Taxonomy, ecology, and biogeography of polypores (Basidiomycetes) from Argentinian *Polylepis* woodlands

Gerardo Robledo, Carlos Urcelay, Laura Domínguez, and Mario Rajchenberg

Abstract: Twenty-three polypore species were found in *Polylepis* Ruiz & Pav. (Rosacecae) woodlands from Argentina. Six species occur exclusively in the neotropics and four are host-specific to *Polylepis* (*Phellinus tabaquilio*, *Phellinus uncisetus*, *Phellinus daedaliformis*, and *Datronia orcomanta*), of which the first two are facultative parasites or occur during the early stages of wood decay. Host specificity and patterns of distribution vary among species. *Datronia orcomanta* Robledo & Rajchenb. is described as a new endemic taxon and *Inonotus serranus* is reduced to synonymy with *Inonotus venezuelicus*.

Key words: Datronia, wood-rotting fungi, mycogeography, neotropical montane forests, host specificity.

Résumé : Les auteurs récolté vingt-trois espèces de polypores dans les forêts de *Polylepis* Ruiz & Pav. (Rosacecae) en Argentine. Six espèces sont exclusivement néotropicales et quatre sont spécifiques au substrat (*Phellinus tabaquilio*, *Phellinus uncisetus*, *Phellinus daedaliformis* et *Datronia orcomanta*), et dont les deux premières sont des parasites facultatifs ou encore apparaissent à des stades précoces de la dégradation du bois. On discute la spécificité de substrat et les patrons de distribution. Les auteurs décrivent *Datronia orcomanta* Robledo & Rajchenb., une nouvelle espèce endémique, et placent *Inonotus serranus* comme synonyme de *Inonotus venezuelicus*.

Mots clés : *Datronia*, champignons saproxylophages, mycogéographie, forêts montagnardes néotropicales, spécificité de substrat.

Introduction

The tree genus *Polylepis* Ruiz & Pav. (Rosacecae) extends its distribution along the tropical South American Andes (Fig. 1) and is one of the few genera that forms forest patches above the timberline (Simpson 1979). The distribution range is from northern Venezuela to northern Chile and northwestern to central Argentina, at elevations between 1700 and 5200 m above sea level (a.s.l.). Extra-tropical and extra-Andean *Polylepis* populations show a patchy distribution at high elevations forming islands of vegetation in northwestern to central Argentina, including Puna, Yungas, and Chaquean phytogeographic regions (Cabrera 1994). Owing to their locally restricted distribution, their poor conservation status, and the relatively new origin of the genus during the middle Miocene (Fjeldså and Kessler 1996), *Polylepis* forests are of great interest for the study of their associated biological diversity. Studies conducted so far have already discovered several endemic species among birds, mammals, and Lepidoptera (reviewed in Fjeldså and Kessler 1996).

Knowledge regarding the mycota associated with *Polylepis* is scarce, but recent studies have described new polypore species belonging to Hymenochaetaceae as occurring on living and dead standing trunks of *Polylepis* from Venezuela and central Argentina (Ryvarden 1987; Urcelay et al. 2000; Robledo et al. 2003*a*).

Andean *Polylepis* forests reach very high altitudes, above 5000 m a.s.l., but extra-Andean forests in central Argentina develop at lower elevations contiguous with neighbouring forest types such as Chaquean mountain forests and Yungas montane forests (Cabrera 1994). Despite the proximity, the three newly described polypore species that decay living and dead standing *Polylepis* do not occur in adjacent forest types composed of other tree species (Rajchenberg and Wright 1998, Urcelay and Rajchenberg 1999; Urcelay et al. 1999; Robledo et al. 2003*b*), suggesting some host specificity for these species.

Several visits to the extra-Andean forests of *Polylepis australis* Bitter and one visit to Andean forests of *Polylepis tomentella* Weed. allowed us to collect many species not previously reported from *Polylepis* forests. Here we compile published and unpublished information on the polypore mycota of *Polylepis* woodlands from Argentina and discuss the distributional patterns and host specificity of each species.

In particular, we aimed to (1) summarize the polypore mycota found in *Polylepis* woodlands from Argentina, (2) describe *Datronia orcomanta* as a new endemic species from the area, and (3) discuss host specificity and distribu-

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tion patterns shown by polypores associated with *Polylepis* forests.

