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## Two new species of *Sycorax* (Diptera: Psychodidae: Sycoracinae) from the Oriental Region

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### Abstract

Two new species of *Sycorax* Haliday in Curtis, 1839 are described from Ulu Temburong National Park in Brunei Darussalam: *Sycorax konopiki* sp. nov. and *S. tomkineana* sp. nov. Both species were found resting on two frog species: *Ansonia leptopus* (Günther, 1872) and *A. longidigita* Inger, 1960. Differential diagnoses for males are included and morphological characters illustrated. Possible host associations of the new species are briefly discussed. DNA barcode sequence (COI) for *Sycorax konopiki* sp. nov. is also provided.

**Key words:** Moth flies, taxonomy, host association, DNA barcode, COI sequence, Brunei, Amphibia, *Ansonia leptopus*, *Ansonia longidigita*

### Introduction

The adults of *Sycorax* are 1–3 mm long, hold their wings horizontally above the abdomen (Fig. 37), with characteristic wing veins (R with 4 branches and M with 3 ones), male genitalia unrotated. Additional characters were summarized e. g. by Wagner (1977) and Wagner & Ibáñez-Bernal (2009). Larvae of *Sycorax* (known for only some Palaearctic species), dorsoventrally compressed and ovoid in dorsal view, have been found in moss carpets along streams having deposits of leaf litter (Wagner & Ibáñez-Bernal 2009). Adults of one species in Europe are known as vectors of filariae of the green frog (Desportes 1942).

A comprehensive checklist of Sycoracinae from all biogeographical regions was recently published by Curler & Jacobson (2012), with 43 extant species and an additional four fossil species included. Santos *et al.* (2013) added three Brazilian species incl. two new ones. Two species of Sycoracinae have previously described from the Oriental Region: *Sycorax malayensis* Quate, 1962 from Batu Caves in Malaysia and *Parasycorax filipinae* (Quate, 1965) from Mindanao in the Philippines (Duckhouse 1973). Two new species of *Sycorax* (males) from Brunei Darussalam are described in this paper. This increases the number of *Sycorax* species known from the Oriental Region to four.

### Material and methods

Specimens examined in this study were collected in 70 % ethanol and subsequently cleared in chloralphenol, treated in xylol and mounted on glass slides in Canada balsam. Observations were made using Carl Zeiss Jena (Germany) and Reichert (Austria) microscopes, with a mirror arm used as a drawing aid. Differential interference contrast images of the male terminalia of *S. malayensis* were taken in the Sackler Biodiversity Imaging Laboratory