

**A CHECKLIST OF THE CICADIDAE (HEMIPTERA: AUCHENORHYNCHA)
FROM NORTHERN VIETNAM**

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There are about 3,000 cicada species worldwide and they occur almost worldwide. Cicadas are most abundant in tropical and subtropical regions of Southeast Asia, Africa, Australia, and South America. They have a wide range of host plants including tall trees, shrubs, herbs and grasses. All three subfamilies of Cicadidae (the Cicadinae, Cicadettinae, and Tettigadinae) (Moulds, 2005), are now known to be represented in Vietnam, with the Tettigadinae being recorded here only recently (Pham & Yang, 2009).

Research on the faunistics and biogeography of the Cicadidae of Vietnam is at an early stage. However, the cicada fauna of Vietnam is as rich or richer, than any area of comparable size in the world and, based on previous studies, is highly endemic. One of the major aims of the project is to build comprehensive distribution maps of cicadas for north Vietnam and to accurately document their distribution within the country. Such data do not exist to date but are needed to estimate the degree of protection needed for the different species. It will also allow surveys to assess changes in the distribution endemic species. The proposed research is a first step toward a comprehensive knowledge of the fauna of the Cicadidae in north Vietnam. Studies of the Vietnamese cicada fauna including their distributional patterns in relation to forest types and environmental conditions will be investigated.

I. MATERIALS AND METHODS

Collecting methods: Specimens were collected by light trapping (usually from 6-11pm) and netting by hand. The light trap was powered by a generator, running two 250 W mercury vapour lights, and two 15 W fluorescent blacklight tubes, to illuminate a white sheet measuring 3 x 4 m. The net had telescoping, metal handle adjustable from 2 to 7 m depending on a specimen's perching location.

Classification. The family and 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 (1963a, b, and c). Methods of specimen preservation.

II. RESULTS

Family Cicadidae

Subfamily Cicadinae

Tribe Platyleurini

Genus *Platyleura* Amyot & Serville, 1843

1. *Platyleura hilpa* Walker, 1850

Distribution. Vietnam (Ha Giang, Vinh Phuc, Phu Tho, Ha Noi, Ha Nam, Nam Dinh, Quang Ninh, and Hai Phong), China, Japan.

2. *Platyleura kaempferi* (Fabricius, 1794)