Materials and methods

Study area

Several expeditions were carried out in the *Polylepis* forests of Argentina (Fig. 1). *Polylepis australis* woodlands of the "Sierras Grandes" of the Córdoba Mountains were visited and surveyed over a 5 year period starting in 1999. These forests are the most southerly *Polylepis* woodlands in South America and develop monospecific forest patches between 1300 and 2600 m a.s.l., above Chaquean mountain forests dominated by *Lithraea ternifolia* (Gillies ex Hook. & Arn.) F.A. Barkley (Anacardiaceae), *Fagara coco* (Gillies) Engl. (Rutaceae), *Schinopsis haenkeana* Engl. (Anacardiaceae), and *Heterothalamus alienus* (Spreng.) Kuntze (Asteraceae). The *Polylepis australis* woodlands of the Sierras Grandes extend through an area of about 60 km × 8–12 km, and they are isolated from other *Polylepis* woodlands of Argentina by about 400 km. *Maytenus boaria* Molina (Celastraceae) is the only other tree species that occurs with *Polylepis australis*, together with shrubs such as *Colletia spinossisima* J.F. Gmel. (Rhamnaceae), *Baccharis* sp. (Asteraceae), and *Escallonia cordubensis* (Kuntze) Hosseus (Saxifragaceae).

The mean annual temperature is 8 °C, with frosts that can occur at anytime during the year. The annual precipitation ranges from 750 to 970 mm and is concentrated mainly during spring and summer (October–December; Cabido and Acosta 1986). *Polylepis australis* woodlands of Tucumán Province in the Natural Strict Reserve "Quebrada del Portugués" were visited twice, in May 2001 and March 2002. These *Polylepis australis* woodlands constitute the highest altitudinal forest belts of subtropical Yungas, occurring between 1200 and 2500 m a.s.l., below montane grasslands and above the Lower Yungas, rich evergreen forests dominated by Lauraceae and Myrtaceae, with many ferns and epiphytes. *Alnus acuminata* Kunth (Betulaceae) and small trees such as *Sambucus peruviana* Kunth (Caprifoliaceae) or *Lepechinia* sp. (Lamiaceae) may occur intermixed with *Polylepis* in these stands. The annual precipitation, 800–1000 mm, is concentrated in summer and early autumn months (November–April; Grau and Veblen 2000). *Polylepis tomentella* woodlands were visited once, in October 2001. These are the highest woodlands of Argentina, developing in a narrow altitudinal belt at 4000 m a.s.l. in the Puna region of Jujuy Province, above the xerophytic shrubby steppe of the Prepuna province. In these forests, trees of *P. tomentella* are mixed only with the tree-like *Trichocereus pasacana* (Weber) Britton & Rose (Cactaceae) and sometimes with *Prosopis ferox* Griseb. (Fabaceae). Weather in this region is extreme with a wide daily thermal amplitude, very low atmospheric humidity throughout the year, annual precipitation of 300 mm with rains restricted to summer (December–March), and nocturnal temperatures below 0 °C all year (Cabrera 1994).

Study of specimens

When collecting basidiocarps, the host and substrate condition were recorded. Holotypes and other specimens were deposited in the herbarium of the Museo Botánico, Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba (CORD). Reference specimens cited are always on *Polylepis australis* exept when another substrate is mentioned. Reference materials were also studied, from the herbaria of Universidad de Buenos Aires (BAFC), the US National Fungus Collections, Beltsville, Maryland (BPI), Universidad Nacional de La Plata, Buenos Aires (LPS), New York Botanical Garden (NYBG), and the Botanical Museum, Oslo, Norway (O).

Morphological features of basidiocarps were observed macro- and microscopically. Microscopic examinations, measurements, and drawings were made freehand from sections mounted in 3%–5% KOH plus 1% phloxine, aqueous cresyl blue, cotton blue in lactophenol, and Melzer's reagent.

Hosts and geographical distributions

The global distribution of taxa was established from literature and herbaria data, and the following distribution patterns were established following Ryvarden (1991) and MacDonald (2002): (*a*) cosmopolitan, species that are widespread in most continents with a wide latitudinal range; (*b*) pantropical, species that are circumglobal in the tropical zone; (*c*) amphitropical, species that occur in America on either side of the tropics but not in the tropical zone itself; (*d*) boreal, species circumpolar in the northern boreal temperate region; (*e*) neotropical, species endemic to tropical and subtropical South America. Smaller, endemic or combined distribution ranges are described in particular cases.

Hosts and geographical distributions in Argentina were established from herbarium material, literature information, and personal observations. Saprobe species found or reported on a wide range of hosts are listed as generalists, and the substrates were omitted.

Results

Corticiaceae

Gloeoporus dichrous (Fr.) Bres., Ann. Mycol. 14: 230, 1916

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan. In Argentina: Andean Patagonian forests region (Rajchenberg 2001), Mesopotamian region within Buenos Aires, Misiones, Corrientes, and Entre Ríos Provinces (Wright and Deschamps 1977), Yungas region in Montane Forest of Catamarca Province (Robledo et al. 2003*b*), and *Polylepis australis* woodlands of the Sierras Grandes of Córdoba Province. A generalist species.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Alberto, Los Gigantes, Valle de Los Lisos, 28 May 2000, *Robledo 12* (CORD). Departamento Punilla, Quebrada del Condorito National Park, 11 November 2001, *Robledo 91* (CORD).

REMARKS: First record of this species in Córdoba Province, commonly observed fruiting on logs and on dead, standing stems.

