

The Lichen Genus *Leioderma* Nyl. in Japan

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The lichen *Leioderma solediatum* D.J. Galloway et P.M. Jørg. has been collected five times in Japan, but was mistaken for a species of *Erioderma*. The differences are pointed out, and the superficially quite similar *Erioderma solediatum* D.J. Galloway and P.M. Jørg. is recorded as new to Japan. Differences from an isidiate/phyllidiate member of the *Pannaria lurida* (Mont.) Nyl. complex occurring in Japan (usually incorrectly called *P. fulvescens* (Mont.) Nyl.) are also pointed out.

During the XV International Botanical Congress I had the opportunity to examine the rich collections of Pannariaceae at TNS. Among the many interesting collections there I located four specimens from Japan of the rare and poorly known species, *Leioderma solediatum* D.J. Galloway et P.M. Jørg. additional to the one previously recorded by Galloway and Jørgensen (1987: 363). Asahina had quite correctly regarded it as a new species, and had annotated one collection with an unpublished herbarium name, placing it in *Erioderma*.

The genus *Leioderma* Nyl. differs in several characters from *Erioderma* Fée, as pointed out by Galloway and Jørgensen (1987), the two most notable ones being the numerous, small, laminal apothecia (not present in *L. solediatum*) and lack of chemistry (PD). It is basically a Pacific genus of five species (Galloway and Jørgensen 1987: 363). *L. solediatum* belongs to the Tethyan, tropical to warm-temperate element of the genus and is at its northern limit in Japan (Fig. 1). It prefers damp, humid habitats often at margins of forests, and is certainly a rare species in

Japan, but may prove to be more common than the few known collections indicate. In order to facilitate its recognition a description of the morphology is given below.

Leioderma solediatum D.J. Galloway & P.M. Jørg
in *Lichenologist* **19**: 390, 1987. (Fig. 2)

Thallus foliose, lobate, in more or less orbicular, loosely attached patches to 4 cm diam. with discrete to subimbricate lobes up to 6 mm wide. Upper surface more or less uniformly arachnoid, blue-green when wet, pale greyish when dry. Lobe-margins slightly thickened, entire to delicately incised, crenulate with marginal bluish, coarse-grained, sometimes limbiform, soralia. Lower surface ecorticate, white especially at margins, buff towards the centre with usually blackish blue rhizohyphae in tufted fascicles in scattered groups or in denser cover. Apothecia very rare, unknown in Japanese material. For anatomical and chemical details see Galloway and Jørgensen (1987).

After the exclusion of the group of species referred to *Fuscoderma* (D.J. Galloway et P.M. Jørg.) P.M.