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

3. *Platypleura badia* Distant, 1888
Distribution. Vietnam (Lao Cai), China (Yunnan), India, Thailand, Myanmar, Malaysia.
Genus *Pycna* Amyot & Audinet-Serville, 1843
4. *Pycna indochinensis* Distant, 1913
Distribution. Vietnam (Lao Cai).
Tribe Cryptotympanini
Genus *Chremistica* Stål, 1870
5. *Chremistica sueuri* Pham & Constant, 2013
Distribution. Vietnam (Hoa Binh, Ha Noi, and Ho Chi Minh city).
6. *Chremistica viridis* (Fabricius, 1803)
Distribution. Vietnam (Lang Son)
Genus *Salvazana* Distant, 1913
7. *Salvazana mirabilis* Distant, 1913
Distribution. Vietnam (Kon Tum, Vinh Phuc), S. China, Thailand.
Genus *Cryptotympana* Stål, 1861
8. *Cryptotympana aquila* (Walker, 1850)
Distribution. Vietnam, Laos, Thailand, Malay Peninsula, Borneo, Indonesia (Sumatra), Myanmar.
9. *Cryptotympana recta* (Walker, 1850)
Distribution. Vietnam (Bac Kan, Hoa Binh), China, India, Laos, Thailand, Bangladesh.
10. *Cryptotympana atrata* (Fabricius, 1775)
Distribution. Vietnam, Japan (Honshu), Korea, China, Taiwan and Indo-China.
11. *Cryptotympana mandarina* Distant, 1891
Distribution. Vietnam (Bac Kan, Ha Noi, Ha Tinh, Hai Phong, Hoa Binh, Lang Son, Ninh Binh, Phu Tho, Quang Binh, Quang Nam, Quang Tri, Thanh Hoa, Thua Thien-Hue, Tuyen Quang, Vinh Phuc provinces), China (including Hainan), Thailand, Myanmar, Laos, Campuchia.
12. *Cryptotympana holsti* Distant, 1904
Distribution. Vietnam (Yen Bai, Vinh Phuc, Phu Tho, Lai Chau, Ha Noi, Ha Tay, Ha Nam, Ninh Binh, and Thua Thien-Hue), S. China (including Hainan), Taiwan (including Liudau Island), Laos, Campuchia.
Tribe Polyneurini
Genus *Angamiana* Distant, 1890
13. *Angamiana floridula* Distant, 1904
Distribution. N. Vietnam (Chine-Tonkin-Region [Hoa Binh prov.], Lao-Kay), China (Guangxi), Thailand.
14. *Angamiana vemacula* (Chou et Yao, 1986)
Distribution. Vietnam (Yen Bai), China.
Genus *Formotosena* Kato, 1925
15. *Formotosena seebohmi* (Distant, 1904)
Distribution. Vietnam (Vinh Phuc, Hoa Binh, and Thua Thien-Hue), China, Taiwan, Japan.
Tribe Gaeanini
Subtribe Gaeanina
Genus *Gaeana* Amyot & Serville, 1843
16. *Gaeana maculata* (Drury, 1773)
Distribution. Vietnam (Lao Cai, Yen Bai, Cao Bang, Bac Kan, Hoa Binh, Ha Noi, Quang Ninh, Vinh Phuc, Lang Son, and Thanh Hoa), China, India, Myanmar, Japan, Syri.
17. *Gaeana vitalisi* Distant, 1913
Distribution. Vietnam (Lao Cai).
Genus *Balinta* Distant, 1905
18. *Balinta tenebricosa* (Distant, 1888)
Distribution. Vietnam (Ninh Binh), Laos, Myanmar, China.
19. *Balinta delinenda* (Distant, 1888)
Distribution. Vietnam (Lao Cai), India.
Subtribe Becquartinina
Genus *Becquartina* Kato, 1940
20. *Becquartina electa* (Jacobi, 1902)
Distribution. N. Vietnam (Lang Son), China (Guizhou), Thailand.

21. *Becquartina bleuzeni* Boulard, 2005
Distribution. Vietnam (Lang Son, Vinh Phuc), N. Thailand.
Tribe Talaingini
Genus Talainga Distant, 1890
22. *Talainga binghami* Distant, 1890
Distribution. Vietnam (Lao Cai, Thanh Hoa, and Kon Tum), China (Yunnan), India, Myanmar, Laos, Campuchia.
Genus Paratalainga He, 1984
23. *Paratalainga distanti* (Jacobi, 1902)
Distribution. N. Vietnam (Mau Son, Lang Son), China (Fujian).
24. *Paratalainga yunnanensis* Chou & Lei, 1992
Distribution. Vietnam (Vinh Phuc, Kon Tum), China
Tribe Cicadini
Subtribe Cicadina
Genus Terpnosia Distant, 1892
25. *Terpnosia posidonia* Jacobi, 1902
Distribution. N. Vietnam (Lang Son), S. China.
26. *Terpnosia chapana* Distant, 1917
Distribution. Vietnam (Lao Cai).
27. *Terpnosia rustica* Distant, 1917
Distribution. Vietnam (Lao Cai).
28. *Terpnosia mesonotalis* Distant, 1917
Distribution. N. Vietnam (Lao Cai).
29. *Terpnosia mawi* Distant, 1909
Distribution. Vietnam (South Vietnam, Cao Bang)
Genus Euterpnosia Matsumura, 1917
30. *Euterpnosia cucphuongensis* Pham et al., 2010
Distribution. Vietnam (Ninh Binh)
Genus Pomponia Stål, 1866
31. *Pomponia linearis* (Walker, 1850)
Distribution. Vietnam (Vinh Phuc, Ninh Binh, and Thua Thien-Hue), China, India, Myanmar, Thailand, Laos, Campuchia, Banglades, Nepal, Japan, Philippin, Malaysia, Singapore, Indonesia.
32. *Pomponia piceata* Distant, 1905
Distribution. Vietnam (Cao Bang, Hoa Binh, Lam Dong), China (Guangxi).
33. *Pomponia backanensis* Pham & Yang, 2009
Distribution. Vietnam (Bac Kan, Ha Giang, Hoa Binh, Phu Tho, and Vinh Phuc)
Genus Purana Distant, 1905
34. *Purana guttularis* (Walker, 1858)
Distribution. Vietnam (Hai Phong), China, India, Siam, Borneo, Sarawak, Java, Myanmar, Philippine, Brunei.
35. *Purana samia* (Walker, 1850)
Distribution. N. Vietnam, China (Yunnan), India.
36. *Purana dimidia* Chou & Lei, 1997
Distribution. N. Vietnam, China (Yunnan).
Genus Tanna Distant, 1905
37. *Tanna yunnanensis* (Lei & Chou, 1997)
Distribution. Vietnam (Ninh Binh), China.
38. *Tanna sinensis* (Ouchi, 1938)
Distribution. Vietnam (Ninh Binh), China.
Subtribe Cosmopsaltriina
Genus Leptopsaltria Stål, 1866
39. *Leptopsaltria phra* Distant, 1913
Distribution. Vietnam (Ha Giang, Lao Cai), Laos, Campuchia.
Genus Inthaxara Distant, 1913
40. *Inthaxara flexa* Lei & Li, 1996
Distribution. Vietnam (Phu Tho), China.
Genus Meimuna Distant, 1905
41. *Meimuna subviridissima* Distant, 1913
Distribution. Vietnam, China (Guangxi), Laos, Thailand.
42. *Meimuna durga* (Distant, 1881)
Distribution. Vietnam, China (Yunnan, Guangdong and Fujian), Laos, Thailand and India.
43. *Meimuna tripurasura* (Distant, 1881)

