

SYSTEMATICS AND EVOLUTION

Additional Notes on the Thread-legged Assassin Bug Fauna of Taiwan, with Description of a New Species (Heteroptera: Reduviidae: Emesinae)

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Abstract Based on materials deposited in the Hungarian Natural History Museum, a new species, *Ademula aemula* sp. n. is described from Taiwan. *Gardena muscicapa* (Bergroth, 1906) is reported to be new to the Taiwanese fauna. A remarkable dark-coloured specimen of the endemic Taiwanese species *Schidium confine* Wygodzinsky, 1966 is reported and briefly described.

Key words Emesinae, Heteroptera, new record, new species, Reduviidae, Taiwan

ologists in the last few years in Taiwan have yielded a number of true bugs. The material is deposited in the Hungarian Natural History Museum, Budapest. The few but remarkable emesine specimens have been identified by the author. A new species, *Ademula aemula* sp. n. is described, and another one, *Gardena muscicapa* (Bergroth, 1906) is reported to be new to the fauna of Taiwan in this paper. A remarkable dark-coloured specimen of the probably endemic Taiwanese species *Schidium confine* Wygodzinsky, 1966 is also reported and briefly described.

Introduction

With approximately 90 genera and more than 900 described species, Emesinae is one of the most speciose subfamilies in the family Reduviidae. The number of species known to occur in the Oriental Region attains about 120 (cf. Maldonado-Capriles, 1990).

In the recent catalogue of the Reduviidae of the Palaearctic Region, Putshkov and Putshkov (1996) listed six species of Emesinae from Taiwan. Four of them are widely distributed species occurring in more than one zoogeographical regions: *Emesopsis nubila* Uhler, 1894 is known to occur in the tropical regions of South America, Africa and Asia as well as in the Palaearctic and Nearctic Regions; *Gardena brevicollis* Stål, 1871, *G. melinarthrum* Dohrn, 1860 and *Gomesius hesione* (Kirkaldy, 1901) are distributed in the Oriental and Australian Regions, entering the Far Eastern areas of the Palaearctics. The other two species, namely *Onychomesa sauteri* Wygodzinsky, 1966 and *Schidium confine* Wygodzinsky, 1966 have hitherto been known exclusively from Taiwan, therefore, they are most probably endemic in the island.

Recent field investigations by Hungarian entom-

Materials and Methods

This study was based on specimens deposited in the Hungarian Natural History Museum (HNHM), Budapest, Hungary. External structures were examined using a stereoscopic microscope. Drawings were made by using a camera lucida. Measurements were taken using a micrometer eyepiece. Male genitalia were studied after boiling for a short time in 10% KOH solution.

The following abbreviations are used for institutions where type and other specimens are deposited: AMNH, American Museum of Natural History, New York, U.S.A.; BMNH, The Natural History Museum, London, Great Britain; HNHM, Hungarian Natural History Museum, Budapest, Hungary; MNHN, Muséum National d'Histoire Naturelle, Paris, France; MRAC, Musée Royal de l'Afrique Centrale, Tervuren, Belgium; USNM, United States National Museum of Natural History, Washington, U.S.A.

Systematic part

Gardena muscicapa (Bergroth, 1906)

muscicapa Bergroth, 1906: 311 (Luteovopsis) [Borneo; ST(S) (♂) USNM]; — *polita* Miller, 1941: 779 [Malaysia: Selangor; HT (♀) BMNH] (syn. Wygodzinsky, 1966: 264); — *chinai* Wygodzinsky, 1952:

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155 [South Africa; HT (♂) BMNH] (syn. Wygodzinsky, 1966: 264); — *kivuensis* Villiers, 1958: 277 [Zaire; HT (♀) MRAC] (syn. Villiers, 1982: 30); — *etiennei* Villiers, 1976: 205 [Réunion; HT (♀) MNHN] (syn. Villiers, 1982: 30).

Wygodzinsky, 1958: 335 (*Gardena*); Wygodzinsky, 1966: 264 (taxonomy, genitalia, distribution).

Material examined. Taiwan: Nantou Province, Huisun Forest Area, 15 km N of Puli, 500 m, 7-8. VI. 1997, leg. B. Herczig & L. Ronkay (1 ♂); HNHM.

