MYCOTAXON

Volume 91, pp. 9–14 *January–March 2005*

Hygroaster iguazuensis sp. nov. and a new continental record for *Lentinus similis*

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Abstract—*Hygroaster iguazuensis* is proposed as a new species and *Lentinus similis* is a new record for the Americas. Both fungi are fully described and illustrated.

Key words—*Hygrophoraceae,* nodulose spores, *Polyporaceae*

Introduction

During a survey of many years of the mycobiota of Iguazú National Park (Misiones, Argentina), a new species of macrofungi was encountered that merits description. A new record for the Americas was also collected.

The genus *Hygroaster* has not received much attention. When proposed by Singer (1955), who segregated his genus from *Hygrophorus* based on spore morphology, *Hygroaster* contained only one species, *H. nodulisporus* (Dennis) Singer. Singer (1986) later added another species to his genus, *H. albellus* Singer. Other authors, such as Hesler & Smith (1963), considered *Hygroaster* a part of *Hygrophorus*.

Lentinus similis Berk. & Br. has been reported from Africa, Asia and Australia, but, until now, not from the Americas.

Both species are fully described and illustrated below.

†January 4, 2005

Material and Methods

Specimens were collected, photographed, and dried according to the procedures given by Wright & Albertó (2002). Herbarium acronyms are according to Holmgren et al. (1990). Colors follow Maerz & Paul (1930) and Rayner (1970).

Taxonomic description

Hygroaster iguazuensis B. E. Lechner & J. E. Wright **sp. nov.** **Figures 1, 2A**

Pileus 6-10 mm diam. primo globoso-haemisphericus, dein convexus, parce umbonatus, aurantio vivo, nitente, hygrophanus, glabrous. Lamellae adnatae vel sinuato-decurrentibus, albae, minute pruinosis, ca. 1 mm latis. Caro alba, angustissima. Stipes 18-25 x 1-1.5 mm, pallide aurantius in 1/2 superiore, pallide ochraceus in 1/2 inferiore, semisolidus, glabrus.

Pileipellis in cutis hyphis radialis, parallelis, afibulatis, exornatis, 2-3 µm diam. Hyphis contextu similaribus, 1.5- 5.2 µm diam. Stipitipellis idem cum pileipellis, hyphis 2.5-9.3 µm diam. Pseudocystidiis numerosis, cum granis fulvo-castaneis. Basidiolae numerosis, cum granulis fulvo-castaneis. Trama hymenophorale subparalellis. Basidiis 25.4-26 x 4-5 µm, 2- & 4-sporis. Sporis ellipsoideis, hyalinis, crassitunicatis, nodulosae, inamyloideis, polygonalis, 5-6.7 x 3.7-4.5 µm.

Hab.: in foliis dejectis ad sylva pluviosa subtropicali, leg. O. F. Popoff, OR-3690, Argentina, Misiones, Parque Nacional Iguazú, Garganta del Diablo, 06-III-2003, in herb. BAFC 51.301 conservatus est.

Pileus (Fig. 1A, 2A) 6-10 mm diam., at first globose-hemispheric, later convex, slightly umbonate, bright orange, shiny, hygrophanous, glabrous. *Lamellae* adnate to sinuate-decurrent, white, with a white pruina, ca. 1 mm wide. *Flesh* white, very thin. *Stipe* 18–25 x 1–1.5 mm, light orange in the upper half and light ochraceous in the lower half, not completely hollow, smooth.

Pileipellis (Fig. 1B) a cutis of radially arranged, parallel, unclamped, hyaline hyphae, 2-3 µm diam. Context (Fig. 1C) hyphae similar, 1.5-5.2 µm diam. *Stipitipellis* (Fig. 1D) as in pileipellis; stem hyphae 2.5-9.3 µm diam. All hyphae unclamped. *Pseudocystidia* (Fig. 1E) numerous, with a yellowish brown granular content. *Basidioles* (Fig. 1E) numerous, also with yellowish brown contents. *Hymenophoral trama* subparallel. *Basidia* (Fig. 1E) 25.4-26 x 4-5 µm, 2- and 4-spored. Spores ellipsoid, with a polygonal contour, thick-walled, hyaline, nodulose, IKI-, 5-6.7 x 3.7-4.5 µm (Fig. 1F).

Material studied — The holotype.