- Distribution.** Vietnam (Lang Son), South China, India.
Subtribe Dundubiina
Genus *Haphsa* Distant, 1905
44. *Haphsa nana* Distant, 1913
Distribution. Vietnam.
45. *Haphsa conformis* Distant, 1917
Distribution. N. Vietnam.
46. *Haphsa scitula* (Distant, 1888)
Distribution. Vietnam (Lao Cai, Tuyen Quang, Hoa Binh, Dak Lak, Kon Tum), China (Xinjiang, Yunnan and Guangxi), Cambodia, Thailand, Myanmar, India.
Genus *Sinapsaltria* Kato, 1940
47. *Sinapsaltria annamensis* Kato, 1940
Distribution. N. Vietnam.
Genus *Macrosemia* Kato, 1925
48. *Macrosemia tonkiniana* (Jacobi, 1905)
Distribution. Vietnam (Son La, Nghe An, Lao Cai, Yen Bai), China (Yunnan and Hainan), Laos, Thailand, Myanmar and India.
Genus *Platylomia* Stål, 1870
49. *Platylomia bocki* (Distant, 1882)
Distribution. Vietnam (Phu Tho, Vinh Phuc, Ninh Binh, Thanh Hoa, Kon Tum, Lam Dong), South China, Laos, Campuchia, Thailand.
50. *Platylomia operculata* Distant, 1913
Distribution. Vietnam (Lao Cai, Vinh Phuc, and Thua Thien-Hue), China (Yunnan, Guangxi, Jiangxi and Hainan), India, Myanmar, Laos, Campuchia, Thailand.
Genus *Dundubia* Amyot & Audinet-Serville, 1843
51. *Dundubia hainanensis* (Distant, 1901)
Distribution. Vietnam (Cao Bang, Vinh Phuc, Ha Noi, Quang Ninh, Thanh Hoa, Ha Tinh, Quang Nam, Quang Tri, Thua-Thien Hue, and Quang Binh), China (Guangxi and Hainan), Thailand.
52. *Dundubia feae* (Distant, 1892)
Distribution. Vietnam (Lai Chau, Hoa Binh), China (Guangxi and Hainan), India, Myanmar, Laos, Thailand.
53. *Dundubia nagarasingna* Distant, 1881
Distribution. Vietnam (Ba Ria-Vung Tau, Bac Ninh, Ha Noi, Nghe An, Lao Cai, Hoa Binh), China (Yunnan), India, Myanmar, Laos, Thailand.
Subtribe Tosenina
Genus *Tosena* Amyot and Audinet-Serville, 1843
54. *Tosena melanoptera* (White, 1846)
Distribution. Vietnam (Bac Kan, Thai Nguyen, Tuyen Quang, Lao Cai, Hoa Binh, Vinh Phuc, Ha Noi, Ha Tay, Ha Tinh, Ha Nam, Yen Bai), China, Laos, Thailand, Myanmar, Nepal, India.
55. *Tosena splendida* Distant, 1878
Distribution. Vietnam (Ninh Binh, Vinh Phuc), China, India, Myanmar, Laos, Campuchia.
Subtribe Psithyristriina Distant, 1905
Genus *Semia* Matsumura, 1917
56. *Semia watanabei* (Matsumura, 1907)
Distribution. Vietnam (Thanh Hoa)
57. *Semia majuscula* (Distant, 1917)
Distribution. Vietnam (Lao Cai)
Tribe Moganniini
Genus *Mogannia* Amyot & Serville, 1843
58. *Mogannia effecta* Distant, 1892
Distribution. Vietnam (Vinh Phuc), China, India, Nepal, Indonesia (Melcalf, 1963b, Duffels and van der Laan, 1985).
59. *Mogannia cyanea* Walker, 1858
Distribution. N. Vietnam, S. China, Taiwan, Thailand, Myanmar, India.
60. *Mogannia hebes* (Walker, 1858)
Distribution. Vietnam (Dong Nai, Lao Cai, Vinh Phuc), China, India, South Korean, Japan, Malaysia.
61. *Mogannia caesar* Jacobi, 1902

