



A. Sporocarps, habit (bars = 10 mm). B. Sporocarps, close-up (bars = 1 mm). C. Spores (bar = 10 μ m).
[Photographs: A. Michaud]

Physarum cremiluteum Y.F. Chen & C.H. Liu, in LIU & CHEN, *Taiwania* **43**(3): 186 (1998). [*IndexFungorum* 247769; *Physaraceae*, *Physariales*]

Diagnostic features. Similar in appearance to *Physarum melleum* (Berk. & Broome) Masee, but distinguished by its bright yellow sporothecae and capillitium lime nodes, and by stalk shape; *P. melleum* has orange-brown sporothecae, white or pale olive yellow nodes of capillitium and stalks which are usually more cylindrical.

On natural substratum. *Plasmodium* appearance not known. *Hypothallus* inconspicuous, discoid, membranous, colourless or pale brownish. *Sporocarps* gregarious, stipitate, 1–1.4 mm high. *Sporothecae* globose or subglobose, (0.2–)0.3–0.4(–0.6) mm diam., creamy yellow or lemon yellow, covered with light yellow lime granules in patches or scales except at the disc-like basal portion where the membranous peridium is exposed with blue or purple iridescence; dehiscence irregular from above. *Stalk* cylindrical or attenuate upwards, whitish, pinkish orange, calcareous, sometimes weak, 50–75% of the total height,

0.6–0.8 mm long. *Capillitium* reticulate, with abundant bright yellow, angular lime nodes connected by colourless tubules. *Columella* absent. *Spore* dark brown *en masse*, violaceous brown in transmitted light, globose, nearly smooth, minutely warted under oil lens, 7.5–8 µm diam.

ASSOCIATED ORGANISMS & SUBSTRATA: **Plantae.** *Calophyllum inophyllum* L. (leaf); *Dillenia suffruticosa* (Griff.) Martelli (leaf), *Dillenia* sp.; *Mangifera indica* L. (leaf); *Plantae* indet. (leaf); *Tabebuia pallida* (Lindl.) Miers (leaf); *Terminalia catappa* L. (leaf). **Associated organism of type specimen.** *Plantae* indet. [as ‘dead leaves’].

INTERACTIONS & HABITATS: Most information about this species is based on sporocarps and spores (the dispersal phase), and observed associations with other organisms usually only indicate the physical substratum on which sporocarps form. Other observations are rare, particularly of trophic phases (myxamoebae and swarm cells [individual haploid amoeba-like cells], and plasmodia [multi-nucleate, diploid, and often extensive cytoplasm]), and dormant phases (microcysts and sclerotia). As a result, very little is known about nutrition and interactions beyond broad statements that myxomycetes feed on living bacteria and fungi, and on non-living organic material (MARTIN & ALEXOPOULOS, 1969). This species has been recorded from litter, particularly dead leaves. Nothing is known about the habitats in which it occurs. Beyond what is known generally about the nutrition of *Physarum*, there is no information about any specific associations with animals, fungi or micro-organisms.

GEOGRAPHICAL DISTRIBUTION: ASIA: Japan, Taiwan. INDIAN OCEAN: Seychelles. Presumably native throughout its known distribution. No information about altitudinal distribution.

ECONOMIC IMPACTS: No evaluation has been made of any possible positive economic impact of this organism (e.g. as a recycler, as a source of useful products, as a provider of checks and balances within its ecosystem, etc.). No reports of negative economic impacts have been found.

INFRASPECIFIC VARIATION: No subspecific taxa have been described [*SpeciesFungorum*, accessed 21 August 2017].

DISPERSAL & TRANSMISSION: Primarily by airborne spores, particularly for longer distances; some local dispersal may also occur by movement of myxamoebae and plasmodia.

CONSERVATION STATUS: **Previous evaluations.** None. **Information base.** Five records (specimens, databases and bibliographic sources combined, excluding duplicates) from at least August 1995 to June 2016, with observations in June, July and August. **Estimated extent of occurrence** [calculated using <http://geocat.kew.org>]. About 0.1 million km². **Estimated area of occupancy** [calculated using <http://geocat.kew.org>]. Over 14 km². The method for estimating area of occupancy has produced an artificially low figure. The species is likely to be under-recorded, despite the admirable and well-organized enthusiasm of often amateur myxomycete experts, because compared with recording of flowering plants and vertebrates, so few people have the skills to search for and identify it. **Threats.** Insufficient information to enable threats to be identified. **Population trend.** Not known. Of datable records, c. 0% are pre-1961, 20% post-1960 but pre-2001, and 80% post-2000. **Evaluation.** Using IUCN criteria (IUCN SPECIES SURVIVAL COMMISSION. 2006 *IUCN Red List of Threatened Species* [www.iucnredlist.org]. Downloaded on 15 May 2006), the species is assessed globally as Data Deficient. **In situ conservation actions.** None noted. **Ex situ conservation actions.** *Physarum* species grow readily in culture and, using simple techniques, can be induced to sporulate. There are, however, no living strains of this species listed by the Straininfo website [www.straininfo.net, accessed 4 August 2017]. No nucleotide sequences were found in a search of the NCBI GenBank database [www.ncbi.nlm.nih.gov, accessed 13 August 2017].

NOTES: A rare, poorly known and apparently largely tropical species.

LITERATURE & OTHER SOURCE MATERIAL: CHEN, S.-L., XU, F., YAN, S.-Z. & LI, Y. Chinese species in the genus *Physarum* and their distribution. *Mycosystema* **31**(6): 846-856 (2012). LIU, C.-H., CHANG, J.-H. & YEH, F.-Y. Myxomycetes of Taiwan XXIV. The genus *Physarum*. *Taiwania* **58**(3): 176-188

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Sources additional to those already cited from literature and the internet.

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- *Fungus Conservation Trust CATE2 Database* [www.abfg.org].
- *GBIF* [www.gbif.org].
- *Google* [www.google.co.uk].
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- *Mycportal* [www.mycportal.org].
- *Mycotaxon Regional Checklists in Downloadable Format* [www.mycotaxon.com/resources/weblists.html].
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