

MYXOMYCETES OF TAIWAN V.

Two New Records⁽¹⁾

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Abstract: Two new records of Taiwan in the order Physarales (Myxomycetes) were collected in 1986 on the forest floor of Ken-Ting National Park, Ping-Tung Hsien. They are *Physarum retisporum* Martin, Thind & Rehill and *Didymium leoninum* Berk. & Br. The former have been collected only in two other localities of the world, the latter are predominantly found in the tropical area. About these two new records, a detailed description of the Taiwan collections are given and their characteristics are also shown by photos in this paper.

INTRODUCTION

Two new records of Taiwan in the order Physarales (Myxomycetes) were collected from Ken-Ting National Park, Ping-Tung Hsien, Taiwan, during a survey of Myxomycetes in 1986. They are *Physarum retisporum* Martin, Thind & Rehill and *Didymium leoninum* Berk. & Br. The former were found scantily growing on the small twig on the forest floor, while the latter were abundant on the fallen leaves. All the specimens collected are in good condition and are deposited in the Mycology Herbarium of the Department of Botany, National Taiwan University, Taipei.

SPECIES DESCRIPTION

Physarum retisporum Martin, Thind & Rehill, *Mycologia* 51: 159. 1959.

Fructification sporangiate, sessile with restricted base, scattered (or gregarious in some), strongly compressed laterally, appearing as a kidney bean or a clam, 0.78-1.43 mm long, 0.55-0.75 mm high; peridium two layers, the outer layer smooth and glossy, yellowish brown (Honey-Yellow to Isabella Collor; in Ridgeway, 1925) or brighter (Orange Cinnamon; in Ridgeway, 1925) outside, amber yellow within, composed of densely compressed, globose, yellow lime granules, inner layer transparent, iridescent, yellowish, firmly attached to outer peridium, dehiscent by preformed fissure of cream buff (yellowish) color; capillitium abundant, the lime nodes mostly large and plump, angular, yellowish (pale), connected by transparent (pale) threads; spores black in mass, purplish brown by transmitted light, prominently reticulate with large reticulum of mostly 6-8 μ m in one hemisphere, the ridge of the reticulum tall, 2-3 μ m in height, 10 (9.5-11) μ m in diameter (ridge width excluded); plasmodium bright yellow.

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Widely distributed in India, the Philippines and Taiwan. Taiwan, on dead twigs.

PINGTUNG: Ken-Ting National Park: CHLB 649, Sept. 28, 1986.

This is the third report of the world about collecting this species. The type locality is in the north-west Himalayas of India (Martin, Thind & Rehill, 1959). The fructification is very distinctive by the shape, the smooth outer peridium which resembles that of *Leocarpus fragilis*, and the large, prominently reticulate spores. Spore size of one collection from the north-east Himalayas of India was reported being 11-14 μm in diameter (Thind and Sehgal, 1963; Thind, 1977).

Specimen of Taiwan collection is identical in characters with the published descriptions (Martin, Thind, and Rehill, 1959; Martin and Alexopoulos, 1969) except in two respects: 1. the fructification is never a plasmodiocarp but a sporangiate form with restricted base; 2. the preformed fissure for dehiscence is cream buff in color, but not white as described by Martin and Alexopoulos (1969).

Didymium leoninum Berk. & Br., Jour. Linn. Soc. 14: 83. 1873.

Fructification sporangiate, stipitate, erect, gregarious or scattered on dead leaves; sporangia globose to subglobose, white or pale ochraceous buff, 0.42-0.55 mm in diameter; peridium cartilaginous, opaque, orange-brown or orange yellow, with thinner pale lines of dehiscence, loosely covered by white or pale ochraceous, large, stellate lime crystals aggregating as platelet-like in discontinuous manner, thus exposing dark patches in places; stipe stout, pale orange-brown, 0.33-0.55 mm tall, spongy appearance in transmitted light, frosted by large, rhombic or polygonal lime crystals; hypothallus discoid, limy, concolorous with stipe; columella prominent, oblong ovoid, 0.20 \times 0.27 mm, brown (brighter than spore mass) by reflected light; capillitium abundant, arising from columella and attaching to the peridium, brown, straight, sparsely branched, pale or nearly transparent on both ends; spores blackish in mass, violaceous brown by transmitted light, globose, 8.8-9.0 (-10) μm in diameter, minutely verrucose, the warts (or bacula) expanded and fused to form short ridges in incomplete reticulate arrangement under SEM.

