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Vietnamese Issidae (Hemiptera, Fulgoroidea): new taxa, new records and new distribution data

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Abstract

An updated list of Issidae known from Vietnam is provided. Two new species, one from the genus *Darwallia* Gnezdilov, 2010, and another one from a new genus are described from the Hòn Bà massif in Central Vietnam. A key to species of the genus *Darwallia* is provided. *Gelastyrella hainanensis* Ran et Liang, 2006 is placed in synonymy under *Thabena litaoensis* Yang, 1994. This last taxon and the genus *Gergithoides* Schumacher, 1915 are recorded for the first time for Vietnamese fauna. New records in Vietnam are given for *Tetrica philo* Fennah, 1978 and *Gergithus iguchii* Matsumura, 1916.

Key words: Vietnam, Annamite Range, taxonomy, new genus, new species, new records, new synonymy

Introduction

Planthoppers of Vietnam remain very poorly known and studied. The main source of taxonomic information is the monograph by Fennah (1978) who provided the first general contribution to the Vietnamese fauna, but it mainly concerns the northern part of the country. Fennah (1978) listed totally 106 species and subspecies in 78 genera of 16 families of Fulgoroidea. Recent field collects, in collaboration with local authorities, allowed to report more than 200 planthopper species for Vietnam (FLOW: Bourgoïn, 2014), however it is far to cover what should be the real diversity of this group in Vietnam.

This is particularly the case of the family Issidae Spinola, 1839 even if it started to attract recent attention with the descriptions of some new taxa (Constant & Pham, 2011; Gnezdilov & Constant, 2012; Gnezdilov, 2013a). To complete the previously 19 species inventoried in Vietnam, we describe here two new taxa of the tribe Issini Spinola, 1839: one new genus with a new species and another new species of recently erected genus *Darwallia* Gnezdilov, 2010. We also provide additional data on distribution for 4 other species (2 of them are new for Vietnam) collected during two recent field trips to the southern part of the Anamitic Range between Dalat and Nha Trang, centre of Vietnam, and from old materials deposited in the MNHN collections. With this study the Issidae of Vietnam count now 25 species in 14 genera.

The Annamite Range is a long mountain chain over 1100 km long covering about 23 millions hectares with highlights peaks over 2500 m. It extends along the border of Vietnam and Laos, running parallel to the Vietnamese coast on the East side of the Mekong River. It is mainly covered by rainforest and is home to a remarkable and highly endemic fauna. Two main spots were targeted: during a first field trip in 2008, the Bi-Doup mountain and its neighbouring Hòn-Giao mountain, both part of the Bi Doup Nui Ba National Park, one of the largest preserved area in Vietnam (66,067 ha) and in 2013, the Hòn-Bà massif (19,046 ha) a smaller National Reserve. The Hòn-Bà massif is situated at the eastern end of a long mountainous ridge of some 30 km starting on the east side of the Hòn-Giao mountain. Both sites are covered with primary and secondary forest usually absent at these altitudes (800–2000 m) due to strong anthropic pressures and belong to the Southern Annamites montane rain forests