Fig. 1. Physical map of South America showing the study areas. 1, *Polylepis australis* woodlands from Sierras Grandes of Córdoba Mountains; 2, *Polylepis australis* woodlands from Tucumán Province; 3, *Polylepis tomentella* woodlands from Jujuy Province. *Polylepis* forest distribution (shadowed) and the phytogeographic regions of the Puna, Yungas, Chaquean, Mesopotamian, and Andean Patagonian forests are shown. ▲, the type locality of *Inonotus venezuelicus*.

Ganodermataceae

Ganoderma adspersum (Schulzer) Donk, Proc. K. Nederl. Akad. Wet. 72: 273, 1969

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Unknown, as the taxonomy of the genus is still unsolved (Moncalvo 2000). In Argentina known from Yungas region in *A. acuminata* forests of Catamarca and Tucumán Provinces (Robledo et al. 2003*b*, Gottlieb et al. 1998) and *Polylepis australis* forests of the Sierras Grandes of Córdoba Province.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, Quebrada de la Paz, on dead stem, 12 January 2000, *Urcelay 178* (CORD). Departamento Punilla, Quebrada del

Condorito National Park, on living stem, 26 October 2002, *Robledo 143* (CORD).

REMARKS: Materials studied do not have significant differences from those found in *Alnus* forests from northwestern Argentina by Robledo et al. (2003*b*). Within the *Ganoderma applanatum* (Pers.) Pat. complex, our specimens agree with *Ganoderma australe* (Fr.) Pat., a species that has been synonymized with *G. adspersum* (Ryvarden and Gilbertson 1993). Because *G. australe* lacks a holotype, we consider it proper to use the younger name *G. adspersum* (see discussion in Robledo et al. 2003*b*).

Hymenochaetaceae

Inocutis jamaicensis (Murrill) Gottlieb, J.E. Wright & Moncalvo, Mycol. Prog. 1: 308, 2002 (NYBG!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Neotropical, reaching high latitudes in South America. In Argentina: Andean Patagonian forests region (Rajchenberg and Wright 1998) on *Austrocedrus chilensis* (D. Don) Pic. Serm. & Bizarri (Cupressaceae), *Diostea juncea* (Gillies ex Hook.) Miers (Verbenaceae), *Lomatia hirsuta* (Lam.) Diels ex J.F. Macbr. (Proteaceae) and *Nothofagus dombeyi* (Mirb.) Oerst. (Fagaceae); in Mesopotamian region in Buenos Aires Province, and in *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province. In the study area *I. jamaicensis* also decays *E. cordubensis*, *Baccharis* sp., and *Senna* sp. It is also abundant in lower neighbouring areas on *Hetherothalamus alienus* and *Eupatorium buniifolium* Hook. & Arn., two Asteraceae shrubs of the shrubby steppe stratum developing between 1300 and 1700 m a.s.l.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, on branch of dead standing tree, 9 March 2000, *Robledo 6* (CORD). Departamento San Javier, Pampa de Achala, "La Ola", on dead log, 18 June 2001, *Robledo 64* (CORD).

REMARKS: The granular core at the base of the basidiocarp, characteristic of *Inocutis* (Fiasson and Niemelä 1984), is present in some of the specimens studied, but is lacking in most others.

Inonotus quercustris M. Blackw. & Gilb., Mycotaxon 23: 285, 1985 (BPI!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Amphitropical, in southeastern United States (Louisiana) and Argentina (Blackwell and Gilbertson 1985). In Argentina: Córdoba Province in Sierras Chicas on *Schinus* sp. and *Acacia* sp. (Urcelay and Rajchenberg 1999, Gottlieb et al. 2002) and in La Rioja Province on *Lithraea molleoides* (Vell.) Engl. (Urcelay and Rajchenberg 1999).

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, Quebrada de La Paz, on living stem, 12 January 2000, *Robledo 179* (CORD). Quebrada del Tigre, 32°00′35″S, 64°57′50″W, on living stem, 18 August 2003, *Robledo 166* (CORD).

REMARKS: In United States only, found in living water oak (*Quercus nigra* L., Fagaceae) (Blackwell and Gilbertson 1985).

Inonotus venezuelicus Ryvarden, Mycotaxon 28: 529, 1987 (O!, isotype)

= *Inonotus serranus* Robledo, Urcelay & Rajchenb., Mycologia 95: 347, 2003 (CORD!)

Basidiocarp annual to biennial, effused to effused-reflexed, up to 9 cm × 7 cm and up to 2 cm thick; reflexed portions forming small to medium sized pilei, velutinate and tomentose, 1–2 cm rad. × 0.5–4 cm wide. Tomentum present against the substrate and on the pilear surface, up to 0.8 mm thick, dark chocolate brown, separated from the context by a thin, black line. Pore surface dark brown, shining, becoming yellowish brown towards the margin, pores 4–6 per mm, angular, with thin entire dissepiments. Margin velutinate, dark chocolate brown to yellowish brown. Context chestnut, lighter in color than tomentum, corky, poorly developed, up to 3 mm thick. Tomentum, black line and context also present between each stratum. Tube layer concolorous and continuous with the context, up to 25 mm long.