Widely distributed in Ceylon, India, Japan, Java, Malay Penninsula, the Philippines, Singapore, Australia, Mexico, Ecuador, Angola, and Taiwan. Taiwan, on dead broad leaves.

PINGTUNG: Ken-Ting National Park: CHLB 639, 642, 644a, Sept. 28, 1986.

The fructification resembles *Lepidoderma tigrinum* superficially, but the shorter and smaller sporangia, smaller spores, and the stellate lime crystals which more compactly cover the sporangium of this species separate them clearly.

LITERATURE CITED

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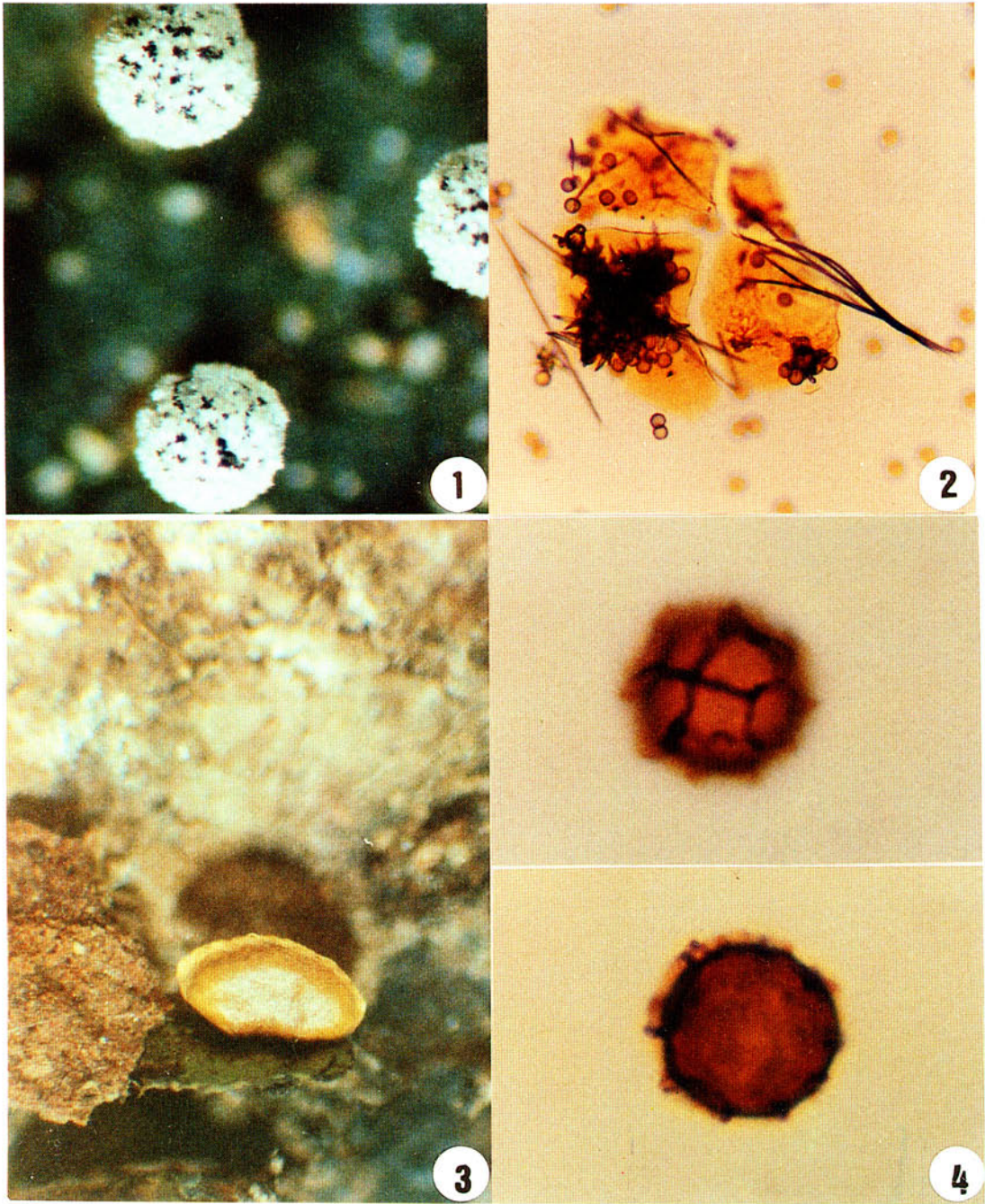