Bibliography

- Anufriev, G.A. & Emeljanov, A.F. (1988) Suborder Cicadinea (Auchenorrhyncha). In: Ler, P.A. (Eds.), *Keys to the insects of the Far East of the USSR. Vol. 2*. Nauka, Leningrad, pp. 12–495. [in Russian].
- Bourgoin, T. (1993) Female genitalia in Hemiptera Fulgoromorpha, morphological and phylogenetic data. *Annales de la Societe Entomologique de France (N.S.)*, 29 (3), 225–244.
<http://dx.doi.org/10.1080/00379271.2007.10697491>
- Bourgoin, T. (2014) FLOW (Fulgoromorpha Lists on The Web): a world knowledge base dedicated to Fulgoromorpha. V. 8. Available from: <http://hemiptera-databases.org/flow/> (accessed 15 July 2014)
- Chan, M.-L. & Yang, C.-T. (1994) *Issidae of Taiwan (Homoptera: Fulgoroidea)*. Chen Chung Book, Taichung, Taiwan, 188 pp.
- Che, Y.-L., Wang, Y.-L. & Chou, I. (2003) Taxonomic study of the genus *Gergithoides* Schumacher (Homoptera: Fulgoroidea: Issidae). *Entomotaxonomia*, 25 (2), 102–108.
- Constant, J. & Pham, H.T. (2011) Two new species of *Hemisphaerius* from Vietnam (Hemiptera, Fulgoromorpha, Issidae). *Nouvelle Revue d'Entomologie (N. S.)*, 27 (2), 109–115.
- Fennah, R.G. (1956) Fulgoroidea from Southern China. *Proceedings of the California Academy of Science, Series 4*, 28 (13), 441–527.
- Fennah, R.G. (1978) Fulgoroidea (Homoptera) from Vietnam. *Annales Zoologici (Warszawa)*, 34 (9), 207–279.
- Gnezdilov, V.M. (2003) Review of the family Issidae (Homoptera, Cicadina) of the European fauna, with notes on the structure of ovipositor in planthoppers. *Chteniya pamyati N.A. Kholodkovskogo (Meetings in memory of N.A. Cholodkovsky)*, 56 (1), 1–145. [in Russian with English summary]
- Gnezdilov, V.M. (2009) Revisionary notes on some tropical Issidae and Nogodinidae (Hemiptera: Fulgoroidea). *Acta Entomologica Musei Nationalis Pragae*, 49 (1), 75–92.
- Gnezdilov, V.M. (2010) Three new genera and three new species of the family Issidae (Hemiptera: Fulgoromorpha) from Borneo and Sumatra. *Tijdschrift voor Entomologie*, 153, 41–52.
<http://dx.doi.org/10.1163/22119434-900000289>
- Gnezdilov, V.M. (2012) On the taxonomy of some Fulgoroidea (Hemiptera). *Proceedings of the Zoological Institute RAS*, 316 (3), 239–247.
- Gnezdilov, V.M. (2013a) Notes on planthoppers of the tribe Hemisphaeriini (Homoptera, Fulgoroidea, Issidae) from Vietnam with a description of a new genus and new species. *Zoologicheskii Zhurnal*, 92 (6), 659–663. English translation published in *Entomological Review*, 93 (8), 1024–1028.
<http://dx.doi.org/10.1134/s0013873813080095>
- Gnezdilov, V.M. (2013b) Modern classification and the distribution of the family Issidae Spinola (Homoptera, Auchenorrhyncha: Fulgoroidea). *Entomologicheskoe Obozrenie*, 92 (4), 724–738. [in Russian with English summary]
- Gnezdilov, V.M. (2013c) New synonyms and combinations for the planthopper genus *Eusarima* Yang (Hemiptera, Fulgoroidea, Issidae). *Acta Entomologica Musei Nationalis Pragae*, 53 (2), 485–492.
- Gnezdilov, V.M. & Constant, J. (2012) Review of the family Issidae (Hemiptera: Fulgoromorpha) in Vietnam with description of a new species. *Annales Zoologici (Warszawa)*, 62 (4), 571–576.
<http://dx.doi.org/10.3161/000345412x659632>
- Gnezdilov, V.M., Soulier-Perkins, A. & Bourgoin, T. (2011) Fieber's original drawings and their corresponding types for the family Issidae (Hemiptera, Fulgoromorpha) in the Muséum national d'Histoire naturelle of Paris, France. *Zootaxa*, 2806, 24–34.
- Lallemand, H. (1942) Notes sur quelques espèces recueillies par le R. Piel (Musée Heude Shanghai) et le R.P. de Cooman (Hoa Binh, Tonkin). *Notes d'Entomologie Chinoise*, 9 (4), 69–77.
- Matsumura, S. (1916) Synopsis der Issiden (Fulgoriden) Japans. *Transactions of the Sapporo Natural History Society*, 6, 85–118.
- Melichar, L. (1906) Monographie der Issiden (Homoptera). *Abhandlungen der K. K. Zoologisch-botanischen Gesellschaft in Wien*, 3 (4), 1–327.
- Novotný, V. & Basset, Y. (1998) Seasonality of sap-sucking insects (Auchenorrhyncha, Hemiptera) feeding on *Ficus* (Moraceae) in a lowland rain forest in New Guinea. *Oecologia*, 115, 514–522.
<http://dx.doi.org/10.1007/s004420050549>
- Novotný, V. (1992) Community structure of Auchenorrhyncha (Homoptera) in montane rain forest in Vietnam. *Journal of Tropical Ecology*, 8, 169–179.
<http://dx.doi.org/10.1017/s0266467400006301>
- Novotný, V. (1993) Spatial and temporal components of species diversity in Auchenorrhyncha (Insecta: Hemiptera) communities of Indochina montane rain forest. *Journal of Tropical Ecology*, 9, 93–100.
<http://dx.doi.org/10.1017/s026646740000701x>
- Olson, D.M. & Dinerstein, E. (2002) The Global 200: priority ecoregions for global conservation. *Annals of the Missouri Botanical Garden*, 89, 199–224.
<http://dx.doi.org/10.2307/3298564>
- Rahman, M.A., Kwon, Y.J. & Suh, S.J. (2013) A new species of the genus *Gergithoides* Schumacher (Hemiptera: Fulgoroidea: Issidae) from Korea. *Entomological News*, 122 (4), 293–299.

<http://dx.doi.org/10.3157/021.122.0401>

- Ran, H.-F. & Liang, A.-P. (2006a) The issid genus *Gelastyrella* Yang (Hemiptera: Fulgoroidea: Issidae) from China. *Zootaxa*, 1238, 63–68.
- Ran, H.-F. & Liang, A.-P. (2006b) Taxonomic study of the issid genus *Flavina* Stål (Hemiptera, Fulgoroidea, Issidae). *Acta Zootaxonomica Sinica*, 31 (2), 388–391.
- Schumacher, F. (1915) Der gegenwärtige Stand unserer Kenntnis von der Homopteren-Fauna der Insel Formosa unter besonderer Berücksichtigung von Sauter'schem Material. *Mitteilungen aus dem Zoologischen Museum in Berlin*, 8, 71–134.
- Zhang, Z.-G. & Chen, X.-S. (2012) A review of the genus *Thabena* Stål (Hemiptera: Fulgoromorpha: Issidae) from China with description of one new species. *Entomotaxonomia*, 34 (2), 227–232.