

## A NEW SPECIES OF *POLYMERIDIUM* (*TRYPETHELIACEAE*) NON-LICHENIZED ASCOMYCETES FROM THE MACROSISTEMA IBERÁ, CORRIENTES, ARGENTINA

ANDRÉ APTROOT<sup>1</sup> and LIDIA I. FERRARO<sup>2</sup>

### Summary

The species *Polymeridium bambusicola* Aptroot & Ferraro (*Trypetheliaceae*) is described as new to science. It was collected on a woody grass (*Poaceae*, *Bambusoideae*) from the Macrosistema Iberá in Corrientes (Argentina). Although most species of the family *Trypetheliaceae* are lichens, this is a non-lichenized Ascomycete, as are several other species of *Polymeridium*.

**Key words:** *Polymeridium*, taxonomy, Macrosistema Iberá, Corrientes, Argentina, non-lichenized, *Trypetheliaceae*.

### Resumen

Se describe *Polymeridium bambusicola* Aptroot & Ferraro (*Trypetheliaceae*), Ascomycete no liquenizado. Fue coleccionado en el Macrosistema Iberá en la provincia de Corrientes (Argentina), donde crece sobre cañas de *Bambusa* (*Poaceae*, *Bambusoideae*). Si bien los representantes de *Trypetheliaceae* son en su mayoría líquenes, en este caso se trata de una especie de hongo no liquenizado de *Polymeridium*, género que comprende también especies de Ascomycetes liquenizados.

**Palabras clave:** *Polymeridium*, taxonomía, Macrosistema Iberá, Corrientes, Argentina, no liquenizado, *Trypetheliaceae*.

### Introducción

The genus *Polymeridium* is a small genus of Ascomycetes in the family *Trypetheliaceae*. It was resurrected by Harris (in Tucker & Harris, 1980) and subsequently monographed by him (Harris, 1993), with 19 accepted species. Only one additional species has been described since, viz. *Polymeridium campylothelioides* Aptroot & Sipman (Aptroot et al., 1995). In contrast to the rest of the family, which comprises nearly only lichenized species, the ge-

nus *Polymeridium* accommodates lichenized and non-lichenized species.

In 1998, in the Macrosistema Iberá in the Corrientes province of Argentina, a non-lichenized fungus was found on the smooth stems of a woody grass (*Poaceae*, *Bambusoideae*). It was at first thought to belong to the genus *Blastodesmia*, but it was recognized as a species of the genus *Polymeridium*. The species is characterized by 2 µm wide, anastomosing para-physoids and distoseptate, hyaline, when mature 13-17-septate ascospores of c. 90 x 10 µm. As no species with these characters is currently known, the species is described as new to science below.

The descriptions of a new species to science stresses moreover the international importance of the Macrosistema Iberá. The Iberá system is

<sup>1</sup>Centraalbureau voor Schimmelcultures, P.O. Box 85167, NL-3508 AD Utrecht, The Netherlands. E-mail: aptroot@cbs.knaw.nl

<sup>2</sup>Instituto de Botánica del Nordeste, Corrientes, Argentina. E-mail: corona@compunort.com.ar

an extended sedimentary marshy area in the centre of Corrientes Province (Argentina) and spreads from NE to SE. It is periodically flooded. The estimated area is 8900 Km square. It is part of a large and complex water system with open water an interconnected water-logged areas. The vegetation is predominantly aquatic. Communities of floating plants are present along the borders of lakes and ponds. On the islands there are *Erythrina* (*Fabaceae*) plants, tall grasses and riverine forest. The highest spots harbour forest and a kind of bamboo plants.

Mean annual rainfall is 1250 mm and potential evaporation is 1040 mm (Carnevali, 1994).

**Material and methods**

Type materials of the species has been preserved in ABL and CTES. Mounts in water have been observed with an OLYMPUS BX50 microscope.

**Results**

*Polymeridium bambusicola* Aptroot & Ferraro *sp. nov.*

*Fungus non-lichenisatus ad genus Polymeridium (Trypetheliaceae) pertinens. Ascomata superficialia supra cortices Poaceae, Bambusoideae, paraphysoides anastomosantes continentes. Ascosporis 13-17-distoseptatis, 85-105 x 7-10 µm, clavatis.*

