

Heinai SHIBUICHI* & Kozo YOSHIDA** : A new species of
Cetraria (Parmeliaceae) found in Japan***

四分一平内*・吉田考造** : 日本産エイランタイ属地衣の 1 新種

In the summer of 1981, we collected two specimens of *Cetraria* at Omogo Gorge, Mt. Ishizuchi, Shikoku. They look very much like *C. togashii* Asah., but they are apparently different from the latter species in the location of isidia on the thallus. They are also clearly distinguished from *C. togashii* by the positive colour reaction in the medulla with P. In TNS, some other specimens with the same characteristics are preserved. For these specimens, *C. kurokawae* will be described in the present paper.

Cetraria kurokawae Shibuichi et Yoshida, sp. nov.

Thallus foliaceus, flavo-virens, irregulariter lobatus; lobi 5-7 mm lati, margine superneque isidiati, isidiis cylindricibus et saepe coralloidibus, 0.1-0.2 mm latis, 0.3-0.7 mm altis; superficies superior inaequata, sparsim pseudocyphellata, pseudocyphellis albidis, orbiculatis vel punctiformibus; medulla alba; superficies inferior inaequalis, pallido-brunnescens vel badia, sparsim rhizinata, rhizinis fuscis vel nigro-brunnescens, simplicibus. Thallus 100-150 μ crassus; cortex superior paraplectenchymaticus, 15-20 μ crassus; stratum gonidiale continuum, ca 25 μ crassum; stratum medullare ex hyphis laxo intricatum formatum, 50-100 μ crassum; cortex inferior fuscus, paraplectenchymaticus, 15-20 μ crassus. Apothecia non visa. Pycnidia ad apices isidiorum raro sita.

Reaction. Thallus K -, KC + pale yellow; medulla K -, KC + rose, P + orange red.

Lichen substances. Usnic acid, alectoronic acid, succinprotocetraric acid, and fumarprotocetraric acid.

Type collection. Mt. Mitsumine, Chichibu-gun, Prov. Musashi, Honshu, Japan, on bark of *Chamaecyparis obtusa*, S. Kurokawa 64315—holotype in TNS.

The present species is characterized by the yellowish green upper surface

* Kumagaya Girl's High School, Kumagaya, Saitama Pref. 埼玉県立熊谷女子高等学校.

** Saitama Museum of Natural History, Nagatoro, Chichibu-gun, Saitama Pref. 埼玉県立自然史博物館.

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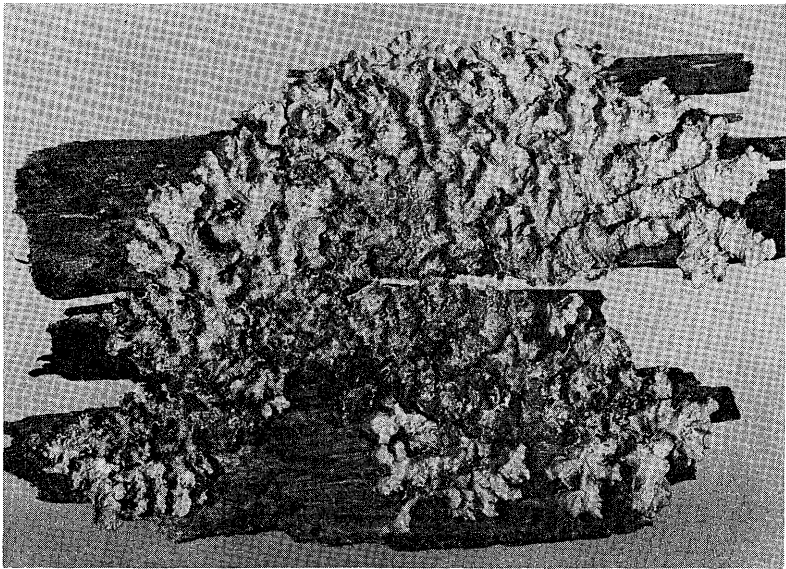


Fig. 1. Holotype of *Cetraria kurokawae* Shibuichi et Yoshida. $\times 1$.

of the thallus with isidia and P + orange red reaction in the medulla caused by the presence of fumarprotocetraric and succinprotocetraric acids. It is closely related to *C. togashii*, another isidiate species endemic to Japan. However, the isidia of the present species are marginal and laminal, while they are mainly marginal in *C. togashii*. The lower surface, in addition, is usually pale brown in this species in contrast to whitish lower surface of *C. togashii*. Secondary products contained in the medulla of *C. kurokawae* are aletronic, succinprotocetraric, and fumarprotocetraric acids. The medulla of *C. togashii*, in contrast, is P -, containing fatty acids. Succinprotocetraric acid was first reported as an unknown substance in *Parmelia sublimbata* by Kurokawa (1965), by whom crystals given by it were well photographed. The substance was once tentatively named sublimbatic acid by Hale (1965), but it has since been recognized to be succinprotocetraric acid because of its close structural resemblance to fumarprotocetraric and protocetraric acids (Baker et al. 1973).

As mentioned above, *Cetraria kurokawae* is apparently closely related to *C. togashii* and they both are endemic to Japan. *C. kurokawae*, however, seems to occur on barks of *Chamaecyparis obtusa* and *Sciadopitys verticillata* and

rarely on rocks, whereas *C. togashii* is most commonly found on barks of *Larix leptolepis* and *Tsuga diversifolia*, which are distributed at a little higher elevations in Japan. Thus these two species may be considered to have differentiated in Japan, selecting a little different distributional ranges and different substrata.

Specimens examined. Honshu. Prov. Musashi: So-goya Valley, Chichibugun, K. Yoshida 3096, 3097, 3098 (TNS). Shikoku. Prov. Iyo: Omogo Gorge, H. Shibuichi 6856, 6877 (TNS).

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日本産エイランタイ属地衣の1新種 *Cetraria kurokawae* Shibuichi et Yoshida (クロカワアワビゴケ 新称) を記載した。本種はトガシアワビゴケ (*C. togashii* Asah.) に類似するが、針芽が地衣体辺縁だけでなく表面にも広く着くことと、髓層が P+ 橙赤色でフマルプロトセトラール酸、スクシンプロトセトラール酸、アレクトロン酸を含有していることで区別される。さらに、トガシアワビゴケの地衣体裏面の色が白っぽいものに対して、クロカワアワビゴケは褐色を帯びている。また、垂直分布や着生樹種等にも多少の違いが見られるが、いずれにしても両種は近縁の日本固有種である。