- Distribution.** N. Vietnam (Lang Son), China, Thailand.
- 62. *Mogannia conica* (Germar, 1830)**
Distribution. Vietnam, (Vinh Phuc, Thanh Hoa), China (Xizang, Yunnan and Guangdong), Philippines, Thailand, Laos, Campuchia, Philippine, Malaysia, Indonesia (Java and Sumatra), Myanmar, Nepal, India.
- 63. *Mogannia aliena* Distant, 1920**
Distribution. N. Vietnam.
- 64. *Mogannia saucia* Noualhier, 1896**
Distribution. Vietnam (Vinh Phuc, Phu Tho, and Hai Phong), S. China, Philippines, Indonesia, Laos, Cambodia, Thailand.
- 65. *Mogannia obliqua* Walker, 1858**
Distribution. Vietnam (Hoa Binh, Gia Lai, Dong Nai), Malaysia, Indonesia (Java), Myanmar, India.
- 66. *Mogannia funebris* Stål, 1865**
Distribution. Vietnam (Lang Son), Myanmar, Bangladesh, India.
Genus *Nipponosemia* Kato, 1925
- 67. *Nipponosemia quangxiensis* Chou & Wang, 1993**
Distribution. Vietnam (Vinh Phuc), China.
Subfamily Cicadettinae
Tribe Taphurini
Genus *Abroma* Stål, 1866
- 68. *Abroma reducta* (Jacobi, 1902)**
Distribution. N. Vietnam (Lang Son), Hong Kong.
Genus *Hea* Distant, 1906
- 69. *Hea yunnanensis* Chou & Yao, 1995**
Distribution. Vietnam (Vinh Phuc), China.
Genus *Lemuriana* Distant, 1905
- 70. *Lemuriana apicalis* (Germar, 1830)**
Distribution. Vietnam (Lao Cai) [Sa Pa, Lao Cai], Nepal, India.
Tribe Sinosenini Boulard
Genus *Karenia* Distant
- 71. *Karenia hoanglienensis* Pham & Yang, 2012**
Distribution. North Vietnam (Lao Cai).
Tribe Cicadettini
Genus *Scolopita* Chou & Lei, 1997
- 72. *Scolopita lusiplex* Chou & Lei, 1997**
Distribution. Vietnam (Hai Phong), China.
Tribe Huechysini
Genus *Huechys* Amyot and Audinet-Serville, 1843
- 73. *Huechys beata* Distant, 1892**
Distribution. Vietnam (Lai Chau, Vinh Phuc, Hoa Binh, Thanh Hoa, Quang Tri, Quang Nam, Lam Dong, Ninh Thuan), S. China, Thailand, Malaysia, Indonesia, India.
- 74. *Huechys sanguinea* (De Geer, 1773)**
Distribution. Vietnam (Cao Bang, Lai Chau, Yen Bai, Lang Son, Bac Kan, Thai Nguyen, Vinh Phuc, Phu Tho, Ha Tay, Hai Phong, Ninh Binh, Thai Binh, Hung Yen, Hai Duong, Thanh Hoa, Nghe An, Quang Binh, Thua Thien-Hue, Quang Tri, Quang Nam, and Gia Lai), S. China (including Hainan), Taiwan, Thailand, Malay Peninsula, Timor, Borneo, Indonesia (Sumatra), Myanmar, India.
- 75. *Huechys tonkinensis* Distant, 1917**
Distribution. Vietnam (Lao Cai)
Genus *Scieroptera* Stål, 1866
- 76. *Scieroptera splendidula* (Fabricius, 1775)**
Distribution. Vietnam (Lao Cai, Ha Giang, Vinh Phuc, Hoa Binh, Ha Tay, Ha Tinh, Gia Lai, and Lam Dong), China, India, Laos, Campuchia, Malaysia, Indonesia.
- 77. *Scieroptera formosana* Schmidt, 1918**
Distribution. Vietnam (Vinh Phuc, Hoa Binh, and Ha Tay), China, India, Myanmar, Philippine, Indonesia, Japan.
- 78. *Scieroptera delineata* Distant, 1917**
Distribution. Vietnam (Lao Cai), Laos.
- 79. *Scieroptera orientalis* Schmidt, 1918**
Distribution. N. Vietnam, S. China.