Hyphal system monomitic. Contextual hyphae thin-walled and hyaline, or walls distinct and melleous to chestnut and thick-walled, branched or not, simple septate, 2.4–6(–7) μm in diam. Tramal hyphae similar to contextual hyphae.

Setae and *setal hyphae* absent.

Basidia broadly clavate to ovoid, 9.6–12.8 μm × 6.4–7.2 μm, 4 sterigmata.

Basidiospores ellipsoid to ovoid, with a straight side, 5.5–7.5 μm × 4–5 μm, smooth, thick-walled, pale golden brown, negative in Melzer's reagent.

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Neotropical, in montane regions, originally described from Venezuela on *Polylepis* sp. (see Fig. 1) (Ryvarden 1987) and later as *Inonotus serranus* (Robledo et al. 2003*a*) in *Polylepis australis* woodlands of Córdoba Province. In Argentina it was also found in the Yungas region in montane forest of Catamarca Province. Recently reported from the Atlantic rain forests in northern Brazil (Gibertoni et al. 2004). Presumably distributed throughout the Andes following *Polylepis* forests.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Alberto, Los Gigantes, Valle de Los Lisos, 31 January 2000, *Urcelay 191* (*I. serranus* HOLOTYPE CORD). Tucumán: Departamento Tafí, Quebrada del Portugués, on living stem, 26 May 2001, *Urcelay 355* (CORD).

ADDITIONAL MATERIAL STUDIED: VENEZUELA, Mérida, Lag. Negra E of Lag. Mucubaji, P.N. Sierra Nevada, near Apartaderos, on *Polylepis* sp., 18 July 1971, *Dumont VE 2300* (ISOTYPE, O!).

REMARKS: The species is fully described here to indicate differences with the original description of *I. venezuelicus* and to add morphological features that were not previously mentioned. A critical analysis of *I. venezuelicus* isotype at O showed it to possess a thin, dark line between context and tomentum, which is one of the main distinct features of *I. serranus* (Robledo et al. 2003*a*). Moreover, the isotype is biennial or biseasonal, with context present between the tube layers. Both features were not mentioned in the original description of *I. venezuelicus* (Ryvarden 1987). No differences in the spores shape and size were observed. Specimens from *Polylepis australis* woodlands of Córdoba Province also developed pileate basidiocarps, not observed in the original description of *I. serranus*.

Fuscoporia gilva (Schwein.: Fr.) T. Wagner & M. Fischer, Mycologia 94: 1013, 2002

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Pantropical extending to warm-temperate zones. In Argentina: Mesopotamian region in Buenos Aires (López 1988) and Misiones (Ibáñez 1995) Provinces, Yungas region in Montane forests of Catamarca and Jujuy Provinces (Robledo et al. 2003*b*), and in *Polylepis australis* forests of Sierras Grandes, Córdoba Province. The host range is extremely wide, from several native South American substrates to exotic species such as *Eucalyptus* sp. plantations.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, "El Hueco" forest, on dead standing stem, 22 December 2003, *Robledo 190* (CORD).

REMARKS: Spegazzini (1926*a*) recorded this species as *Fomes gilvus* (Schwein.) Sacc., stating it to be very common. Spegazzini's (1926*b*) record from Córdoba Province in Sierras Chicas (as *Fomes gilvus*) is possibly another taxon, since he noted the absence of hymenial setae and a pale cinnamon colour of the spores. *Fuscoporia gilva* was characterized as a typical representative of northwestern Argentinean forests of Yungas region (Singer 1953). It has a saprophytic habit on dead, standing stems and logs.

Phellinus apiahynus (Speg.) Rajchenb. & J.E. Wright, Mycologia 79: 251, 1987. (LPS!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Neotropical species, known from Paraguay (Apiahy, type locality) (Spegazzini 1889), Jamaica (Ryvarden 2000) and, in Argentina, Mesopotamian region in Iguazú National Park and Yungas region in *Polylepis australis* woodlands of northwestern montane forests of Tucumán Province.

MATERIAL STUDIED: ARGENTINA. Tucumán: Departamento Tafí, Quebrada del Portugués, on living stem, 26 May 2001, *Urcelay 338* (CORD). Ibid., on dead laying stem, 26 May 2001, *Urcelay 358* (CORD).

ADDITIONAL MATERIAL STUDIED: ARGENTINA. Misiones: Iguazú National Park, on *Ocotea* sp., 27 October 1973, as *Phellinus elegans* J.E. Wright & Blumenf., (HOLOTYPE, *BAFC 24382*).