Plate I. Fig. 1-2. *Didymium leoninum*

1. Sporangia, $\times 40$.

2. Peridium (inside surface up), showing the dehiscence lines and the attached capillitium, $\times 268$.

Fig. 3-4. *Physarum retisporum*

3. Sporangium, $\times 32$.

4. Spores. Above: surface view, Below: marginal view, $\times 2680$.

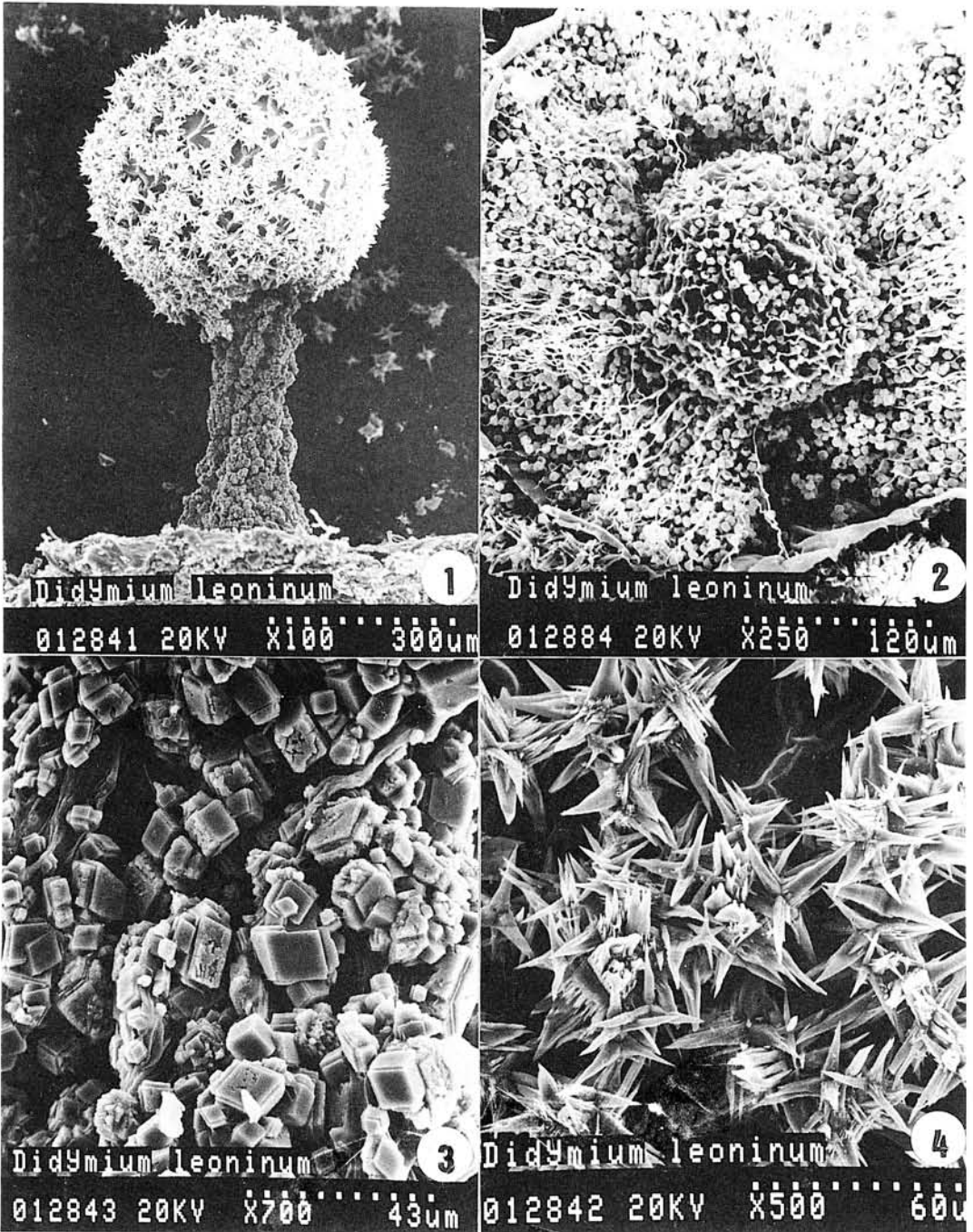


Plate II. *Didymium leoninum*, viewed under SEM.

Fig. 1. Sporangium.

