hem., 1: 438.

Distribution. Oriental, Palaearctic and Ethiopian regions.

Key to the Vietnamese species of the genus *Platyleura*

1. Hind wing blackish except for exterior marginal areas hyaline *P. kaempferi*
- Hind wing not so 2
2. Hind wing yellowish with dark ochreous markings along sub-marginal area and at about center 3
- Hind wing yellowish without dark ochreous markings along sub-marginal area and at about center 4
3. Pronotum dark ochraceous, with a central discal longitudinal fascia, widened posteriorly, black, the extreme lateral margins also more or less infuscated; abdomen beneath very dark castaneous, greyishly pilose, the posterior tergite margins pale castaneous *P. hilpa*
- Pronotum pale ochraceous with the sublateral margins and three small central spots, one near anterior margin and two near posterior margin-black; abdomen beneath black; posterior segmental margins more or less ochraceous *P. nigrosignata*
4. Rostrum ochraceous, passing posterior coxae 5
- Rostrum ochraceous, not passing posterior coxae 6
5. Fore wing semi-hyaline brown, half part of basal pale yellow *P. badia*
- Fore wing hyaline or tale-like, about basal half creamy opaque, shaded with pale fuscous fascia, costal vein and area and the venation dark ochraceous, r, r-m, m, m-cu veins slightly infuscate *P. coelebs*
6. Male operculum thickly finely tawny pilose, short rounded, not quite meeting centrally and not passing base of abdomen *P. harmandi*
- Male operculum very slightly overlap at their inner angles *P. ciliaris*

***Platyleura hilpa* Walker, 1850**

Platyleura hilpa Walker, 1850: 6 [TL: China]; Jacobi, 1905: 427; Distant, 1906b: 13; Distant, 1912c: 11; Kato, 1932: 148; Schmidt, 1932: 118; Chen, 1933: 4; Wu, 1935: 2; Liu, 1977: 77; Chou *et al.*, 1997: 170-171; Lee, 2008: 3; Pham & Yang, 2009: 13; *Platyleura (Platyleura) hilpa*: Metcalf, 1963: 58.

Material examined. 1♀, Cochin-China, 1861, Deyrolle (MNHN); **Tuyen Quang:** 1♂, Tonkincentr, Tuyen Quang, 1901, A. Weiss (MNHN); **Vinh Phuc:** 2♂, Tam Dao NP, 1100m, 1.vi.2004, coll. Pham Hong Thai; 2♂, Me Linh, ML0822, ML2225, 21.v.2010, 4.vi.2010, coll. Pham Hong Thai; **Ha Noi:** 3♂, 3♀, Thang Loi, 26.v.1992, H. Le Ruyet Tan (MNHN); **Lang Son:** 1♀, 25.v.1964; 3♂, Lang Son, 1894, Ciraro (MNHM); **Hai Phong:** 1♂, 2♀, Cat Ba NP, 150m, 17.vii.2003, coll. Pham Hong Thai; **Thua Thien-Hue:** 1♀, Annam, Hue, 1898,

Noualhier; 1♀, Hue, 1919, E. Fleutiaux (MNHN); 2♂, 1♀, Bach Ma NP, 14.vii.2011, coll. Pham Hong Thai; **Quang Nam:** 3♂, LaBo B, Chaval, Song Thanh NR, Nam Giang, 500-600m, Ho.1023-Ho.1025, 28.iv.2005; 2♂, 1♀, Song Thanh NR, Nam Giang, 110m, Ho.0867-Ho.0869, 30.iv.2005, coll. Pham Hong Thai.

Distribution. Vietnam (Ha Giang, Tuyen Quang, Vinh Phuc, Phu Tho, Ha Noi, Lang Son, Hai Phong, Ha Nam, Nam Dinh, Quang Ninh, Thua Thien-Hue, Quang Nam), China, Japan, Taiwan.

***Platypleura kaempferi* (Fabricius, 1794)**

Tettigonia kaempferi Fabricius, 1794: 23 [TL: Japonia]; *Platypleura kaempferi*: Butler, 1874, Cist. Ent., 1: 189; Moulton, 1923: 141, 169; Metcalf, 1963: 35; Lee, 2008: 3; Pham & Yang, 2009: 13; *Platypleura kaempferi annamensis* Moulton, 1923: 142; Metcalf, 1963: 42.

