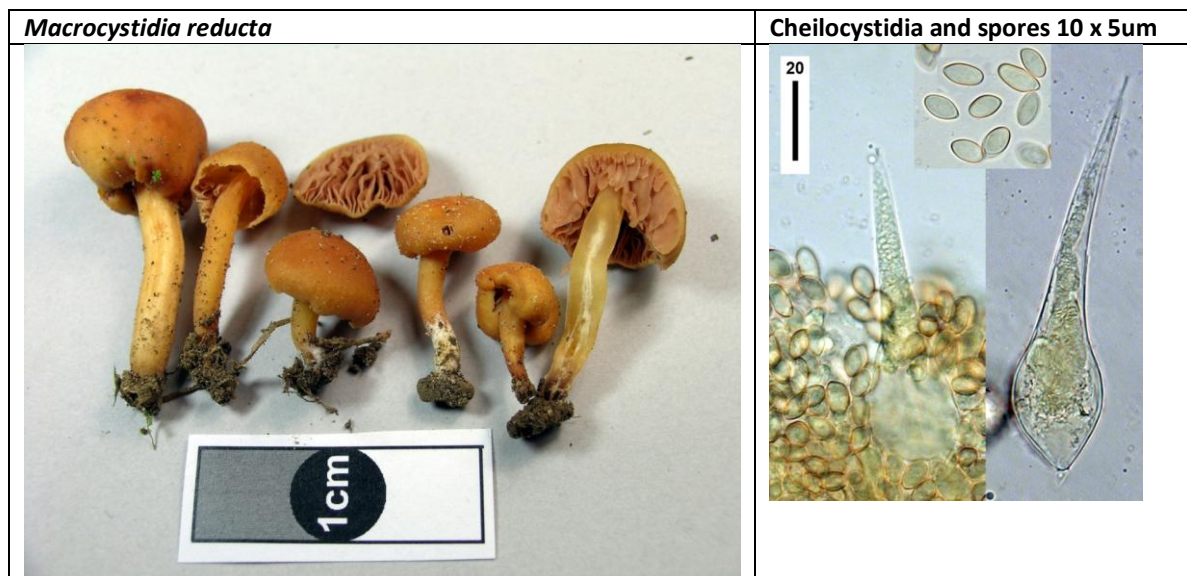


MYCOLOGICAL NOTES 14: *MACROCYSTIDIA REDUCTA*, NATIONALLY VULNERABLE

Jerry Cooper, August 2012

DESCRIPTION



Macrocyctidia reducta was described by Horak & Capellano in 1980 from material collected by Horak in 1968 from Kaituna Valley on the Banks Peninsula. In 1986 Derek Reid described the same fungus under the name *Agrogaster coneae* from material collected by Greta (Stevenson) Cone from the same Kaituna locality, and from Ahuriri reserve on the Port Hills. Reid described spherical cap cells which led him to place the species in a new genus in the Bolbitaceae. On first collecting species I also found spherical cap cells (and pilocystidia) and came to the same conclusion. Only later did I realise this was Horak's species. Horak described the cap with filamentous hyphae.

In most respects the fungus is a typical *Macrocyctidia*, which as the name suggests, possesses very large cheilocystidia and pilocystidia, together with pale pink spores (10 x 5um). *M. reducta* has the same distinctive smell as the type species of the genus, *M. cucumis*, like linseed or fish oil. *M. reducta* is semi-sectoid, the cap never fully expands, which is unlike all other described species in the genus.