2. Opened sporangium (top view), showing the collumella, capillitium and spores.

3. Lime crystals on the stalk.

4. Lime crystals on the peridium.

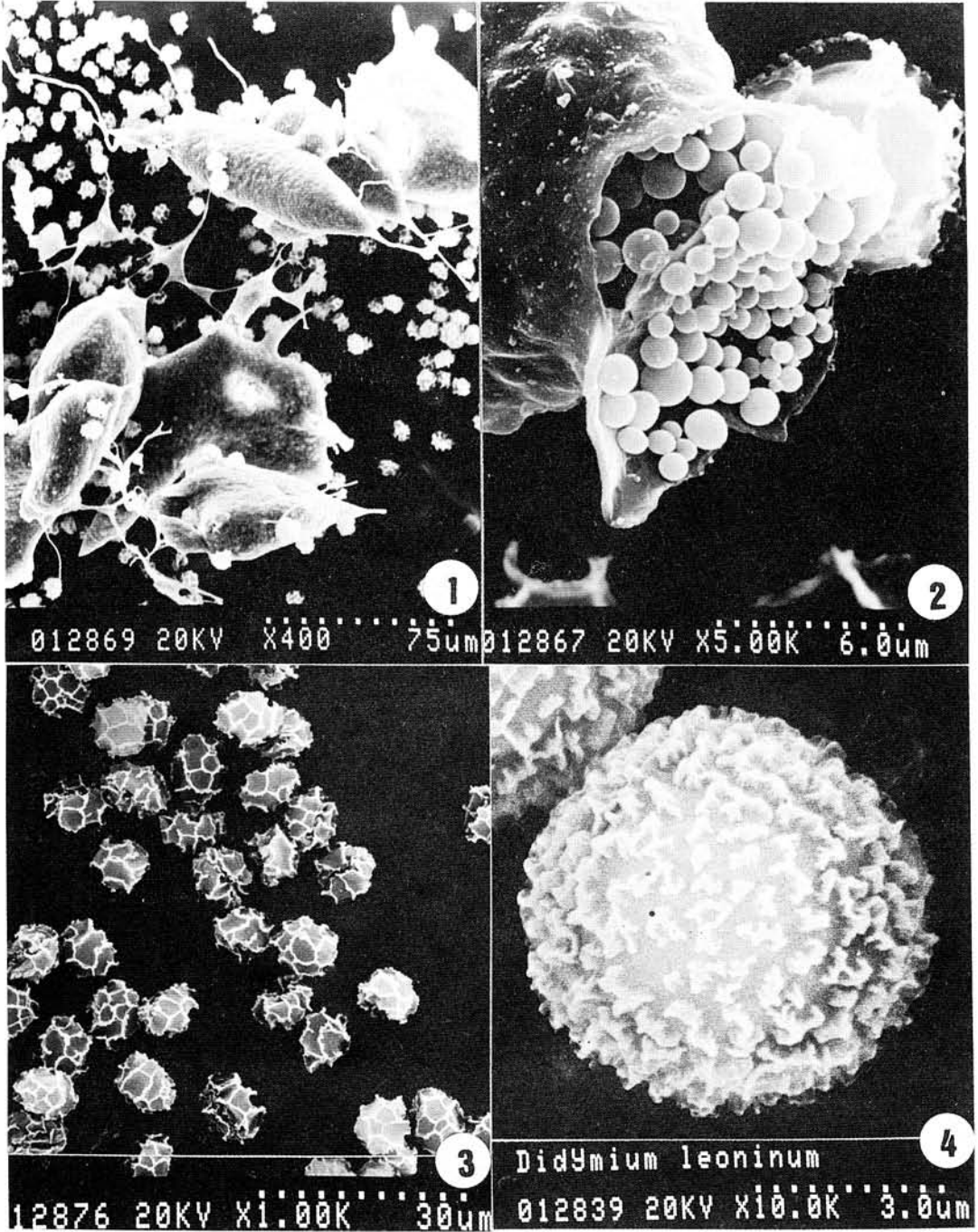


Plate III. Fig. 1-3. *Physarum retisporum*, viewed under SEM.

1. Capillitium and spores.
2. Break open lime node of the capillitium, showing the enclosed lime granules.
3. Spores.
4. Spore of *Didymium leoninum*.

臺灣黏菌 (5)

兩種新記錄種

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摘 要

一九八六年九月，在墾丁國家公園內找到兩種臺灣黏菌的新紀錄種：*Physarum retisporum* Martin, Thind & Rehill 和 *Didymium leoninum* Berk. & Br.。兩者皆是絨泡菌目 (Physarales) 的成員。在世界採集記錄上，臺灣是第三個採到 *Physarum retisporum* 的地區，而 *Didymium leoninum* 則絕大多數採自熱帶地區。本篇依據臺灣的標本，除詳細描述這兩個臺灣新紀錄種外，並以照相圖片來顯示其特性。