Material examined. Vinh Phuc: 8♂, 11♀, TamDao NP, 900-1200 m, 8-15.v.2004, coll. Hoang Vu Tru; **Hoa Binh:** 1♂, Tonkin, Hoabinh, 1926, A. De Cooman, 1♀, Tonkin, Hoabinh, 1919, R. Oberthur (MNHN); **Quang Nam:** 1♂, Chaval, Song Thanh NR, Nam Giang, 400m, Ho.1045, 29.vi.2005, coll. Pham Hong Thai.

Distribution. Vietnam (Vinh Phuc, Hoa Binh, Quang Nam), China, Japan, Korean, Indonesia, Malaysia, Taiwan.

***Platypleura nigrosignata* Distant, 1913**

Platypleura nigrosignata Distant, 1913a: 79 [TL: Indochina]; Distant, 1917a: 101; Metcalf, 1963: 47; Lee, 2008: 3; Pham & Yang, 2009: 13.

Material examined. No specimen was examined.

Distribution. Vietnam (Sa Pa, Lao Cai).

Remarks. This species is described as a new species from Indochina (Distant 1913a). But, Distant (1917a) recorded this species from the frontier of Laos, East Annam, and from Lao Kay and Chapa in Tonkin [Sa Pa, Lao Cai province]. *Platypleura nigrosignata* Distant, 1913 could be endemic to Vietnam.

***Platypleura ciliaris* (Linnaeus, 1758)**

Cicada ciliaris Linnaeus, 1758: 436 [TL: Indiis]; *Poecilopsaltria ciliaris*: Distant, 1889: 16 [Chochin-china].

Platypleura ciliaris: Distant, 1906b: 13; Distant, 1912c: 11; Kato, 1932: 148; Lee, 2008: 3; Pham & Yang, 2009: 13; *Platypleura (Platypleura) ciliaris*: Metcalf, 1963: 54.

Material examined. No specimen was examined.

Distribution. South Vietnam, Philippines, Malayan Archipelago, India.

Remarks. This species is closely allied to the preceding, *P. hilpa*, from which it differs by the much darker and more opaque fore wing, but the structural differences are very slight.

***Platypleura coelebs* Stål, 1863**

Platypleura coelebs Stål, 1863: 573 [TL: India orient]; Chen, 1933: 4; Lee, 2008: 3; Pham & Yang, 2009: 13; *Platypleura (Poecilopsaltria) coelebs*: Metcalf, 1963: 74 [Tonkin].

Material examined. **Quang Tri:** 1♂, Dakrong NR, 400-600 m, 9.vii.2011, coll. Pham Hong Thai; **Thua Thien Hue:** 1♂, Bach Ma NP, 14.vii.2011, coll. Pham Hong Thai.

Distribution. Vietnam (Quang Tri, Thua Thien-Hue), China (Guangdong, Guangxi), India.

***Platypleura harmandi* Distant, 1905**

Platypleura harmandi Distant, 1905f: 670 [TL: Cochin China; Lakhon]; Distant, 1906b: 13; Distant, 1912c: 11; Lee, 2008: 3; Pham & Yang, 2009: 13; *Platypleura (Poecilopsaltria) harmandi*: Metcalf, 1963: 77.

Material examined. No specimen was examined.

Distribution. South Vietnam.

***Platypleura badia* Distant, 1888**

Platypleura badia Distant, 1888c: 453 [TL: Tenasserim]; Distant, 1917a: 101; Moulton, 1923: 140, 169; Lee, 2008: 4; Pham & Yang, 2009: 13; *Platypleura (Poecilopsaltria) badia*: Metcalf, 1963: 71; *Afzeliada badia*: Chou *et al.*, 1997: 179; Sanborn *et al.*, 2007: 4.

Material examined. No specimen was examined.

Distribution. Vietnam (Lao Cai), China (Yunnan), India, Thailand, Myanmar, Malaysia.

Remarks. Chou *et al.* (1997) transferred *Platypleura badia* Distant, 1888 to genus *Afzeliada* become *Afzeliada badia*. However, Boulard (2007) transferred this species back to *Platypleura*.