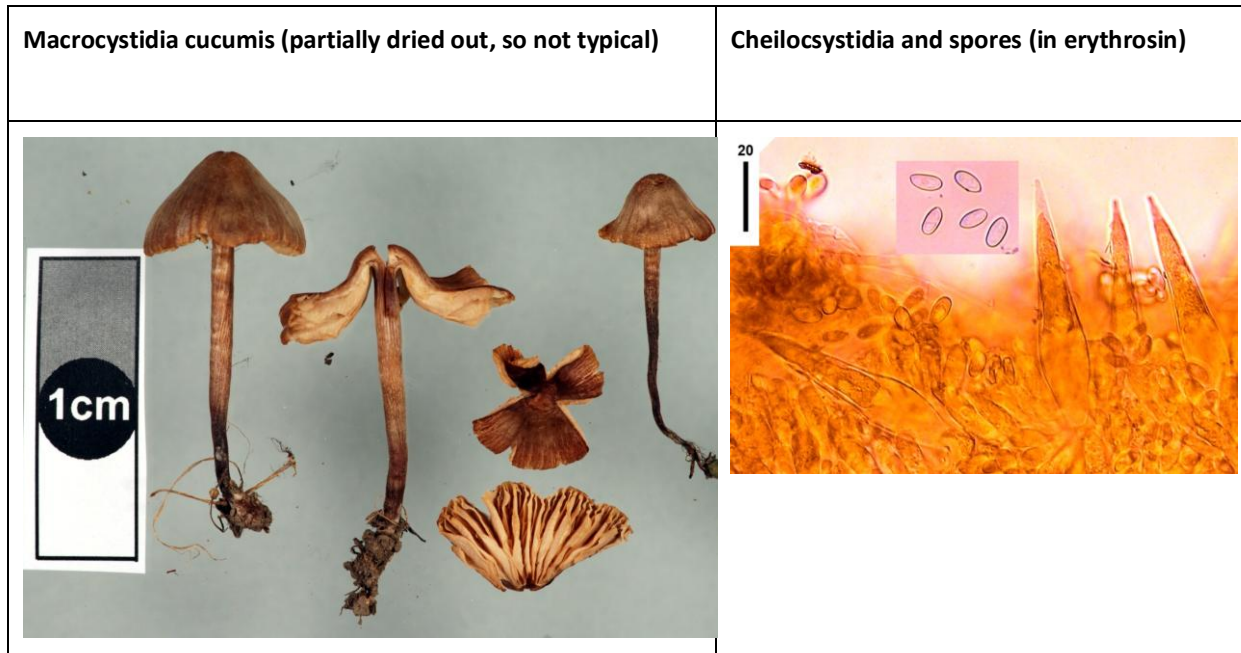
Tissue removed from a fruitbody was culturable, perhaps confirming the species as saprophytic.

The fruitbodies are typically associated with well drained (often sloping) bare soil, under dense indigenous bush (tea-tree and podocarp dominated). There are a number of such remnants on the Bank's Peninsula and they share a distinct mycobiota.

RELATED SPECIES

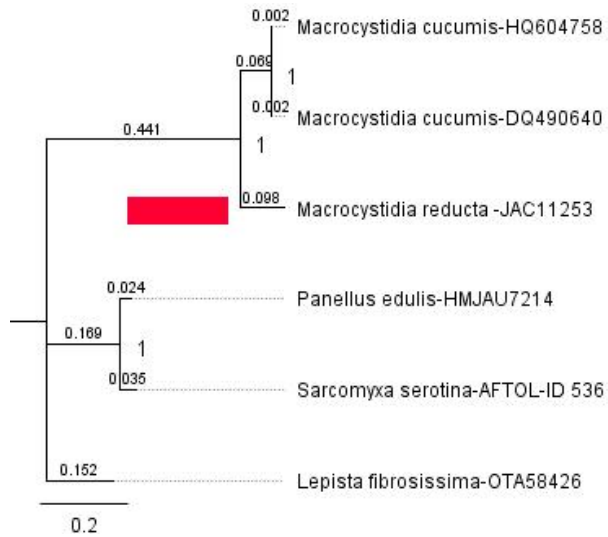
In addition to *M. reducta* there are five accepted species: *M. africana* (Zaire, cap red-ferruginous, convex expanding, spores 7.8-8.3 x 6.7-7.7um), *M. cucumis* (cap dark brown, campanulate, spores 7.5-10 x 3.3-4.5), *M. incarnata* (Zaire, cap flesh-coloured, spores 6.7-8.2 x 3.3-4.3um), *M. indica* (India, cap brown, convex, spores 6-8.5 x 3-4.5um), *M. occidentalis* (Argentina, cap conical expanding, red-brown, spores 7.3-9.5 x 3-4.5um).