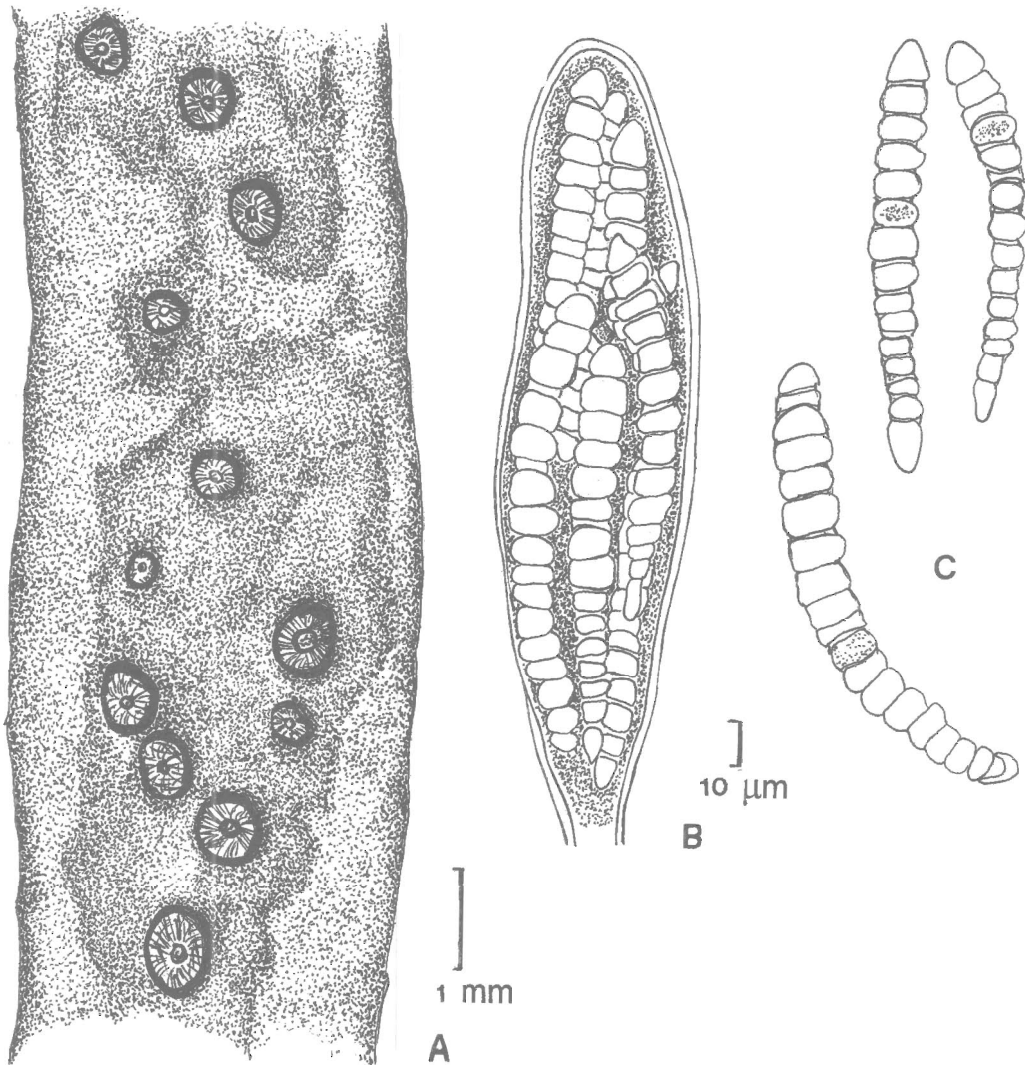


Fig. 1. *Polymeridium bambusicola*. Del. L. I. Ferraro (Holotypus). A, general habit; B, ascus with spores; C, mature spores.

Type: ARGENTINA. Corrientes, Dpto. Mercedes, Macrosistema Iberá, Estancia Rincón del Diablo, 28°44'S 58°02'W, on smooth stems of *Poaceae*, *Bambusoideae*, 4 December 1998, Arbo, Schinini, Maruñak & Zanier 8269a (CTES-holotype; ABL-isotype).

Thallus non-lichenized, only indicated by a greyish stain on the cortex of the woody grass, undelimited, containing of a hyaline hyphal mat cathing assorted algae and fungal spores. Ascomata dispersed, superficial, glossy black, lens-shaped, 0.4-1.0 mm diam. wall densely carbonized. Ostiole central, depressed, 100-200  $\mu\text{m}$  diam. brown to blackish. Hamathecium hyaline, paraphysoids copious, c. 2  $\mu\text{m}$  wide, richly anastomosing, in gel. Asci clavate, thick-walled, with a thickened apex and a tiny (c. 1-2  $\mu\text{m}$  wide) ocular chamber, c. 120-150 x 20-30  $\mu\text{m}$ , with 8 irregularly arranged ascospores. Ascospores distoseptate, hyaline to pale brownish (when old), 13-17-septate, 85-105 x 9-12.5  $\mu\text{m}$  when mature, clavate to clavate-fusiform, with rounded lumina, usually with rounded upper ends and somewhat pointed lower ends, lumina broader than long, except for the lowermost lumen, without surrounding gelatinous sheath. Pycnidia present, dispersed among the ascomata, black, lens-shaped, wall distinctly bluish black. Conidia not observed.

### Discussion

The new species fits the genus *Polymeridium* perfectly, because of the densely carbonized,

robust ascomata with relatively wide, anastomosing paraphysoids and distoseptate, hyaline ascospores. No other genus in the lichenized or non-lichenized ascomycetes shares this combination of characters. The species differs, however, from all currently known species accepted in the genus by the many transverse septa in the ascospores. All other known species of *Polymeridium* have either a most 12 transverse septa (most species have only 3-septate spores), or longitudinal septa in addition to the transverse septa, with the resulting submuriform to muriform ascospores septation. The ascospores are also longer than any known in the genus: *Polymeridium campylothelioides* has the longest ascospores so far known in the genus (up to 80  $\mu\text{m}$ ), but these are muriform and much wider (17-25  $\mu\text{m}$ ), and therefore not clavate-fusiform, but rather ellipsoid.

### References

- APTROOT, A., DIEDERICH, P., SÉRUSIAUX, E. & SIPMAN, H. J. M. (1995) Lichens and lichenicolous fungi of Laing Island (Papua New Guinea). *Biblioth. lichenol.* 57: 19-48.
- CARNEVALI, R. (1994) Fitogeografía de la provincia de Corrientes. Gobierno de la provincia de Corrientes, Instituto Nacional de Tecnología Agropecuaria, Corrientes (Argentina), págs. 1-324.
- HARRIS, R. C. (1993) [1991] A revision of *Polymeridium* (Muell. Arg.) R. C. Harris (*Trypetheliaceae*). *Bol. Mus. Paraense Emilio Goeldi, N. S., Bot.* 7: 619-644.
- TUCKER, S. C. & HARRIS, R. C. (1980) New and noteworthy pyrenocarpous lichens from Louisiana and Florida. *The Bryologist* 83: 1-20.