Genus *Pycna* Amyot & Audinet-Serville, 1843

Pycna Amyot & Audinet-Serville, 1843: 463.

Type species: *Pycna strix* Amyot & Audinet-Serville, 1843 (Madagascar).

Distribution: Oriental, Palaearctic, and Ethiopian regions.

Remarks: Allied to *Platypleura*, from which it differs by the much narrower head, which (including eyes) is only about, or little more than, two-thirds the width of base of mesonotum; the costal membrane of fore wing is also prominently arched and dilated at base.

***Pycna indochinensis* Distant, 1913**

Pycna indochinensis Distant, 1913b: 285 [TL: Indochina; Lao Kay]; Metcalf, 1963: 220; Lee, 2008: 4; Pham & Yang, 2009: 13.

Material examined. No specimen was examined.

Distribution. Vietnam (Lao Cai).

Remarks. Distant (1913a) described *Pycna indochinensis* as a new species from Lao Kay [Lao Cai province]. This species can be endemic for Vietnam.

Species removed from the Vietnamese cicada fauna

Metcalf (1963) published a catalogue of the cicadas of the world, in which 100 species are recorded from Tonkin, Annam, Cochin-China and Indochina. However, Metcalf was mistaken in believing Indochina referred to Vietnam only. Consequently, one species of this tribe were wrongly recorded from Vietnam. In this study, I am removing this species now: *Platypleura mira* Distant, 1904 (erroneously recorded from Vietnam by Metcalf, 1963 based on Laos records by Distant, 1904, 1906; Vietnam records erroneously repeated by Lee, 2008, Pham & Yang, 2009).

Platypleura mira Distant, 1904

Platypleura mira Distant, 1904b: 333 [TL: Laos]; Sanborn *et al.*, 2007: 4; Lee, 2008: 4; Pham & Yang, 2009: 13; *Platypleura (Poecilopsaltria) mira*: Metcalf, 1963: 79.

Distribution. Laos, Thailand and Malaysia.

Remarks. Mecalf (1963a) erroneously interpreted Indochina. Distant, 1904 and 1906 only recorded it from Laos. Lee (2008) and Pham & Yang (2009) repeated Metcalf’s error.

