

**LENTINELLUS RECONSIDERED**

David Ratkowsky and Genevieve Gates

School of Plant Science, University of Tasmania, Hobart.

Email: D. Ratkowsky@utas.edu.au; Genevieve.Gates@utas.edu.au

Three years ago, we published a short article in this journal (Gates and Ratkowsky, 2003) on the fungal genus *Lentinellus* in Tasmania, identifying three species that occur widely in Tasmanian forests. We provided a key to the three species and descriptions of each of the species. The names that we gave to the species were based upon a review of the literature and an evaluation of the opinions of authors of previous papers. One of the species is usually found on soil, more rarely at the base of trees, and has a central or slightly eccentric stipe. We identified this one as *Lentinellus omphalodes* (Fr.) Karst. The other two species are always found on wood, are sessile or have a reduced, lateral stipe. From the literature, we decided that the species with a rather hairy pileus and very small spores was either *L. hepatotrichus* (Berk.) D.A. Reid or *L. ursinus* (Fr.) Kühner, and that the other species, with a more glabrous pileus and larger spores, was either *L. pulvinulus* (Berk.) Pegler or *L. flabelliformis* (Bolton: Fr.) Ito.

After publication, we sent a reprint of our paper to Prof. Ron Petersen of the University of Tennessee, and learned to our surprise that he and Karen Hughes, a molecular biologist, had just submitted a manuscript on the genus *Lentinellus* for publication. He suggested that some of the names we used in our article would have to be changed as a result of their study. Now that their work, a 270-page monograph comprising three separate papers, has appeared in print (Petersen and Hughes, 2004), we are able to note the following changes to the nomenclature of the Tasmanian species.

The species that we were calling *L. pulvinulus* does appear to be that species. Its known distribution is confined to the Southern Hemisphere, occurring in New Zealand and Argentina as well as in Tasmania. Phylogenetically, the species is closest to *L. perstrictifolius* (Speg.) Singer, also of Argentina, and suggests a Gondwanan origin (Petersen and Hughes, 2004). The second sessile or laterally stipitate species is *L. castoreus* (Fr.) Kühner & Maire, not *L. hepatotrichus*, which Petersen and Hughes (2004) consider to be a synonym of *L. pulvinulus*, nor *L. ursinus*, which is widespread in Europe, eastern Asia and North America, including temperate Mexico, but does not appear to extend south of the Equator. *Lentinellus castoreus*, on the other hand, is a very widespread species, whose worldwide distribution includes both temperate and tropical areas of both hemispheres. One feature that we had overlooked in our previ-

ous treatment of this taxon is the fact that the gills are much closer together than those of *L. pulvinulus*. Indeed, the crowded lamellae, in contrast to the rather distant gill spacing of *L. pulvinulus*, help make the two taxa easy to differentiate macroscopically. In terms of phylogeny, *L. castoreus* is closest to the *L. ursinus* clade (Petersen and Hughes, 2004). Both these broad species groups are noteworthy for their small spores.

The centrally stipitate species that we had confidently called *L. omphalodes* is not that species, as that taxon is confined to the Northern Hemisphere. In any case, its name has been changed to *L. micheneri* (Berk. & M.A. Curtis) Pegler. Prof. Petersen (pers. comm.) suggested to us that our species might be *L. novae-zelandiae* (Berk.) R.H. Petersen or a new species, *L. tasmanica* R.H. Petersen, described in their monograph (Petersen and Hughes, 2004, pp. 128-131). *Lentinellus novae-zelandiae*, as the name suggests, was first described from New Zealand, but is also known from southern Argentina. This species has a lateral or absent stipe, however, in contrast to the well-developed, usually central, stipe of our Tasmanian collections, and perhaps more importantly, the pileus surface has pileocystidia, which our material lacks. Hence, the Tasmanian stipitate taxon is unlikely to be *L. novae-zelandiae*. On the other hand, our extensive collections of a soil-borne stipitate *Lentinellus* agree with Petersen's description of *L. tasmanica* in all important respects, including the absence of pileocystidia, with the exception of one very important character, viz. spore size. The protologue (Petersen and Hughes, 2004, p. 130) described the spore size as 3.6-5.2 x 3.2-4.0 µm, with a mean spore length of 4.60 µm. In another paper in the same monograph, devoted to type specimen studies, the spore size was given as slightly smaller, viz. 3.6-4.2 x 3.2-3.6 µm, and subglobose in shape. Our own Tasmanian material generally has spores in the range 5-6 x 3.5-4 µm, and is better described as elongate ellipsoidal rather than broadly ellipsoidal or subglobose. Are we to believe that there is a fourth widespread Tasmanian taxon of *Lentinellus*, or is it better to adopt a more conservative approach and conclude, for the moment at least, that the slightly larger spores of our collections do not suggest that the taxon is a different species from *L. tasmanica*? We opt for the latter alternative and conclude that our centrally stipitate species is *L. tasmanica*, despite the apparent discrepancy of spore size. A supporting macroscopic character is the observation by Petersen and Hughes (2004, p. 130) that basidiomata of *L. tasmanica* "seem prone to poor drying, and in the process turn dark brown with tissues hardening". All our collections of the stipitate species exhibit this characteristic.

