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Author(s)
Yamasako, Junsuke; Kuroda, Keita

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New record of *Cophinopoda chinensis* (Diptera: Asilidae) from the Miyako Islands, the Ryukyus

Junsuke Yamasako¹ & Keita Kuroda²

¹Institute for Agro-Environmental Sciences, NARO, Kannondai 3-1-3, Tsukuba, Ibaraki 305-8604, Japan
²Laboratory of Environmental Entomology, Faculty of Agriculture, Ehime University Tarumi 3–5–7, Matsuyama, Ehime, 790–8566, Shikoku, Japan

**Abstract.** *Cophinopoda chinensis* (Fabricius, 1794) is newly recorded from the Miyako Islands, the Ryukyus, Japan, with DNA barcode data.

**Introduction**

*Cophinopoda chinensis* (Fabricius, 1794) is widely distributed from the Ryukyus, China, northern Vietnam, India, and Sri Lanka (Utsuki 2014). Despite its wide distribution, the species have been only disjunctly known from Okinawa Island and the Yaeyama Islands (i.e. Ishigaki Island and Iriomote Island) among dozens of islands of the Ryukyus. Recently, we found several specimens of this species collected from the Miyako Islands, located ca. 300 kilometers southwest of Okinawa Island and ca. 100 kilometers east of the Yaeyama Islands, in the collection of the University Museum (Fujukan), University of the Ryukyus, Okinawa (RUMF) and Institute for Agro-Environmental Sciences, NARO, Tsukuba (NIAES). Taking this opportunity, we provide clear figures of a male specimen from the Miyako Islands with a partial sequence of the mitochondrial cytochrome oxidase subunit I (DNA barcode).

For molecular analyses, total DNA was extracted from a specimen deposited in NIAES using a DNeasy Tissue Kit (Qiagen, Hilden, Germany) following the manufacturer’s instructions. A fragment of the cytochrome oxidase subunit I (COI) barcode region was amplified by polymerase chain reaction (PCR) using primers LCO1490 (5’–GGTCAACAAATCATAAAGATATTGG-3’) and HCO2198 (5’–TAAACTTCAGGGTGACCAAATA-3’) (Folmer et al. 1994) under the following thermal regime: 1 min at 94°C, 35 cycles of 30 s at 94°C, 30 s at 50°C, and 1 min at 72°C, and a final extension of 10 min at 72°C. The PCR amplicon was sequenced in both directions with an ABI 3130xl genetic analyzer (Thermo Fisher Scientific, USA) after purification using an ExoSAP-IT purification kit (USB, USA).

**Record**

*Cophinopoda chinensis* (Fabricius, 1794) (Fig. 1)


**DNA barcode.** The sequence data of DNA barcode region has been deposited in the GenBank under accession number MT324506. The voucher specimen is housed in NIAES with specimen ID, NIAES-DIP0000112, and the locality data with a photo of habitus has been deposited in BOLD system under BOLD Process ID, NIAES001-20.

**Remarks.** This new record fills a distribution gap between the previously known localities in the Ryukyus — Okinawa Island and the Yaeyama Islands. This discovery may suggest that knowledge on the distribution of this species in the Ryukyus has been insufficient. Further investigations in these areas therefore may contribute to reveal this species exact distribution with additional localities.

**Acknowledgements**

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Fig. 1. *Cophinopoda chinensis* from Shimoji-Kurima, Kurima Island, Miyako Islands. NIAES-DIP0000112, male. a, habitus in dorsal view; b, male genitalia closed-up in lateral view; c, ditto in dorsal view.

図1. 宮古諸島で得られたアオメアブ *Cophinopoda chinensis*. NIAES-DIP0000112, 雄. a, 背面; b, 雄交尾器, 側面; c, 同, 背面.

**References**


宮古諸島からのアオメアブ Cophinopoda chinensis（ハエ目：ムシヒキアブ科）の初記録

山迫淳介1・黒田圭太2
1〒305-8604 茨城県つくば市観音台3-1-3 農研機構・農業環境変動研究センター
2〒790-8566 愛媛県松山市樽味3-5-7 愛媛大学農学部環境昆虫学研究室

要約．東南アジアに広く分布するアオメアブ Cophinopoda chinensis を池間島、伊良部島、宮古島、来間島にて採集された標本に基づいて宮古諸島より初めて記録し、来間島の1個体より得た DNA バーコード配列の登録情報を記した．

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