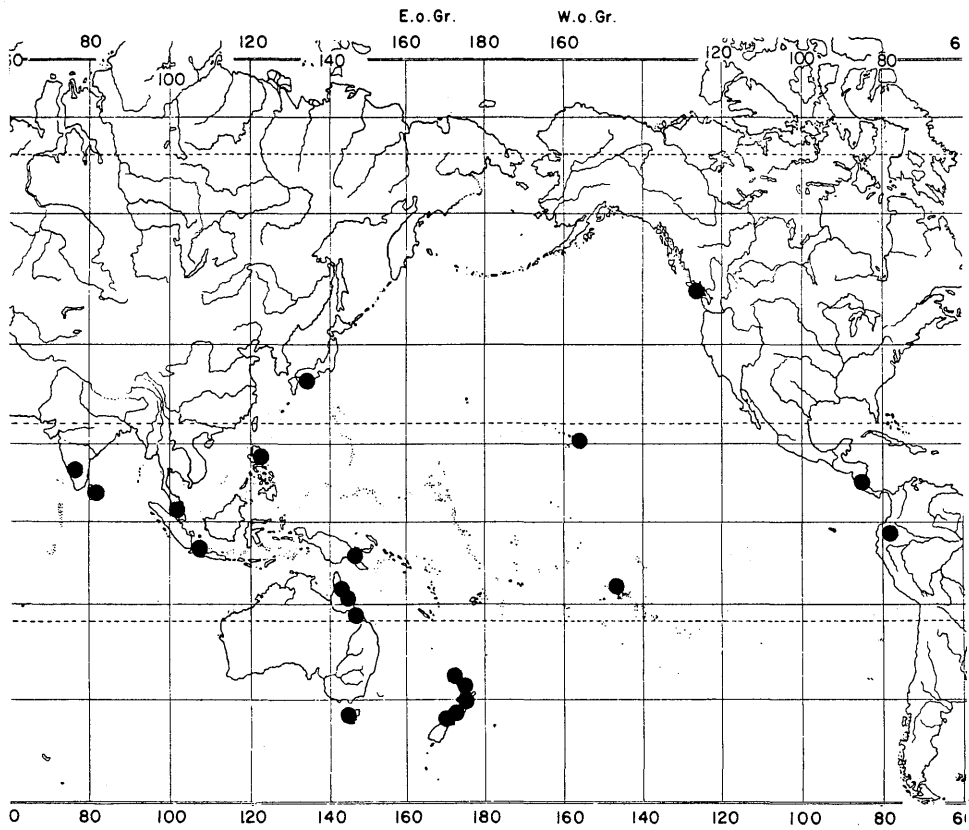


Fig. 1. World distribution of *Leioderma solediatum* (after Galloway and Jørgensen 1987).



Fig. 2. *Leioderma solediatum*, habitus. Scale: 3mm.

Jørg. et D.J. Galloway (Jørgensen and Galloway 1989), *L. soreliatum* is the only soreliate species of *Leioderma* and is not likely to be confused with any member of that genus. It is normally easily recognized by the fairly broad lobes with cobwebby hairy surface and the coarse granular bluish soralia. Two other subsimilar species from other genera with such broad lobes and soralia may be confused with *L. soreliatum*: *Erioderma soreliatum* D. Galloway et P.M. Jørg. and *Pannaria fulvescens* (Mont.) Nyl. The first one has coarser, stiffer hairs on the upper surface and contains eriodermin (PD+), the second one is not hairy, but is characteristically wrinkled when dry and contains pannarin (PD+).

Pannaria fulvescens is recorded as occurring in Japan (Sato 1963). However, none of the material I have seen from Japan is *P. fulvescens* s. str. The specimens are not truly soreliate, but develop granular isidia or phyllidia upon the lobe-margins, rather than soredia on the upturned lower lobe-surfaces. The Japanese taxon belongs in the difficult *Pannaria elatior* Stirt. complex, related to *Pannaria lurida* (Mont.) Nyl., of forms with different isidia-like structures, the taxonomy and nomenclature of which is in need of further study. True *P. fulvescens*, described from Tahiti, seems to be confined to the southern Pacific region including Australia (Jørgensen and Galloway 1992: 265–266). No records from other regions (e.g. from East Africa, Swinscow and Krog 1988) appear to be correct.

Erioderma soreliatum has as yet not been recorded from Japan, but often occurs in the same regions as *L. soreliatum*, and frequently in the same

localities. It came therefore as no surprise to discover one Japanese collection of it from Prov. Tohtomi, Mt. Akiwa-san, Y. Asahina 26716 (TNS). This species should be looked for more widely in Japan. For a full description see Galloway and Jørgensen (1975).

Specimens examined. JAPAN. HONSHU. Prov. Awa: Hiura, Kito-mura, Naka-gun, 1978, H. Kashiwadani (TNS). Prov. Kii, without precise locality, 1924, Y. Asahina 24014 (TNS). Prov. Suruga: Mt. Fuji, Ohomiya-guchi, I-gome, 1924, Y. Asahina 24109 (TNS); Mt. Fuji, Subashiri-guchi, 1933, Y. Asahina (TNS); Suyama-mura, Sunto-gun, 1957, Y. Asahina 57830 (TNS).

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P. M. ヨルゲンセン：日本産レイオデルマ属（新称）の地衣類

レイオデルマ属（新称）はハナヒラゴケ科に属する葉状地衣である。日本からはこれまで5点の標本が採集されているが、いずれも近縁のヌマジリゴケ属（*Erioderma*）と混同されていた。国立

科学博物館に保管されている標本を検討した結果、これらの標本はいずれも *Leioderma soreliatum* D. J. Galloway et Jørg.（コフキレイオデルマ，新称）であることが判明した。本種の主な特徴は次の通

りである; 地衣体は径4 cm, 裂片は幅約6 mm, 地衣体表面は微細な綿毛で被われ周辺部に顆粒状の粉芽を持つ. 裏面は皮層を欠き類白色. 子器は地衣体表面につく(日本産では未見). 特異な化学成分を含まない(髓層P-, K-, C-). 本種は熱帯から温帯に広く分布すると考えられるが, 日本は分布の北限にあたり, これまでに富士山大

宮口1合目, 同須走口1合目, 静岡県須山村, 徳島県日浦で採集されている. *Leioderma solediatum* は, 静岡県秋葉山産の *Erioderma solediatum* D. J. Galloway et Jörg. (アキハゴケ, 新称; 日本新産) に外形が酷似するが, 後者は地衣体表面にごつごつした毛を有し髓層にパンナリンを含む(P+橙赤色)ので区別される.