

**CLAVULINA LILLIPUTIANA, A DIMINUTIVE NEW SPECIES FROM TASMANIA**James M. Trappe<sup>1</sup> and Michael A. Castellano<sup>2</sup>

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**Abstract**

*Clavulina lilliputiana*, found growing in troops on a road bank in Tasmania, differs from other species of the genus by its combination of very small size (mostly < 1 cm tall), unbranched but often lobed form, cerebriform surface, and basidia up to 100 µm long.

J.M. Trappe and M.A. Castellano (2007). *Clavulina lilliputiana*, a diminutive new species from Tasmania. *Australasian Mycologist* 25 (3): 87–89.

**Introduction**

While seeking hypogeous fungi in Tasmania, we encountered a small fungus fruiting abundantly on road bank soil on the Tasman Peninsula. Although it was not a target of our foray, it was so strange in form and size that we collected it out of curiosity. It rested forgotten in our herbarium for 13 years until we recently ran across it and decided to explore its identity. To our surprise, it proved to be an undescribed *Clavulina*, but one of a size and form we had never before equated with that genus.

**Methods and Materials**

In the evening of the day the specimens were collected, their size, form, colour (in general terms) and other macrocharacters were recorded and the specimens photographed. We noticed that the more or less white colour of specimens *in situ* had stained to light grey-brown on exposed surfaces where handled.

For microscopy, razor-blade sections were mounted in water, 5% KOH, Melzer's reagent, and phloxine.

The holotype has been deposited in the Tasmanian Herbarium, Hobart (HO), with

isotypes at the National Herbarium of Australia at Canberra (CANB), The Royal Botanic Gardens of Victoria, Melbourne (MEL), and Oregon State University, Corvallis (OSC).

**Taxonomy**

*Clavulina lilliputiana* Trappe & Castellano, sp. nov. Figs 1, 2

*A Clavulinis ceteris amplitudine parvissima, pagina cerebriformi, basidiis longissimis differt.*

**Basidiomata** 0.4–1 (–2) x 0.4–1 cm, simple to lobed, the surface cerebriform and dissected into pulvinate, rotund to irregular mounds up to 2 mm broad, white to olive grey but soon staining to grey-brown where handled, towards the base narrowed to a white **stipe** 1–4 x 1 mm. **Basal mycelium** inconspicuous. Odour not distinctive. Taste not recorded.

**Tramal hyphae** 4–7 µm broad at the septa, cylindrical or often the cells inflated up to 10 µm broad, thin-walled, interwoven to generally parallel in the central context, becoming interwoven towards the hymenium, hyaline but scattered cells refractive, clamp

connections abundant and prominent. **Hymenium** 120–150  $\mu\text{m}$  thick. **Basidia** (70–) 85–100  $\mu\text{m}$  long, narrowly clavate and 6–8  $\mu\text{m}$  broad at the apex, narrowed below to 3  $\mu\text{m}$ , hyaline, often becoming refractive as spores form, with a clamp connection at the base and 2 straight-divergent sterigmata  $\pm 6 \times 1 \mu\text{m}$ . **Cystidia** immersed in the hymenium, 30–80  $\times$  (5–) 7–10  $\mu\text{m}$ , thin-walled, obtuse to clavate and often resembling basidia but near the tip often crooked, hooked, or narrowly lecitiform, often yellowish refractive.

**Spores** globose and 9–12 (–12)  $\mu\text{m}$  broad or occasionally subglobose to broadly ellipsoidal and 10–12 (–15)  $\times$  9–10 (–12)  $\mu\text{m}$ , smooth, pale yellow in KOH, opalescent at maturity, nonamyloid, the walls  $\pm 0.5 \mu\text{m}$  thick and the sterigmal attachment  $\pm 1 \times 1 \mu\text{m}$ .

**Etymology:** Latinised form of 'Lilliputian', small enough to inhabit the land of Lilliput in Jonathan Swift's *Gulliver's Travels*.

**Distribution, habitat, and season:** known only from the type collection near sea level, gregarious in troops on road bank soil under *Eucalyptus* and *Acacia spp.* We have collected fungi several times since in Tasmania and frequently on mainland Australia and have not again encountered this species.

**Collection Examined: HOLOTYPE**—Tasmania, Tasman Peninsula, Flinders Creek, 42°59' S Lat, 147°52' W Long, J. Trappe 14584, 17 July 1993 (HO; isotypes CANB, MEL, OSC).

### Discussion

Microscope mounts from specimens as small as 4 mm tall were replete with full sized, detached spores, so the small stature of the basidiomata cannot be ascribed to immaturity. Aside from Ron Petersen (1983), little attention has been devoted to the genus *Clavulina* in Australia. He did not report any species as small as *C. lilliputiana*, although in his treatise on the clavarioid fungi of New Zealand (Petersen 1988) he redescribed the similarly diminutive *C. humilis* (Cooke) Corner. That species, however, forms simple clubs or a few branches, all about 1 mm thick, and its basidiomata arise from decaying wood in dense fascicles and subcaespitose groups. Its basidia are 45  $\mu\text{m}$  long at most. In all those characters it differs

strikingly from *C. lilliputiana*. Once again, Australia has produced a strikingly novel species. *Clavulina lilliputiana* reminds us that countless treasures of Nature still await discovery, which probably happens unexpectedly more often than not.

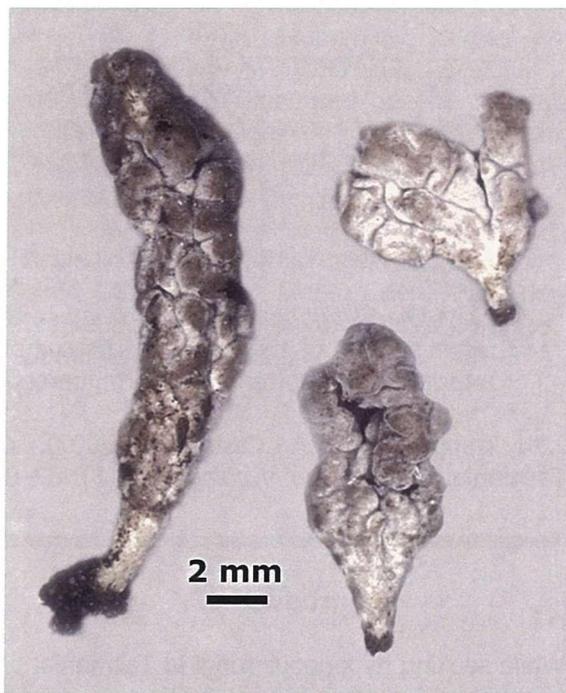


Figure 1. Basidiomata of *Clavulina lilliputiana*; dark areas are stains from handling.

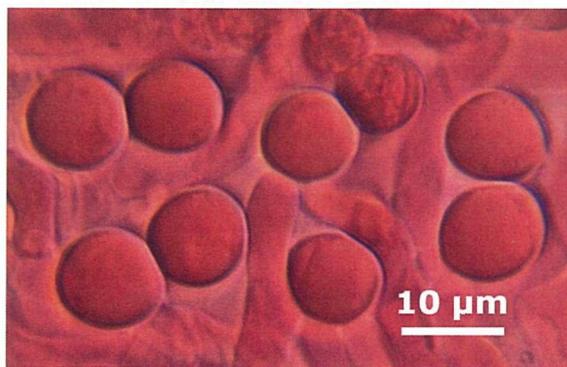


Figure 2. Spores of *Clavulina lilliputiana* mounted in phloxine.

### Acknowledgements

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**References**

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