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Occurrence of *Macrosiagon bifasciata* (Marseul) (Coleoptera, Ripiphoridae) in the Central Ryukyus, Japan

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Macrosiagon bifasciata (Marseul, 1877), which belongs to the subfamily Ripiphorinae, family Ripiphoridae, is known to be distributed in China, Japan, the Korean Peninsula, India, Indonesia, Laos, Nepal, the Philippines, and Vietnam (Batelka, 2011 a). In Japan, *M. bifasciata* has hitherto been recorded from Hokkaido, Honshu, Shikoku, and Kyushu (Hatayama, 1985). However, this species has never been recorded from the Ryukyus, Japan (Sasaki *et al*., 2002). Here we report *M. bifasciata* for the first time from the central Ryukyus, from Kikaijima Is. in the Amami Isls. We thank T. Mita, N. Tsuji and K. Uemori (Kyushu University, Fukuoka), and K. Watanabe (Kanagawa Prefectural Museum of Natural History, Odawara) for their help with literature. We also thank N. Nakahara (Tsukuba) for assistance in preparing the manuscript. The work of JB was supported by the Institutional Research Support Grant of the Charles University, Prague (No. SVV 260 434 / 2017).

Macrosiagon bifasciata (Marseul, 1877)

(Figs. 1–2)

Emenadia bifasciata Marseul, 1877, 478 (type locality: "Japon").

Macrosiagon bifasciata: Batelka, 2007, 240 (= *M. bifasciatus* var. *reducta* Pic, 1909); 2008, 75 (catalogued; "A: CH JA NP NC SC"); 2011 a, 594 (= *M. medana* Pic, 1910; China, India, Indonesia, Laos, Nepal, the Philippines & Vietnam); 2013, 320 (additional record from Laos), 323 (in key); Batelka & Hoehn, 2007, 150 (notes on Japanese records of *M. bipunctata* by Iwata (1939) & Kifune (1956)).

Macrosiagon bifasciatum: Batelka, 2004, 10 (lectotype designation; = *M. Donceeli* Pic, 1908; = *M. bifasciatum* var *coreanum* Pic, 1955; = *M. b.* var. *tschungseni* Pic, 1955).

Macrosiagon bipunctatum (Fabricius, 1801) [misidentification]: Iwata, 1939, 53 (ecology; possible host species in Japan: "*Chalybion inflexum*", "*Sceliphron madraspatanum*" & "*Sceliphron tubifex*"); Kifune, 1956, 160 (ecology; host species in Japan: "*Sceliphron inflexum*", *Sceliphron deforme* & *Cerceris sobo*); Kifune & Nanbu, 1960, 262 (new host record from Japan: *Sceliphron tubifex*); Hatayama, 1985, 375 (in part; diagnosis, ecology & distribution).

Macrosiagon bipunctatum bifasciatum: Kôno, 1929, 133 (in key), 134 (diagnosis & distribution: Honshu, Shikoku & Kyushu).

Macrosiagon medana Pic, 1910, 85 (type locality: "Sumatra, Medan"); Batelka, 2007, 242 (= *M. sumatrensis* Pic, 1912).

See Kôno (1929: 134) and Batelka (2008: 75) for other synonymy.

Specimen examined. Japan: the Ryukyus. 1 female, Amami Isls., Kikaijima Is., Nakama (Fig. 3), 13. VI.2017, H. Yoshitake leg., by beating vegetation.

Distribution. Japan (Hokkaido, Honshu, Shikoku, and Kyushu; the Ryukyus: Kikaijima Is. – new record); China (Beijing, Fujian, Sichuan, and Yunnan), India (Darjeeling, Himachal Pradesh, and Uttar Pradesh), Indonesia (Java and Sumatra), the Korean Peninsula, Laos, Nepal, the Philippines (Negros), and Vietnam (Batelka, 2011 a).

Host species. Sphecidae: *Chalybion* (*Chalybion*) *japonicum* (Gribodo, 1882), *Sceliphron* (*Hensenia*) *deforme* (Smith, 1856), and *Sceliphron* (*Sceliphron*) *madraspatanum tubifex* (Latreille, 1809); Philanthidae: *Cerceris sobo* Yasumatsu et Okabe, 1936.

Notes. Iwata (1939) recorded associations of "*Macrosiagon bipunctatum*" with "*Chalybion inflexum*" and "*Sceliphron deforme*", respectively from Chihpen Hot Springs, Taiwan in 1935. Based on his observation, he expected that "*M. bipunctatum*" is associated with "*Ch. inflexum*" also in Japan. This old identification of *Macro-*

Figs. 1–3. *Macrosiagon bifasciata* (MARSEUL) from Kikaijima Is., the Amami Isls., central Ryukyus, Japan. —— 1, Dorsal habitus; 2, lateral habitus; 3, habitat in Nakama.

siagon species is in agreement with the opinion that Japanese specimens of the *M. bifasciata* species group sensu BATELKA (2011 a) belong to a 'subspecies' *M. bipunctata bifasciata* (e.g., KÔNO, 1929), while the Taiwanese specimens belong to *M. bipunctata bipunctata* distributed in Africa, India, Indonesia, and Taiwan, but not in Japan (CHÛJÔ, 1935). In a series of revisions of this species group in the Oriental Region, BATELKA (2004, 2007, 2011 a, 2013) revealed that all examined specimens from areas located east of the Indian Subcontinent (i.e., from China, Japan, Indonesia, the Korean Peninsula, Laos, the Philippines, and Vietnam) belong to *M. bifasciata*. However, the taxonomic identity of the Taiwanese population of '*M. bipunctata*' warrants attention, because in the revisions the author could examine no relevant specimens from Taiwan. To date, several long-distance dispersal events within the genus *Macrosiagon* have been documented (BATELKA, 2011 a, b). The isolated occurrence of *M. bipunctata* in Taiwan thus cannot be readily excluded at the moment, but it is less probable given Taiwan's proximity to continental China, as well as to the Ryukyus and Philippines.

Among the known host species of *Macrosiagon bifasciata*, *Sceliphron* (*Sceliphron*) *madraspatanum* (FABRICIUS, 1781) has been recorded from Kikaijima Is. (YAFUSO & KINJÔ, 2002; TERAYAMA & SUDA, 2016). Also, *Chalybion* (*Chalybion*) *japonicum* may occur in the island, judging from its known range including other islands in the Amami Isls.

The reported female from Kikaijima Is. is noteworthy because of its black pronotum. So far all females from the continental Asia examined by the second author have had the red pronotum, while the black one was found only in a majority of specimens from Sumatra, originally reported under the names *Macrosiagon medana* PIC, 1910 and *M. sumatrensis* PIC, 1912 (BATELKA, 2007). It could be hypothesized that such a color aberration might be accidentally connected with lower genetic variability of insular populations.

The Amami Isls. located in the central part of the Ryukyu Arc between the Tokara and Kerama gaps are of continental origin, having been repeatedly connected with and separated from the east periphery of the Eurasian Continent, bridged by the Old Taiwan and South Ryukyu land masses. It is estimated that the central Ryukyus including the Amami Isls. became isolated completely by the Early Pleistocene (MIZUTA, 2016). Due to the geological history, the fauna and flora of a belt composed of Southeast China–Taiwan–the Ryukyus contains many elements in common. The presence of *Macrosiagon bifasciata* in the Ryukyus thus seems to be either the result of a pre-Pleistocene vicariant event or that of a later short-distance transmarine dispersal event from neighboring is-

lands, colonized either as imagines or as multiple phoretic triungulinids loading on a single hymenopteran host (Batelka, 2011 b).

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