

Kento MIYAZAWA^a, Yoshihito OHMURA^{b,*} and Yuichi YAMAOKA^c: *Aulaxina microphana* (*Graphidaceae*, Lichenized *Ascomycota*), New to Japan

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Summary: *Aulaxina microphana* (Vain.) R. Sant., a foliicolous lichen, is reported as new to Japan. It was found on a leaf of *Arenga engleri* Becc., an evergreen palm, at an elevation of 70 m on Iriomote-jima Island in the southwestern end of Japan, which has a subtropical oceanic climate.

Foliicolous lichens that grow on the surface of living leaves of vascular plants consist of more than 800 species worldwide (Lücking 2008). In Japan, ca. 90 taxa were recorded (Thor et al. 2000, Ohmura and Kashiwadani 2018), and the number would be increased by the future studies in suitable habitats (Thor et al. 2000).

As a part of our biotic studies of Japanese lichens, a foliicolous lichen growing on the leaf of *Arenga engleri* Becc. (*Arecaceae*), an evergreen palm, collected from Iriomote-jima Island was identified as *Aulaxina microphana* (Vain.) R. Sant. The species and the genus have never been reported from Japan.

The genus *Aulaxina* Fée (*Graphidaceae*, lichenized *Ascomycota*) consists of 13 species (Lücking 2008). This genus is characterized by the crustose, thin, smooth (or very rarely verrucose-bullate) and cartilaginous thallus growing on leaf or rarely bark; the entirely carbonized, black, crater-like and rounded or irregular to elongate apothecia which have strongly prominent margin; and the colorless, ellipsoid to cylindrical, transversely septate to muriform ascospores with constrictions at septa

(Lücking 2008).

The purpose of this paper is to describe the morphological and anatomical features of the Japanese specimen of *Aulaxina microphana* housed in the National Museum of Nature and Science (TNS), Tsukuba, Japan.

Morphological observations were made using a dissecting microscope (Olympus SZX16) and differential interference contrast microscope (Olympus BX53). Anatomical examination was performed using hand-cut sections mounted in GAW (glycerin: ethanol: water, 1:1:1). Measurement of spores is given as (minimum–) average \pm standard deviation (–maximum) (n = number of measurements).

Thin layer chromatography (TLC) with solvent B' (hexane : methyl tert-butyl ether : formic acid, 140:72:18) was performed to examine the secondary substances of the specimen (Culberson and Kristinsson 1970, Culberson and Johnson 1982).

Aulaxina microphana (Vain.) R. Sant., Symb. Bot. Upsal. 12(1): 299 (1952). – *Bilimbia microphana* Vain., Ann. Acad. Sci. Fenn., Ser. A 15(6): 87 (1921). **Lectotype** (designated by R. Santesson in Symb. Bot. Upsal. 12(1): 299, 1952): PHILIPPINES. Polillom, 1909, Robinson s.n. (TUR-V 21552, not seen). [Fig. 1]

Thallus foliicolous, inconspicuous, continuous or dispersed into rounded patches, ca. 10 μ m thick, smooth, pale greenish gray,

foliicolous lichens of Japan. Symb. Bot. Upsal. 32(3): 1–72.

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生葉上地衣類の一種 *Aulaxina microphana* (Vain.) R. Sant. (ヨウジョウクロフチゴケ属ツブヨウジョウクロフチゴケ, 新称) が, 西表島で採集されたクロツグ (ヤシ科) の生葉上から確認された. 本種は日本新産であり, 属としても日本新記録であるため, 日本産採集標本に基づく形態情報を報告する. 本種の地衣体は薄く (約 10 μm), 半透明な初生菌糸を伴う. はっきりとした黒色の縁をもつ微小な円形の裸子器 (直径 0.12–0.28 mm) があり, 子器盤は淡黄灰色. 子嚢胞子は 3 つの横断隔壁で仕切られており, 隔壁部位にわずかにくびれがあり, 大

きさは (8.0–)10.6 \pm 1.2(–12.5) \times (3.0–)3.7 \pm 0.6(–5.0) μm . 共生藻はトレボクシア様の緑藻. 化学成分は薄層クロマトグラフィーでは検出されなかった. 非常に微小な地衣類であるために見落とされてきた可能性があり, 国内における本種の分布については今後同様な生育環境で詳細な調査を行う必要がある.

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