REMARKS: As stated by Rajchenberg and Wright (1987), this species was recorded from northeastern Argentina as *Phellinus elegans* (Wright and Blumenfeld 1984). This is the second record of the species in the country, and the first in northwestern montane forests of Argentina. As suggested by Rajchenberg and Wright (1987) and Decock et al. (2005), the dextrinoid subglobose spores indicate that this species might have affinity to the *Phellinus robustus* (P. Karst.) Bourdot & Galzin complex of species, nowadays recognised as a distinct genus within the poroid Hymenochaetaceae, that is, *Fomitiporia* Murrill.

Phellinus daedaliformis Blumenf. & J.E. Wright, Mycotaxon 21: 418, 1984 (BAFC!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: South American species, to date only known from Argentina, Misiones Province (Wright and Blumenfeld 1984) and in *Polylepis australis* woodlands of Córdoba Province.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, "El Hueco" forest, on dead log, 30 March 2003, *Robledo 153* (CORD). Ibid., on dead standing stem, 20 September 2003, *Robledo 191* (CORD).

REMARKS: This is the second record of the species since its original description from the NE Argentinean subtropical rainforest (Wright and Blumenfeld 1984). The type specimen was reported from the Jesuit ruins in Misiones Province on a decayed banister of *Tabebuia* sp.; we found it only on *Polylepis.* It has a saprophytic habit and fruits on dead, standing stems and logs. Microscopical features of this species, that is, ellipsoid, hyaline, thin-walled, and non-dextrinoid spores, a resupinate to pileate basidiocarp, and the presence of abundant hymenial setae, agree with those of the genus *Fuscoporia* Murrill, as circumscribed by Fiasson and Niemelä (1984) and Wagner and Fischer (2002).

Phellinus tabaquilio Urcelay, Robledo & Rajchenb., Mycotaxon 76: 288, 2000 (CORD!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Neotropical species, known from montane regions of Central and northwestern Argentina. In Jujuy Province, Puna region, in *Polylepis tomentella* forests above 4000 m a.s.l.; Yungas region in *Polylepis australis* forests of Tucumán Province and in the type locality in *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province, where it was also found growing on other substrates, such as *Baccharis* sp.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Alberto, Los Gigantes, Valle de los lisos, 31 January 2000, *Urcelay 194* (HOLOTYPE, CORD). Jujuy: Departamento Tumbaya, Quebraleña, on living stem of *Polylepis tomentella*, 19 October 2001, *Robledo 261* (CORD).

REMARKS: This is the first record of this species from northwestern Argentina and, possibly, the highest altitudinal record of a polypore species ever made. Its presence in southeastern Brazil (Ryvarden and de Meijer 2002) requires confirmation. As stated by Urcelay et al. (2000) and Decock et al. (2005), its affinities are with the *Phellinus robustus* (P. Karst.) Bourdot & Galzin complex of species. Within this complex it differs from *Phellinus apihaynus* by the larger, resupinate basidicarps with larger pores.

Phellinus uncisetus Robledo, Urcelay & Rajchenb. Mycologia 95: 347, 2003 (CORD!)

GEOGRAPHICAL DISTRIBUTION AND HOSTS: South American species, only known from Argentina, in *Polylepis australis* woodlands, Sierras Grandes of Córdoba Province (Robledo et al. 2003*a*).

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Alberto, Los Gigantes, Valle de Los Lisos, 1 February 2001, *Urcelay 292* (HOLOTYPE, CORD). Departamento San Javier, Quebrada del Tigre, 32°00′45″S, 64°57′21″W, on living stem, 18 August 2003, *Robledo 167* (CORD).

REMARKS: *Phellinus uncisetus* remains endemic for the *Polylepis* woodlands of Sierras Grandes of Córdoba Province.

Polyporaceae

Bjerkandera adusta (Willd.: Fr.) P. Karst., Medd. Soc. Fauna Fl. Fenn. 5: 38, 1897

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan. In Argentina: Andean Patagonian forests region in Chubut, Neu-

quén, Río Negro and Tierra del Fuego Provinces (Wright and Deschamps 1972, 1975*a*; Rajchenberg 2002), Mesopotamian region in Buenos Aires and Misiones Provinces (Spegazzini 1926*a*, Wright and Deschamps 1977), Yungas region in *Alnus acuminata* Montane forests of Catamarca, Jujuy and Tucumán Provinces (Robledo et al. 2003*b*) and in *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province. A generalist species.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, on dead log, 26 October 2002, *Robledo 146*, *Robledo 172* (CORD).

Ceriporia spissa (Schwein.: Fr.) Rajchenb., Mycotaxon 17: 276, 1983

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Temperate to tropical. In Argentina: Mesopotamian region in northwestern Buenos Aires Province on trunks and bark of *Populus*, *Ulmus*, *Quercus*, and *Eucalyptus* (Rajchenberg 1984) and in *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, Quebrada de La Paz, on dead log, 12 January 2000, *Robledo 158* (CORD). "El Hueco" forest, on dead log, 30 March 2003, *Robledo 157* (CORD).

