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Neotypification of *Lulworthia fucicola*

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**Abstract:** There are no herbarium specimens or culture material for the type of *Lulworthia fucicola* G.K. Sutherl. With the absence of original material, and to preserve current usage of the name, a neotype is designated hereby. The neotype chosen for *L. fucicola* is a specimen from Chile.

**Key words:** Lulworthiaceae, Lulworthiales, marine fungi, typification

The genus *Lulworthia* was established by Sutherland in 1916 to accommodate the type species *Lulworthia fucicola* G.K. Sutherl., a scolecosporous ascomycete found on living thalli of *Fucus vesiculosus* at Lulworth on the coast of Dorset, UK. Initially monotypic, *Lulworthia* became one of the largest genera of marine ascomycetes. The genus originally was placed in the Halosphaeriaceae, Halosphaeriales, but based on molecular data a new family and order were described to accommodate halosphaerialean species with filamentous ascospores and *Lulworthia* thus was moved into the Lulworthiaceae, Lulworthiales (Kohlmeyer et al 2000).

The genus *Lulworthia* has been in need of revision for many years (Kohlmeyer 1972, Kohlmeyer and Kohlmeyer 1979, Koch and Jones 1984, Schumann et al 1986). Johnson and Sparrow (1961) recognized 12 species; Cavaliere and Johnson (1966) reduced all species to synonymy with *L. medusa* (Ellis et Everh.) Cribb et J.W. Cribb; Kohlmeyer (1972) recognized at least three species; and Koch and Jones (1984) recognized six species. There are currently 11 accepted species and a number of other taxa whose morphological differences are not sufficiently pronounced to allow distinction (Kohlmeyer et al 2000). Molecular studies have been undertaken to determine the phylogeny of *Lulworthia* and other included species in the Lulworthiales (Spatafora et al 1998, Kohlmeyer et al 2000, Campbell et al 2002, Inderbitzin et al 2004, Harvey 2004), but this effort has been hampered by the lack of herbarium specimens and cultures for the type species of *Lulworthia*.

Since the original description, *L. fucicola* has been collected frequently from submerged wood (e.g., Kohlmeyer and Kohlmeyer 1979, Jones 1985, Shearer and Burgos 1987, Kohlmeyer and Volkmann-Kohlmeyer 1991, Yusoff et al 1995, Koch and Petersen 1996) but never from the original algal substrate. Kohlmeyer et al (2000) noted that the lignicolous species is not identical to the algicolous species: Sutherland (1916) described the ascomata of the algicolous type species as carbonaceous with hyaline bases and with no neck, whereas the ascomata of the lignicolous species are thin-walled, dark, with long necks (Kohlmeyer et al 2000). These morphological differences, however, are possibly substratum induced. None of Sutherland’s collections of *L. fucicola* have survived and, as the type species of the genus, it is desirable to designate a neotype (Kohlmeyer et al 2000). Kohlmeyer et al (2000) suggested that until *L. fucicola* was collected again from *Fucus* or other algae that Sutherland’s illustrations (Sutherland 1916, Figs. 4–7) should serve as the type. However the continued use of *L. fucicola* without the availability of a type specimen is a source of instability for future studies on *Lulworthia*.

Kohlmeyer et al (2000) checked the herbaria of IMI and K, and I have checked the culture collections and herbaria at ATCC, WDCM, Japan Collection of Microorganisms, CBS, Matsushima Mycological Memoirs, BCCM, and CABRI and found no records of any collections of algicolous *L. fucicola*. In addition, extensive collections of algae-inhabiting fungi by Jan Kohlmeyer in Europe and North America and Jørgen Koch in Denmark did not yield any *L. fucicola* (Kohlmeyer et al 2000). Furthermore, environmental sampling by Zuccaro et al (2003) failed to isolate any species of *Lulworthia* from *Fucus*. Given that there have been no collections of algicolous *L. fucicola* since the original collection by Sutherland in 1916, and that the morphological differences are likely to be substratum induced, and in accordance with the International...
Code of Botanical Nomenclature, in which Article 9.6 states that “A neotype is a specimen or illustration selected to serve as nomenclatural type as long as all of the material on which the name of the taxon was based is missing.” I am neotypifying this species with a specimen on submerged wood collected in Chile by C.A. Shearer in 1984 (Shearer and Burgos 1987). This specimen was chosen as the neotype because it fits the description of *L. fucicola* as emended by Kohlmeyer and Kohlmeyer (1979) and has cultures and voucher specimens deposited in public collections. Cultures are deposited at the American Type Culture Collection (ATCC 64288) and the Department of Plant Biology, University of Illinois Fungus Collection (C52-1). Voucher specimens are deposited at the New York Botanical Garden (NY). The species description was emended previously by Kohlmeyer and Kohlmeyer (1979), based on numerous collections of material isolated from wood (Barghoorn 1944; Meyers 1957; Johnson and Sparrow 1961; Jones 1963, 1968, 1971, 1972; Kohlmeyer 1963; Kirk 1966; Hughes 1969; Jones and Irvine 1971; Kohlmeyer 1972; Koch 1974; Schmidt 1974).


= *Halophiobolus cylindricus* Linder in Barghoorn and Linder, Farlowia 1:416. 1944.


NEOTYPE (designated here) Chile: 10 km south of Punta Arenas, on submerged wood, 25 Jan 1985, C.A. Shearer, C52-1. (NY)

*Ascocoma* globose, dark brown with a long neck up to 154 μm. Ascospores filiform, aseptate with apical chambers, (66)77–110(121) × 4–6 μm, n = 26.

*Cultures.* Isolates obtained from the neotype are stored at ATCC (64288) and the Department of Plant Biology, University of Illinois Fungus Collection (C52-1).

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**LITERATURE CITED**


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