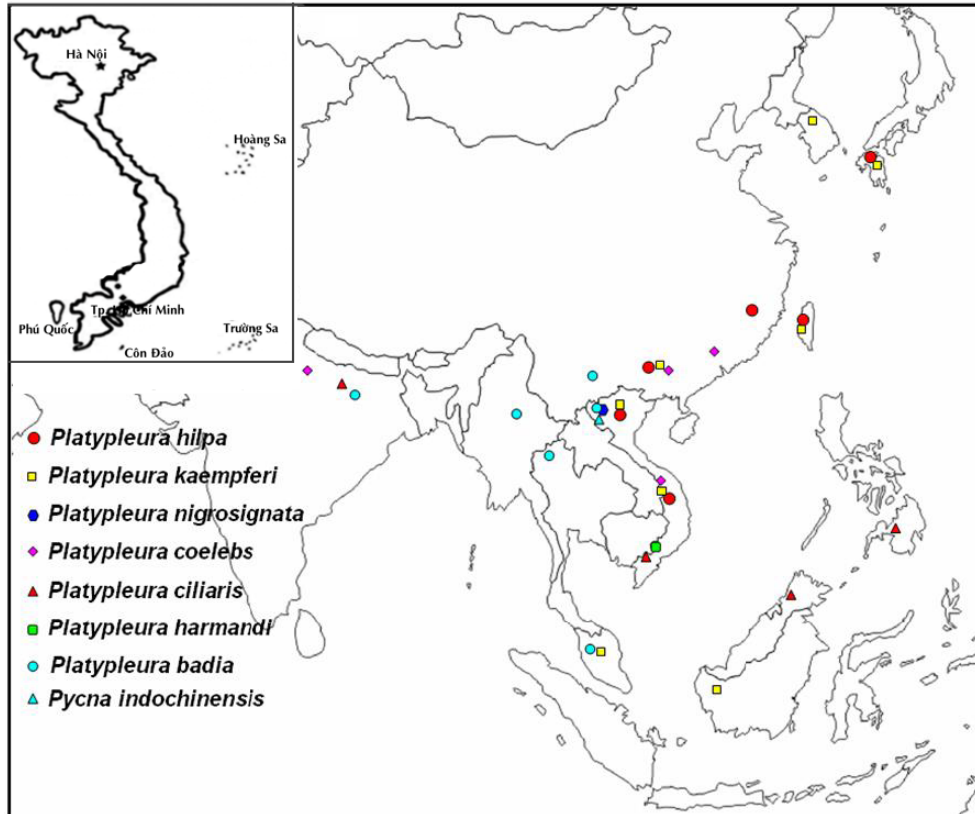


Figure 1: Map of the distribution of the species of the tribe *Platypleurini* found in Vietnam

Acknowledgement: The present study was partially supported by National Foundation for Science and Technology Development (NAFOSTED-106.12-2012.63), Vietnam, the International Foundation for Science (IFS-No D/5181-1), Sweden, the bilateral cooperation (VAST.HTQT.BELARUS.03/15/16), and the Nagao Natural Environment Foundation, Japan. Special thanks go to Idea Wild for the donation of equipments to the first author for this study.

REFERENCES

1. **Barbier, Y., P. Rasmont**, 2000. Carto Fauna-Flora 2.0. Guide d'utilisation. Université de Mons Hainaut, Mons, Belgique, 59 pp.
2. **Distant, W. L.**, 1905. Rhynchotal notes - XXIX. The Annals and Magazine of Natural History, (7), 15, 58–70.
3. **Distant, W. L.**, 1917. The Homoptera of Indo-China. The Annals and Magazine of Natural History, (8) 20, 319–325.

4. **Duffels, J. P., P. A. Van der Laan**, 1985. Catalogue of the Cicadoidea (Homoptera, Auchenorrhyncha) 1956–1980., 34. Dr. W. Junk Publishers, Dordrecht, xiv+414 pp.
5. **Jacobi, A.** 1905. Zur Kenntnis der Cicadenfauna von Tonking. Zoologische Jahrbücher, 21, 425–446, pl. 21.
6. **Lee, Y. J.**, 2008. Zootaxa, 1787, 1-27.
7. **Liu, G. K. C.**, 1940. New oriental Cicadidae in the Museum of Comparative Zoölogy. Bulletin of the Museum of Comparative Zoölogy at Harvard College, 87, 73–117, 7 pls.
8. **Metcalf, Z. P.**, 1963. General catalogue of the Homoptera, fascicle VIII, Cicadoidea, part 1. Cicadidae. section I. Tibiceninae. North Carolina State College, Raleigh, pp. 1–585.
9. **Moulds, M. S.**, 2005. An appraisal of the higher classification of cicadas (Hemiptera: Cicadoidea) with special reference to the Australian fauna. Records of the Australian Museum, 57, 375–446.
10. **Pham, H. T, J. T. Yang**, 2009. Zootaxa, 2249, 1–19.

TỘC VE SÀU Platypleurini (HEMIPTERA: CICADIDAE) Ở VIỆT NAM

PHẠM HỒNG THÁI, BÙI MINH HỒNG, NGUYỄN THỊ HUYỀN

TÓM TẮT

Tộc ve sấu Platypleurini (Cicadidae: Cicadettinae) gồm có 23 giống trên thế giới. Ở Việt Nam đã ghi nhận 2 giống *Platypleura* Amyot & Serville, 1843 và *Pycna* Amyot & Audinet-Serville, 1843. Trong đó, ghi nhận 1 loài thuộc giống *Pycna*, *P.indochinensis* Distant, 1913; bảy loài thuộc giống *Platypleura*, đó là: *Platypleura hilpa* Walker, 1850; *P. kaempferi* (Fabricius, 1794); *P. nigrosignata* Distant, 1913; *P. ciliaris* (Linnaeus, 1758); *P. coelebs* Stål, 1863; *P. harmandi* Distant, 1905 và *P. badia* (Distant, 1888).

Trong bài báo này, chúng tôi đưa ra khoá định loại đến giống và loài thuộc tộc Platypleurini đã ghi nhận ở Việt Nam cùng với bản đồ phân bố, thông tin về mẫu vật nghiên cứu.