REMARKS: This is the first record of the species growing on a native substrate in Argentina.

Datronia orcomanta **Robledo & Rajchenb.** sp. nov. Figs. 2, 3

Basidiocarpo annuo, dimidiato, effuso-reflexo ad ungulatum et pendentem usque ad 2 cm × 3.5 cm × 2 cm. Superficie pilei castanea obscura ad castaneam claram in margine, tecta basi cum tomento delicato quod postea amititur et superficies pilei glabra fit delicata cute castanea obscura ad nigram. Contexto castaneo claro, pauca crassitudine usque ad 1 mm crasso. Linea nigra inter tomentum et contextum praesente. Poris circularibus, 3–4 per mm. Systema hypharum dimitica, cum hyphis generativis hyalinis tenuitunicatis ad pauce crassitunicatas, 1.5–2.5 μm, et cum hyphis sceletocolligantibus castaneis claris, crassitunicatis, 2–3.5 μm. Cystidioliis 22–25.5 μm × 6.5–9.5 μm hyalinis tenuitunicatis. Basidiis claviformibus, 22–30 μm × 8–11.5 μm. Basidiosporis cylindricis, 13–15 μm × 4–5.5 μm, hialinis, tenuitunicatis.

Holotypus hic designatus, Argentina, Córdoba, Dpto. Punilla, Parque Nacional Quebrada del Condorito, ad ramulis emortuis Polylepis australis viventis, 6 September 2004, Robledo 266, in Herb CORD conservatus est.

Basidiocarp annual to biennial (reviviscent), sessile, pileate, dimidiate, effused-reflexed to triquetrous or ungulate and pendant, up to 2 cm × 3.5 cm × 2 cm. Pilear surface chocolate brown, becoming yellowish towards the margin, at the base covered with a thin tomentum up to 80 μm thick; when mature the tomentum is lost, the pilear surface remains glabrous exposing a thin, dark brown to blackish cuticle, concentrically sulcate and radially rugose, sometimes covered with lichens and mosses. Margin acute, sterile. Pore surface cream whitish to pale brown, farinose under the stereoscope. Pores circular, regular, 3–4 per mm. Dissepiments sterile. Context pale brown, poorly developed, up to 1 mm thick, separated from the tomentum by a thin, dark line. When the tomentum is lost the dark line is exposed as a thin cuticle up to 50 μm thick. Tube layer concolorous with the context, up to 1.5 cm thick.

Hyphal system dimitic. Generative hyphae with clamps, hyaline, with thin to slightly thickened walls, 1.5–2.5 μm in diam., negative in Melzer's reagent, incrusted in the dissepiments. Skeleto-binding hyphae pale brown to yellowish, thick-walled to almost solid, 2–3.5 μm in diameter. Hyphae of tomentum darker than the skeleto-binding hyphae, thick-walled to solid and frequently ramified in short branches, up to 5 μm in diameter.

Cystidioles present, fusoid 22–25.5 μm × 6.5–9.5 μm hyaline and thin-walled.

Basidia clavate 22–30 μm × 8–11.5 μm, with a big central guttule.

Basidiospores cylindric, 13–15 μm × 4–5.5 μm, smooth, hyaline, thin-walled, negative in Melzer's reagent, acyanophilous.

ASSOCIATED ROT: White.

ETYMOLOGY: From qichwa language, "orco" mountain and "manta" from.

GEOGRAPHICAL DISTRIBUTION AND HOSTS: *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province, fruiting on dead thin branches of living trees.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, on dead branches of living tree, 11 November 2001, *Robledo 85*, *Robledo 86*, *Robledo 87* (CORD). Ibid., 26 October 2002, *Robledo 140*, *Robledo 145*, *Robledo 148*, *Robledo 149*, *Robledo 150*, *Robledo 151*, *Robledo 152* (CORD). Ibid., 31°39′48.7″S, 64°41′32.7″W, 27 January 2004, *Robledo 198*, *Robledo 199*, *Robledo 200*, *Robledo 201*, *Robledo 202* (CORD). Ibid., 31°39′44″S, 64°41′39,8″W, *Robledo 203* (CORD). Ibid., 6 September 2004, *Robledo 266* (HOLOTYPE, CORD). Departamento San Javier, Quebrada de la Paz, on dead branches of living tree, 12 January 2000, *Robledo 188* (CORD).

REMARKS: Macroscopically this new species resembles *Datronia scutellata* (Schwein.) Gilb. & Ryvarden, but it is well distinguished microscopically by the larger spores (8–11 μm × 3–3.5 μm in *D. scutellata*) and also by its particular substrate and habitat. The dark line is exposed when the tomentum is lost and a thin dark brown to blackish cuticle appears.