Subsequent to the description of *M. reducta* from New Zealand there have been two collections of *M. cucumis* matching descriptions from the northern hemisphere and associated with modified habitats or introduced substrata and likely introduced.

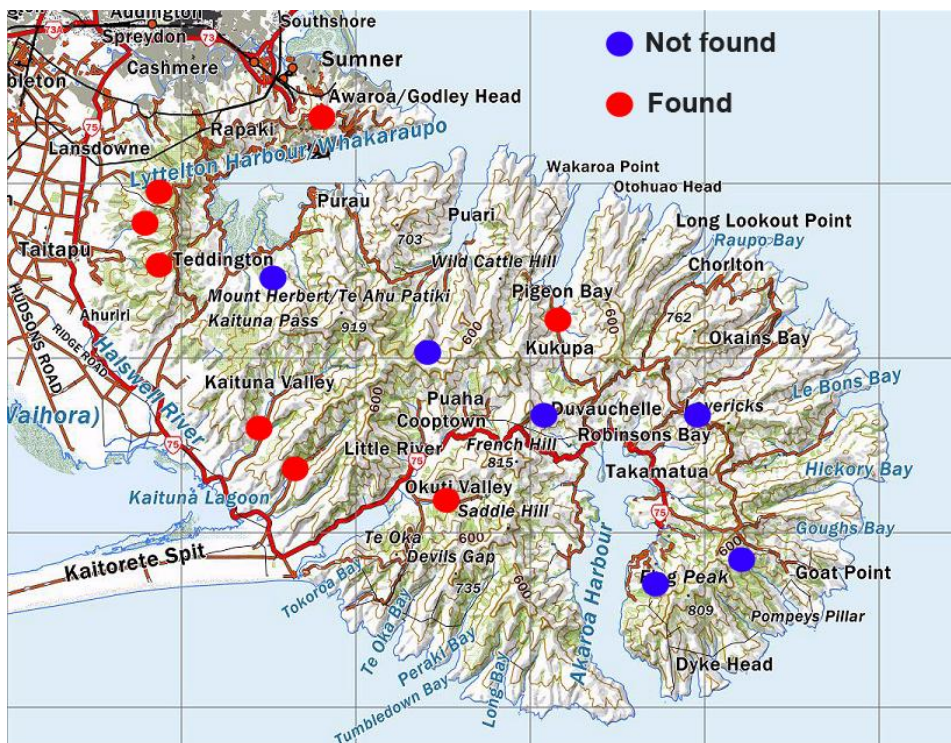


Our ITS sequence data confirms the relationship between *M. reducta* and *M. cucumis*. *Macrocyttidia* is recognised as distantly related to currently recognised family clades, although current published analyses that I've seen remain inconclusive.

ITS Phylogram



DISTRIBUTION



Macrocystidia is an interesting genus. It is morphologically and phylogenetically distinct, with relatively few described and locally restricted species. The exception is *M. cucumeris* which is expanding its range on mulched wood-chips and has spread from Europe to North America, Australia and now New Zealand.

M. reducta appears to be restricted to the Banks Peninsula area, and I would like to be proved wrong. Over the last 7 years I have visited many likely locations across the Port Hills and Banks Peninsula and mapped its occurrence and also likely locations where I've not found it. The fungus could easily be locally restricted to the peninsula which is known to have 6 endemic plants, a number of endemic insects, and it is the southern limit of a number of species, e.g. Nikau.

Macrocystidia reducta conforms to the mycological interpretation of the [2008 threat classification category](#) of Nationally Vulnerable.

Please tell me if you find this species.