Remarks — The combination of the features above, the most important of which is the peculiar basidiospore morphology, points to the tropical genus *Hygroaster*. The new species differs from *H. nodulisporus* and *H. albellus*, based on pileus surface and/or spore size: *H. nodulisporus* has a black, silky pileus and larger (7-10 x 6-8 µm) spores while Singer (1989) described *H. albellus* as having a white to brown pileus and much larger (10-14 x 9.5-13.5 µm) basidiospores.

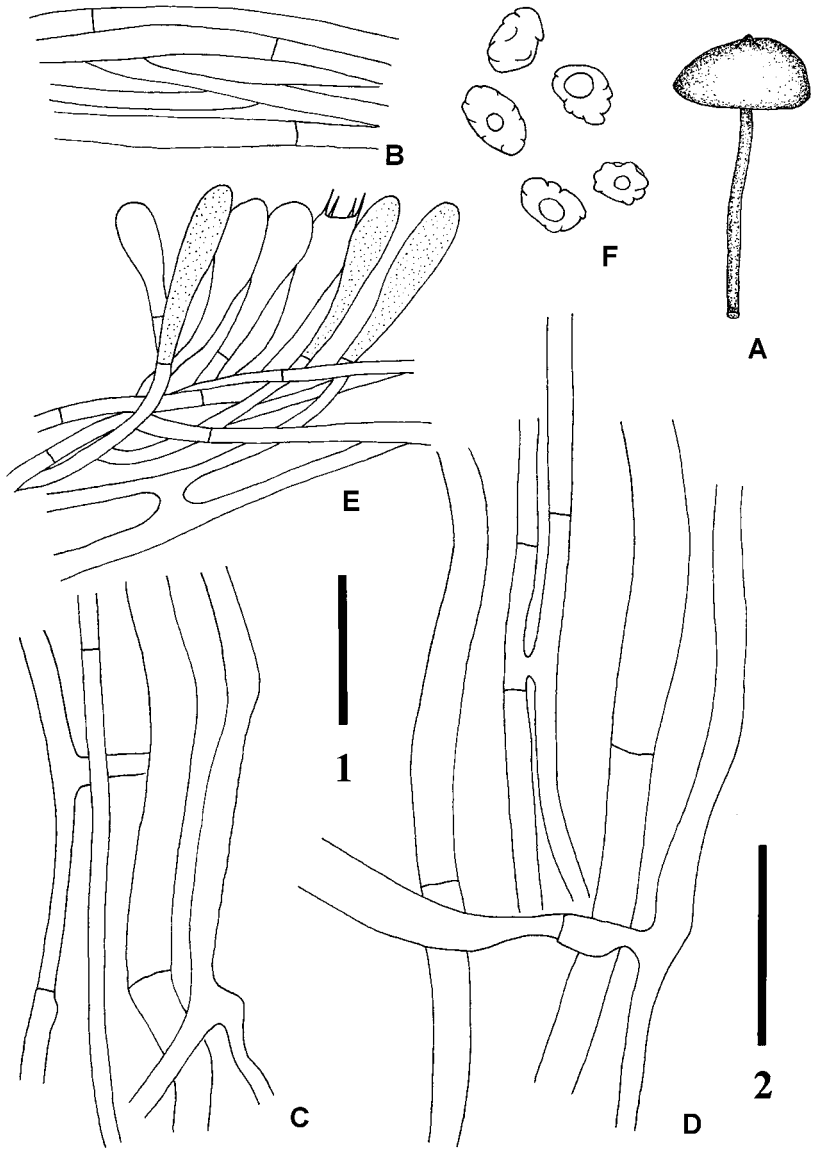

Fig. 1: ***Hygroaster iguazuensis*****: Macro- and micromorphology.** A) Basidiocarp. B) Pileipellis. C) Hyphae of the context. D) Hyphae of the stem. E) Pseudocystidia, basidioles, basidia and portion of the hymenophoral trama. F) Basidiospores. Scale bar 1= 1.5 cm for A; scale bar 2= 20 μm for B to E and 40 μm for F.