Diplomitoporus lindbladii (Berk.) Gilb. & Ryvarden, Mycotaxon 22: 364, 1985

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Considered circumpolar in the coniferous zone (Núñez and Ryvarden 2001), in North America common in pine forests (Gilbertson and Ryvarden 1986). In Argentina: Mesopotamian region in *Pinus* sp. plantations in Buenos Aires Province (Rajchenberg 1984), in Corrientes Province on native, undetermined substrate (Popoff 2000), in Entre Ríos Province on undetermined, burned, fallen branch and in *Polylepis australis* woodlands of Sierras Grandes of Córdoba Province.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Pu-

Fig. 2. Macroscopic features of *Datronia orcomanta* (HOLOTYPE, *Robledo 266* CORD). (*a*) General aspect. (*b*) Longitudinal section of basidiocarp, showing context and tube layers. (*c*) Pore surface.

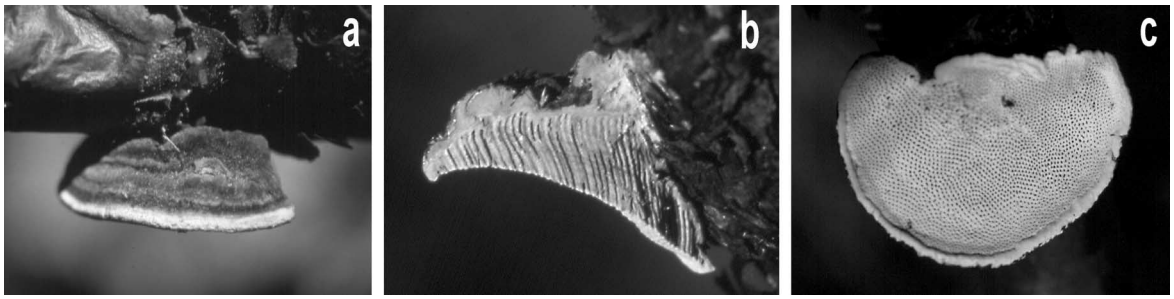
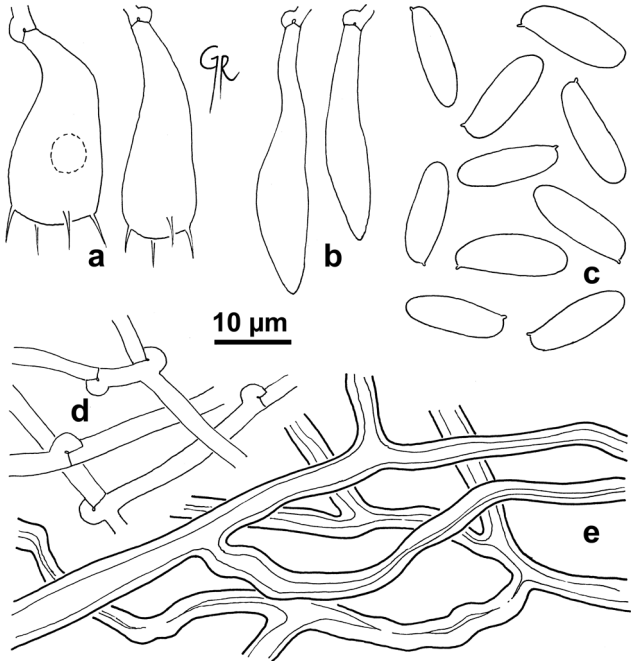


Fig. 3. Microscopic features of *Datronia orcomanta* (HOLOTYPE, *Robledo 266* CORD). (*a*) Basidia. (*b*) Spores. (*c*) Cystidioles. (*d*) Generative hyphae. (*e*) Skeleto-binding hyphae.



nilla, Pampa de Achala, on dead stem, 21 October 2000, *Urcelay 281* (CORD).

ADDITIONAL MATERIAL STUDIED: ARGENTINA. Entre RÍos: Av. Mons. Rosch 3500, 29 July 1995, (*BAFC 35829*).

REMARKS: Rajchenberg (1984) recorded this taxon as *Poria cinerascens* (Bres. ex Strass.) Sacc. & Syd.

Funalia gallica (Fr.) Bondartsev & Singer, Ann. Mycol. 39: 62, 1941

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan (Robledo et al. 2003*b*). In Argentina: Mesopotamian region in Buenos Aires and Entre Ríos Provinces (Wright et al. 1973), recorded from southern Argentina in Río Negro and Neuquén Provinces in (exotic) *Populus* plantations, Yungas region in *Alnus acuminata* Montane forests of Catamarca, Jujuy and Tucumán Provinces (Robledo et al. 2003*b*) and in *Polylepis australis* forests of Sierras Grandes of Córdoba. In the study area is also found on *Heterothalamus allienus* and *Baccharis* sp.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, 27 January 2004, *Robledo 207* (CORD). Departamento San Alberto, Los Gigantes, "El Caracol" forest, on dead log, 30 August 2003, *Robledo 177* (CORD).