Diagnosis. The species is ranked as one of the smallest ones among the genus. Besides its size, it can be easily distinguished from the other Old World species by the combination of the following characters: the distance from the base of the fore femur to the first femoral spiniferous process about 2-3 times longer than the length of this process combined with its spine; antennal segment I of male densely covered with setae which are several times longer than the diameter of segment; tergite VII of male widely rounded posteriorly; fused parts of dorsal connectives enclose an angle of nearly 180° with the basal plates of the phallus. Body length: 9.5-11 mm.

Remarks. The species has the widest distribution among the species of the diverse genus *Gardena* Dohrn, 1859. It is widely distributed in the tropical Asia since it has been reported from New Guinea, the Philippines and the peninsular part as well as islands of Malaysia. It also occurs in Southern and Eastern Africa; in the Palaearctic Region it is known only from Japan. The species is new to the fauna of Taiwan.

Habitat notes. The single examined specimen was collected in a wide river valley colonized by warm, relatively dry, mixed forest of species-rich composition (L. Ronkay, *pers. comm.*)

***Ademula aemula* sp. n.**

(Figs. 1 - 14)

Type material. Holotype ♂: "TAIWAN / Kaoshiung [= Kaohsiung] county / Shanping forest / Recreation Area" (printed), "Near Liukuei / 22°58' N; 120°41' E / 19-21.XI.2002. / Leg. L. Ronkay & / O. Merkl" (printed), "*Ademula aemula* sp. n., det. D. Rédei, 2004" (type label with red borders, printed + handwritten); deposited in HNHM. Phallus of holotype in a plastic microvial with glycerol.

Measurements (in mm). Body length (from apex of head to apex of fore wings) 7.0. Length of head (without neck) 0.70, preocular length 0.24, postocular length 0.21, width across eyes 0.63, interocular distance 0.22, length of antennal segments I : II :

III : IV = 4.20 : 4.20 : 1.37 : 0.56, length of labial segments I : II : III = 0.42 : 0.25 : 0.27. Length of pronotum 1.01, length of fore lobe 0.32, length of hind lobe 0.69, greatest width of fore lobe 0.50, humeral width 0.81. Length of scutellum 0.17. Length of fore wing 5.25. Length of fore coxa 1.12, femur 2.04, greatest width of femur 0.17, length of tibia 1.55, tarsus 0.28, tarsal segments I : II : III = 0.14 : 0.08 : 0.06. Length of mid femur 4.05, tibia 5.85, tarsus 0.21. Length of hind femur 5.50, tibia 8.15, tarsus 0.20.

Description. Macropterous male.

Colour: Head yellowish brown, clypeus, jugae, lateral side of antenniferous tubercles and posterior half of postocular part dark brown. Rostrum stramineous, dorsal surface of segment I with a brown spot, basal half of segment II brown. Antennal segments I and II stramineous, segment I with one distinct annulus both subbasally and subapically, segment II slightly darkened towards apex, segments III and IV rather uniformly greyish yellow. Pronotum brown; lateral sides of fore lobe extensively dark chocolate brown, medial longitudinal furrow blackish brown; hind lobe conspicuously darkened along its posterior margin and around humeral angles, also bears an apparent, wide, medial longitudinal dark brown stripe. Thoracic pleuron stramineous with brown spots. Scutellum stramineous with a pair of lateral triangular blackish brown spots, scutellar spine stramineous. Visible part of metanotum dark brown, posteriorly narrowly stramineous. Fore wings (Fig. 3) light stramineous with a pair of apparent blackish spots basally, numerous brown spots and areas in characteristic arrangement, pterostigma with an elongated central brown spot. Fore leg stramineous with conspicuous brown annuli: apical 1/3 of coxa dark brown, basal 2/3 with a much lighter brown, wide central annulus; trochanter dark brown; femur with a very wide subbasal and a somewhat narrower subapical dark brown annuli and with a somewhat lighter annulus between them; tibia darkened apically and basally; tarsi rather uniformly stramineous. Mid and hind legs greatly light stramineous, coxae extensively brown, femora each with a distinct subapical brown annulus and two incomplete ones, tibiae each with a subbasal brownish annulus, tarsi rather uniformly stramineous. Basal part of dorsal surface of abdomen as well as spine on first abdominal tergite blackish, remaining parts of abdominal dorsum light brown, ventral surface of abdomen brown with darker subbasal, central and apical areas.

Structure: Body surface rather dull, except the slightly elevated areas laterad to medial furrow of fore pronotal lobe, which are subshining. Head, pronotum and scutellum densely covered with short, adpressed, whitish pubescence, furthermore with a

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