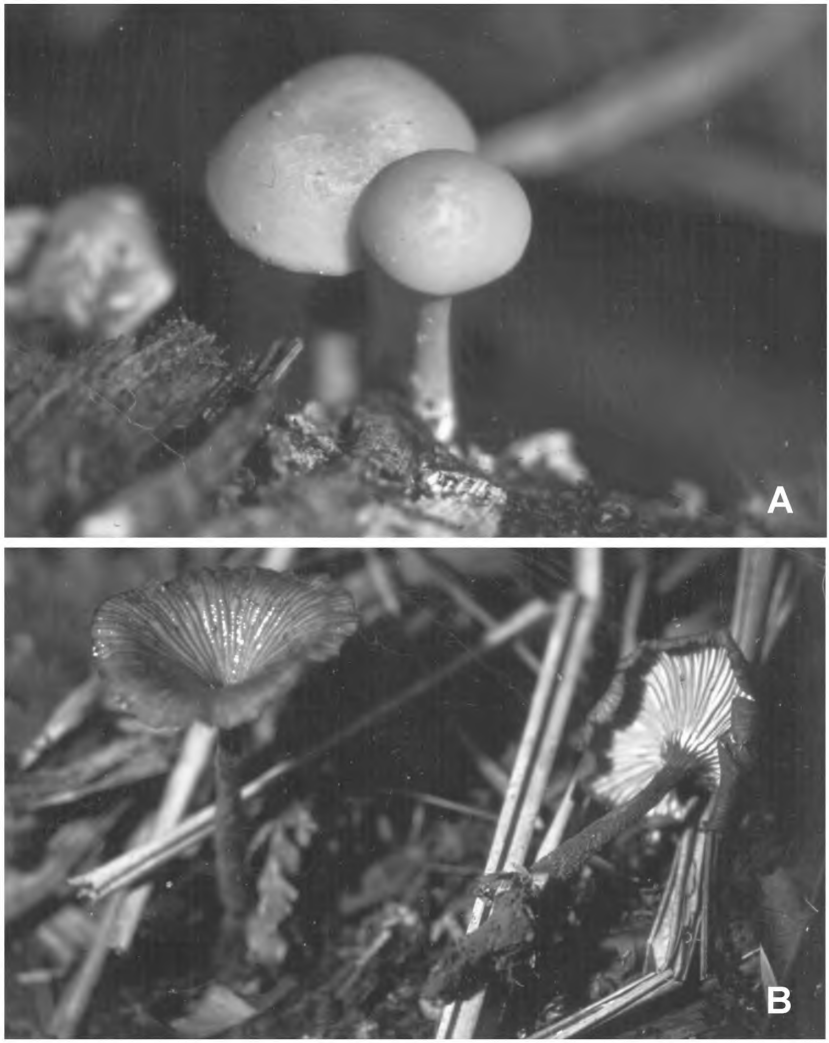

Fig. 2: A) *Hygroaster iguazuensis*. B) *Lentinus similis*.

Lentinus similis Berk. & Broome, Journal of the Linnean Society, Bot. 14: 93. 1873. **Figures 2B, 3**

Pileus (Fig. 2B, 3A) 30-50 mm diam, thin, coriaceous, deeply infundibuliform, expanding to become cup-like, finely velvety, when old almost smooth, radially striate, margin ciliate, cinnamon brown to chestnut brown. *Lamellae* decurrent, 0.5-2 mm. *Stem* central, 60-80 x 2-3 mm, cylindric, slightly expanded towards the base.

Pileipellis (Fig. 3B) a cutis, 40-70 μm thick, brown, formed by skeletal hyphae 3-6 μm diam., some protruding to form sparse hairs. *Stipitipellis* also a cutis with skeletal hyphae