An amended key to the three Tasmanian species is given below.

**KEY TO THE TASMANIAN SPECIES OF *LENTINELLUS***

- 1.a) Stipe well developed, central or slightly eccentric.....*Lentinellus tasmanica*
- 1.b) Stipe absent or if present, short and lateral.....2
- 2.a) Pileus generally dark brown and densely hairy; lamellae crowded; spores small, 3-5 x 3-4 µm.....*Lentinellus castoreus*
- 2.b) Pileus light-coloured and usually glabrous towards the margin; lamellae distant; spores larger than the above, 5-7 x 4-6 µm.....*Lentinellus pulvinulus*

**REFERENCES**

- Gates, G. and Ratkowsky, D. 2003. The fungal genus *Lentinellus* in Tasmania. *The Tasmanian Naturalist* **125**: 9-13.
- Petersen, R.H. and Hughes, K.W. 2004. A Preliminary Monograph of *Lentinellus* (Russulales). *Bibliotheca Mycologica* Band **198**, J. Cramer (Gebr. Borntraeger Verlagsbuchhandlung), Berlin & Stuttgart.

**MUSHROOMS OF MAATSUYKER ISLAND**

*Bryony Horton*

6 Antill St, South Hobart 7004. Email: bryony@horton.id.au.

**INTRODUCTION**

Maatsuyker Island (southern tip GDA 441000E, 5166000N) is a small, remote and isolated island 10 km off the south-west coast of Tasmania. It is the second largest island of the Maatsuyker Group, a group of six rocky islands in the Southern Ocean. Part of the South West Wilderness Area and World Heritage Area, Maatsuyker Island is wild and beautiful.

For the last 10 years or so, the Parks and Wildlife Service have been running the Caretaker Program. The program involves the placement of two volunteers on the island for four month periods to aid with the ongoing maintenance and management of the islands cultural and natural heritage. I was lucky enough to be a part of the program from February to June 2006 which gave me the opportunity to conduct the first macrofungal survey of the island.

Maatsuyker Island is roughly triangular in shape and approximately 180 hectares in size being 3 km long and 1.5 km at the widest point. The highest point on the island is located in the central east of the island and is 284m above sea level. The island has a temperate maritime climate and due to westerly winds known as the 'Roaring Forties' experiences high wind exposure and frequent gales.

Maatsuyker Island is geologically similar to adjacent areas of the Tasmanian mainland. Precambrian mica schists and quartz veins are abundant, along with phyllite and quartzite outcrops (Parks and Wildlife Service and Australian Maritime Authority, 1993). Highly erodible grey clay loam or light clay gradational soils are widespread over the island with sand deposits on the cliff tops of southeast slopes, the base of steep slopes and on the saddle above the haulage way (Pember-ton, 1990; Parks and Wildlife Service and Australian Maritime Authority, 1993).

The vegetation of Maatsuyker Island is similar to the southwest coast of Tasmania with floristic composition and structure affected by high winds and salt spray (Moscal and Bratt 1977). The island supports a number of vegetation communities with some developing in response to the burrowing activities of seabirds (Pember-ton, 1992).