

Six Species of Montane and Subalpine Lichenicolous Fungi New to Japan

Kensuke TADOME^{1,*} and Yoshihito OHMURA²

¹Saitama Nature Study Center, 5-200, Arai, Kitamoto, Saitama, 364-0026 JAPAN;

²Department of Botany, National Museum of Nature and Science,

4-1-1, Amakubo, Tsukuba, Ibaraki, 305-0005 JAPAN

*Corresponding author: k_tadome@yahoo.co.jp

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Six lichenicolous fungi, *Abrothallus parmeliarum*, *Arthonia digitatae*, *Lichenopuccinia poeltii*, *Reconditella physconiarum*, *Stigmidium subcladoniicola*, and *Vouauxiella lichenicola*, are reported as new to Japan. These were found on the host lichens collected in montane to subalpine area of Nagano and Saitama Prefectures in central Honshu and Hokkaido in Japan.

Key words: Asia, distribution, inventory, lichen, parasite, taxonomy.

Lichenicolous fungi are parasitic or parasymbiotic fungi that grow on or in other lichens. Over 2,000 species have been described in the world (Diederich et al. 2018). About 150 species have been reported from Japan (Tadome and Ohmura 2021, Zhurbenko et al. 2015b, 2017, Zhurbenko and Ohmura 2019) so far, but this is only about 30% of the growing species (Zhurbenko et al. 2015b).

During our survey of the lichenicolous fungi in Japan, we collected six interesting species in montane to subalpine areas of Japan that represent new records to this country: *Abrothallus parmeliarum* (Sommerf.) Arnold, *Arthonia digitatae* Hafellner, *Lichenopuccinia poeltii* D.Hawksw. & Hafellner, *Reconditella physconiarum* Hafellner & Matzer, *Stigmidium subcladoniicola* van den Boom, and *Vouauxiella lichenicola* (Linds.) Petr. & Syd.

This paper describes the morphological, anatomical and chemical characters of these

species based on the Japanese collections.

Materials and Methods

The host lichens were collected at Mt. Akadake and Mt. Kitayokodake in Nagano Prefecture, Mt. Myouhou in Saitama Prefecture, and Mt. Meakan in Hokkaido between December 2016 and September 2019. The presence of lichenicolous fungi was confirmed for these host lichens.

Morphological observations were made using a dissecting microscope (Olympus SZX12, Tokyo, Japan) and a differential interference contrast microscope (Olympus BX51, Tokyo, Japan). Anatomical examinations were made on hand-cut sections mounted in water. Measurements of ascospores and conidia are given as (minimum–) range including mean \pm standard deviation (–maximum) (n=number of measurements).

Chemical reactions of the epihyemenium

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田留健介¹, 大村嘉人²: 山地帯から亜高山帯で見つかった日本新産の地衣生菌6種

山地帯から亜高山帯で採集した地衣類標本を観察した結果、日本新産の地衣生菌6種を確認した。*Abrothallus parmeliarum* は子嚢上層が K+ 緑色であることを特徴とし、カラクサゴケ属(ウメノキゴケ科)の *Parmelia* cf. *adaugescens* の子器や裂片上に寄生していた。*Arthonia digitatae* は子嚢層を構成する菌糸が非常に細く、幅(1.0–)1.2–1.8(–2.0) μm 程度であることが特徴であり、ハナゴケ属(ハナゴケ科)のウロコハナゴケ *Cladonia squamosa* の基本葉体上に寄生していた。*Lichenopuccinia poeltii* は褐色～黒色の分生子果の基部に2～3隔壁の透明な分生子を形成することを特徴とし、トゲナシカラクサゴケ *Parmelia fertilis* の裂片に寄生していた。*Reconditella physconiarum* は黒色の子嚢果が

宿主の子器托や宿主の腹面に発生し、単室、褐色、いぼ状の子嚢胞子を持ち、ヒメゲジゲジゴケ属(ムカデゴケ科)のヒメゲジゲジゴケ *Anaptychia palmulata* で見られた。*Stigidium subcladoniicola* は黒色の子嚢果、2室、透明で(6.1–)6.6–7.8(–8.0) × (2.3–)2.5–2.9(–3.3) μm の小さい胞子を持つことが特徴であり、アカミゴケモドキ *Cladonia straminea* の基本葉体上で見られた。*Vouauxiella lichenicola* は黒色の分生子果、鎖状に連結した緑色の分生子を持つことが特徴であり、ゴイシゴケ様地衣類 Lecideoid lichen の地衣体上で見られた。

¹埼玉県自然学習センター,
²国立科学博物館植物研究部)