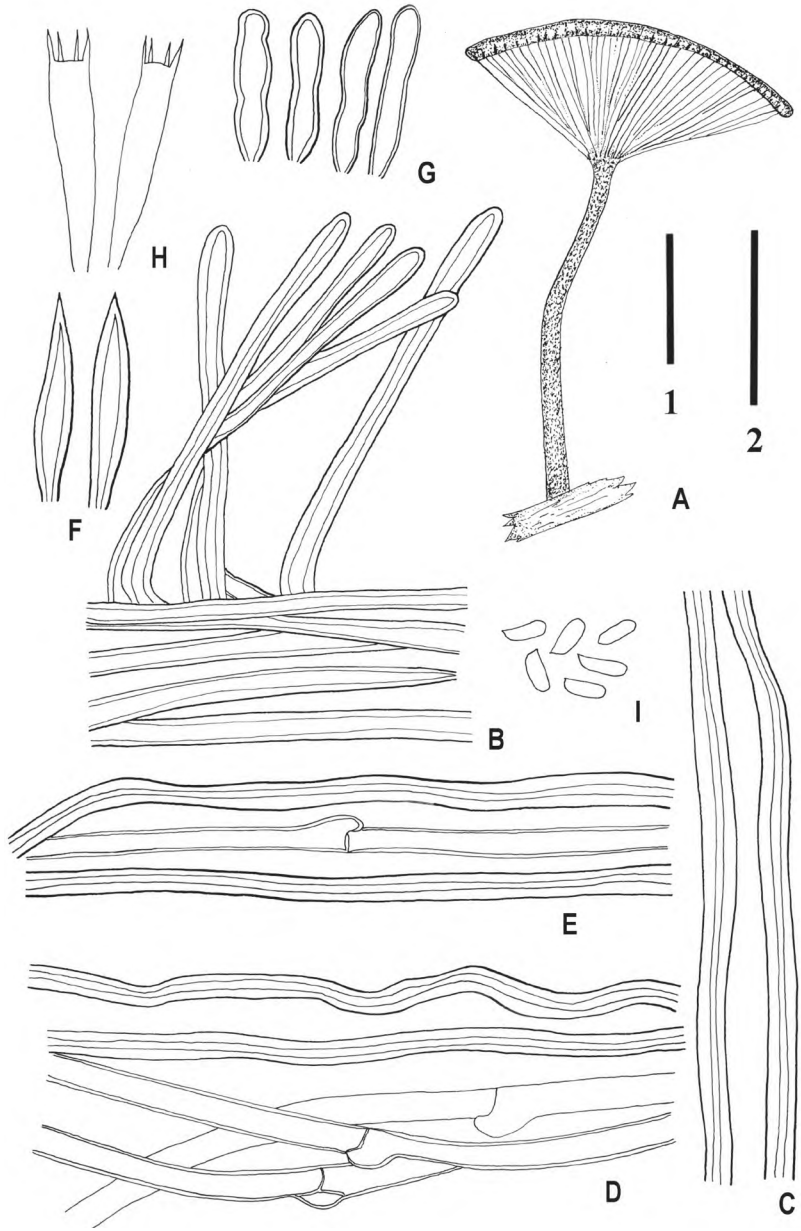

Fig. 3: ***Lentinus similis:*** **Macro- and micromorphology.** A) Basidiocarp. B) Pileipellis. C) Hyphae of the stem. D) Hyphae of the hymenophoral trama. E) Hyphae of pileus context. F) Sclerocystidia. G) Pleurocystidia. H) Basidia. I) Spores. Scale bar 1= 2.5 cm for A; scale bar 2= 20 μm for B to I.

3-4 μm diam., forming a velvety, brown surface. *Stem hyphae* (Fig. 3C) skeletals, 3-4.5 μm diam. *Hymenophoral trama* (Fig. 3D) completely irregular, formed by almost solid skeletals, 3-5 μm diam., and thick-walled, clamped, generative hyphae, 3-4 μm diam. *Subhymenium* not distinct. *Context hyphae* (Fig. 3E) similar to hymenophoral trama, 3-4.5 μm diam. *Cheilocystidia* constricted, thick-walled, 15-20 x 4.5-6.5 μm. *Sclerocystidia* (Fig. 3F) 25-35 x 4-5. *Pleurocystidia* (Fig. 3G) with a slightly acute apex, 26-27 x 4-5 μm. *Basidia* (Fig. 3H) 4-spored, 32-33 x 4.5-5 μm. *Spores* (Fig. 3I) short cylindric, hyaline, smooth, 5-5.5 x 2.5-3 μm.

Material studied — ARGENTINA: Misiones, Iguazú National Park, El Palmital, 5-III-2003, *leg. O. Popoff, OR-3669* (BAFC 51.298).

Remarks — *Lentinus similis* is found in Africa, Asia and Australia but unrecorded so far for the Americas. This is the first record for western hemisphere. Our material fully conforms to Pegler´s (1983) description of the species.

Acknowledgements

We wish to thank Drs. R. Petersen (UT, USA) and M. Rajchenberg (CIEFAP, Argentina), who kindly read the typescript and made valuable suggestions. This work was funded by the Argentine National Research Council (CONICET) and the Agencia de Promoción Científica. Publication Nº 162 of the PRHIDEB series. The Myndel Pedersen Foundation is thanked for funding a field trip to Iguazú National Park for photographing fungi.

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