

Original Art Feature

Cercophora ambigua (Sacc.) R. Hilber (Ascomycetes, Sordariales, Lasiosphaeriaceae)

Toni Atkinson, winner, 2005 BSO Audrey Eagle Botanical Drawing Competition

Cercophora ambigua is a cosmopolitan woody-decay fungus, found commonly throughout New Zealand on a variety of native substrates including *Nothofagus* species. The fruit bodies (perithecia) are black and less than 1 mm in height and occur in groups covering at least several centimeters of decaying wood. Large fruitings are common; I have seen a large stump of wind-thrown beech near Haast completely covered by the fruit bodies of *Cercophora ambigua*.

Through a dissecting microscope one can see the pore (ostiole) in the apex of the fruit body, through which the ascospores are released, and the characteristic more-or-less ribbed (sulcate) apex. The surface of the fruit body is exceedingly warty (tuberculate), and hyphae can be seen extending from the base onto the substrate.

When a squash mount is made of a fruit body, one can see that inside are many hyaline (colourless), transparent sac-like structures (asci), each containing 8 ascospores. In the apex of the asci is a light-refractive apical ring, and, directly beneath this, a plasma globule; these features are characteristic of family Lasiosphaeriaceae. The ascus surrounding the spores can be extremely difficult to see, hence my use of a dotted line in the illustration. Between the asci are sterile filaments (periphyses), which are hyaline and septate.

Cercophora ambigua was first described as *Lasio-sphaeria ambigua* in 1877 by Italian mycologist Pier Andrea Saccardo (1855-1921) in Volume II of his remarkable 38 volume *Fungi Italica* (1877-1886). It was transferred to the genus *Cercophora* in 1979 by German mycologist Ruzenia Hilber, working with her husband Oswald Hilber, and illustrated.

The Landcare herbarium in Auckland has several collections of *Cercophora ambigua* made over the years by New Zealand mycologists, but little work has been done on the family in general, and, as far as I know, my drawing is the first illustration of *Cercophora ambigua*. On morphological grounds New Zealand collections are probably indistinguishable from overseas; this was confirmed last year by two visiting mycologists who described *Cercophora ambigua* as a world-wide temperate 'weed'.

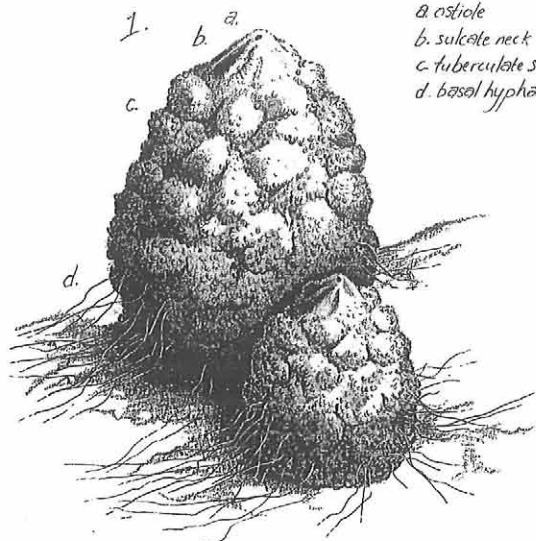
However, genetics tell a different story. I have internal transcribed spacer (ITS) DNA sequences from two of my New Zealand collections, and recently compared these (which are a couple of base pairs different from each other) with the ITS sequence of *Cercophora ambigua* available on Genbank. They are over 55 base pairs different. This suggests that our taxa has had a long separate history, and could certainly be considered a unique endemic species on genetic grounds.

The illustration was drawn from collections made at Pleasant Flat, Haast, and Lake Wilkie, in the Catlins.