80. *Scieroptera crocea* (Guérin-Méneville, 1838)

Distribution. N. Vietnam, Malaysia, Indonesia (Java and Sumatra), Myanmar, India.

Subfamily Tettigadinae

Tribe Tibicinini

Genus *Katoa* Ouchi, 1938

81. *Katoa chlorotica* Chou & Lu, 1997

Katoa chlorotica Chou & Lu, 1997: 94; Pham & Yang, 2009: 4.

Distribution: Vietnam (Hoa Binh, Ninh Binh, Quang Tri, Thua Thien-Hue, Quang Nam, Kon Tum), China.

III. DISCUSSION

The checklist of the cicadas of north Vietnam is based on careful review of published references and update our current knowledge of all cicada taxa recorded from northern Vietnam, making this information more available. Adding to our baseline faunal inventory of cicada species biodiversity information of the taxonomic identity, the known cicada species richness in Vietnam has increased to 81 species in 36 genera, 12 tribes.

There are 11 species known only from north Vietnam: *Pycna indochinensis* Distant, *Gaeana vitalisi* Distant, *Terpnosia chapana* Distant, *Terpnosia rustica* Distant, *Terpnosia mesonotalis* Distant, *Haphsa conformis* Distant, *Sinapsaltria annamensis* Kato, *Mogannia aliena* Distant, *Huechys tonkinensis* Distant, *Euterpnosia cucphuongensis* Pham *et al.*, 2010, and *Karenia hoanglienensis* Pham & Yang, 2012, however with the current lack of collecting in this and adjacent areas, the extent of endemism of these species is difficult to estimate.

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**DANH LỤC CÁC LOÀI VE SÀU HỌ CICADIDAE (HEMIPTERA:
AUCHENORRHYNCHA) Ở MIỀN BẮC VIỆT NAM**

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TÓM TẮT

Kết quả nghiên cứu ở miền Bắc Việt Nam có 81 loài thuộc 36 giống, 12 tộc và 3 phân họ: phân họ Cicadinae gồm 67 loài, 7 tộc, 29 giống, phân họ Cicadettinae gồm 13 loài, 4 tộc, 6 giống và phân họ Tettigadinae chỉ có 1 loài. Trong số 81 loài trên có 11 loài là chỉ ghi nhận ở miền Bắc Việt Nam: *Pycna indochinensis* Distant, *Gaeana vitalisi* Distant, *Terpnosia chapana* Distant, *Terpnosia rustica* Distant, *Terpnosia mesonotalis* Distant, *Haphsa conformis* Distant, *Sinapsaltria annamensis* Kato, *Mogannia aliena* Distant, *Huechys tonkinensis* Distant, *Euterpnosia cucphuongensis* Pham et al., 2010 và *Karenia hoanglienensis* Pham & Yang, 2012.