For other entries in the first and second Audrey Eagle Botanical Drawing competitions, 2004-5, see: <http://www.botany.otago.ac.nz/bsc>

Cercophora ambigua

(Sacc.) R Hilber



0.25 nm

1. Perithecia

- a. ostiole
- b. sulcate neck
- c. tuberculate surface
- d. basal hyphae

2. Periphyces

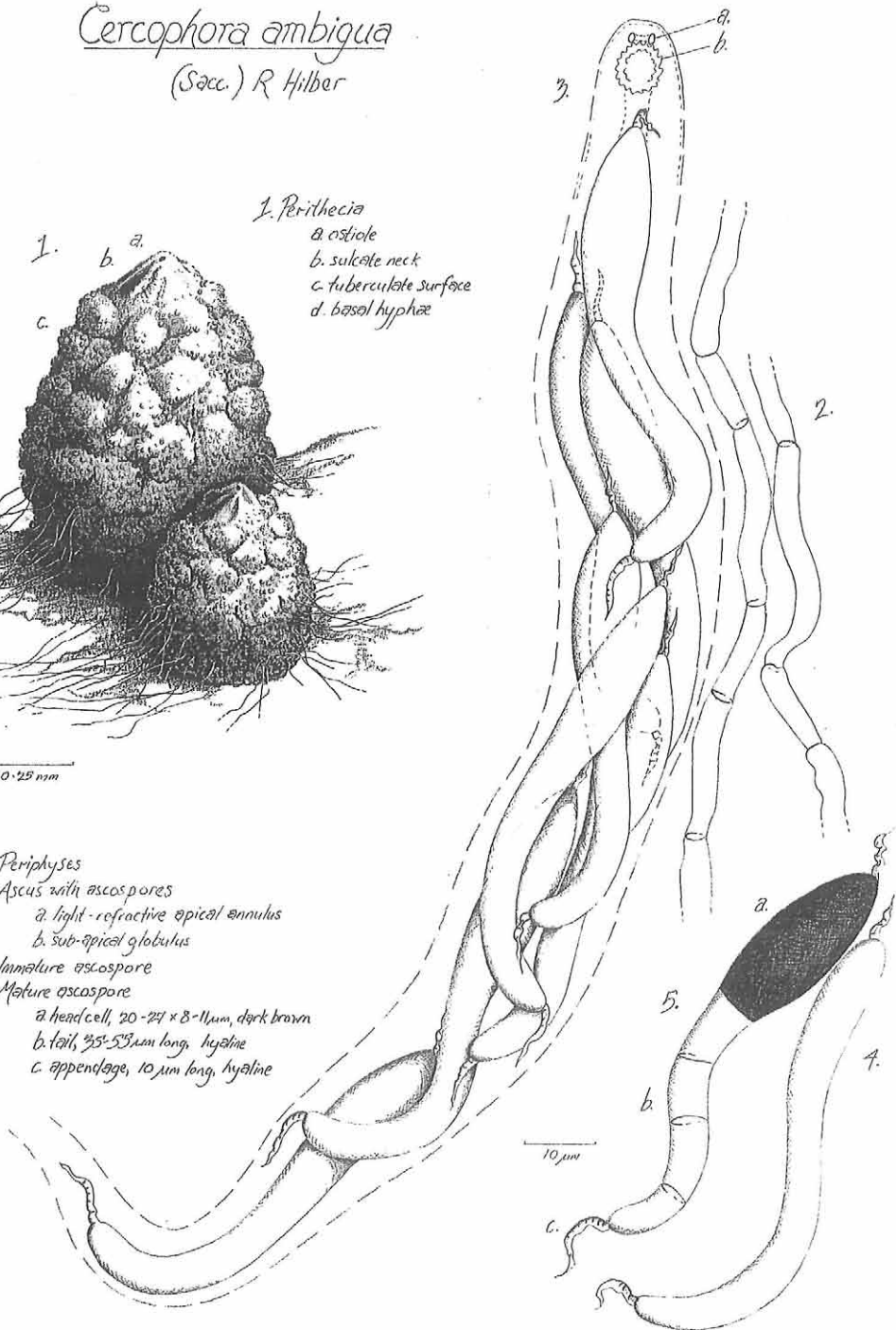
3. Ascus with ascospores

- a. light-refractive apical annulus
- b. sub-apical globulus

4. Immature ascospore

5. Mature ascospore

- a. head cell, 20-24 x 8-11 μm, dark brown
- b. tail, 35-53 μm long, hyaline
- c. appendage, 10 μm long, hyaline



10 μm