Oxyporus obducens (Bourdot & Galzin) Donk, Med. Bot. Mus. Univ. Utrecht 9: 202, 1933

ANAMORPH: *Ptychogaster effusus* Pat. Journ. Bot. Paris 2: 216, 1888

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Boreal, in Europe and in North America. In South America recorded from Venezuela (Ryvarden and Iturriaga 2001). In Argentina: Yungas region in *Polylepis australis* woodlands from montane forest of Tucumán Province and *Polylepis australis* woodlands from Sierras Grandes of Córdoba Province, fruiting at the base of living stems.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, 31°39′19.5″S, 64°42′3″W, on dead standing stem, 20 June 2004, *Robledo 226* (CORD). Tucumán: Departamento Tafí, Quebrada del Portugués, on living stem of *Polylepis australis* 26 May 2001, *Urcelay 354* (CORD).

ADDITIONAL MATERIAL STUDIED: UNITED STATES. Montana, Missoula, Leg Weir, det Lowe, October 1915 (*BAFC 28405*). CZECHOSLAVAKIA. Moravia: Novè Mlyny, "Krivé jezero", 8 km SE of Mikulov, distr. Breclav, alt. 170 m a.s.l., on *Populus nigra*, 17 May 1989 (*BAFC 32616*). Horní Kosov, silva "Bradlo", 5 km W of Jihlava, alt. ca. 570 m a.s.l., on *Aesculus hippocastanum*, 27 November 1994, (*BAFC s/no.*). Bohemia Occ: Diana ap. Primda pr. Tachov, viam ad castellum, on *Aceris pseudoplatani*, 28 October 1970, (*BAFC s/no.*).

REMARKS: This second record in South America extends the range of distribution of this species from Venezuela (Ryvarden and Iturriaga 2001) to Argentina. Examination of materials showed a metachromatic reaction with cresyl blue in hyphae, spores, chlamydospores and cystidia, a feature that has not been mentioned previously. Hymenium (basidia and basidioles) and spores also react with cotton blue, but the hyphae, chlamydospores and cystidia remain yellowish and then contrast with the blue hymenium. Materials studied fit well with descriptions by Stalpers (2000) and Núñez and Ryvarden (2001), and agree with European specimens examined, which also showed the metachromatic and cyanophilous reactions. Two collections cited as *Oxyporus* aff. *similis* by Rajchenberg (1993) from northwestern Argentina were examined and confirmed as *O. obducens*.

Vampola (1992) noted that *O. similis* (Bres.) Ryvarden collections from North America are *O. obducens*. Accordingly, we have checked material identified by Lowe as *Poria similis* Bres. from Montana, United States of America, and could confirm it as *O. obducens*. Among the European reference materials studied, only one collection was confirmed to have a chlamydocarp (*BAFC s/no.* from Bohemia Occ.).

Perenniporia medulla-panis (Jacq.: Fr.) Donk, Persoonia 5: 76, 1967

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan? (see remarks). In Argentina: Mesopotamian region in Entre Ríos and Misiones Provinces (Wright and Deschamps 1975*b*), in Andean Patagonian forests region (Rajchenberg 1983) and in Córdoba Province in xerophytic forests of "Chaco seco" and in *Polylepis australis* forests of Sierras Grandes of Córdoba Province. Spegazzini (1926*a*) recorded the species as common throughout Argentina, on dead wood.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, on dead fallen stem, 26 October 2002, *Robledo 141* (CORD). Departamento San Alberto, Los Gigantes, "El Caracol" forest, on log, 30 August 2003, *Robledo 175* (CORD).

REMARKS: The species concept of *Polylepis medulla-panis* is here accepted in a broad sense. Materials studied in this work have dextrinoid basidiospores, 7.5–8.7 μm × (5.5-) 6.2–7.5 μm and 4–5 pores/mm, with strongly interwoven vegetative hyphae in the trama, with a cream pore surface that, sometimes, becomes pale chestnut orange towards the margins. The pore surface turns permanent reddish to dark reddish with 5% KOH. This reaction is present in some *Perenniporia* species that possess hyphae with crystals that change to pink or lilac with 5% KOH, such as *Polylepis xantha* Decock & Ryvarden and *Polylepis aurantiaca* (A. David & Rajchenb.) Decock & Ryvarden (C. Decock, personal communication, 2005). Our collections are different from these two species and have a combination of characters typical of *Polylepis medulla-panis* complex of species.

Polyporus arcularius Batsch: Fr., Syst. Mycol. 1: 342, 1821

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan species, except for the boreal region (Núñez and Ryvarden 1995). In Argentina: Mesopotamian region in Corrientes Province (Popoff 2000), Buenos Aires and Entre Rios Provinces (Silveira 2001) and in *Polylepis australis* forests of Sierras Grandes of Córdoba, also in neighboring areas fruiting on dead fallen trunks of *Lithraea molleoides* and *Heterothalamus allienus*.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, 31°39′ 48″S, 64°41′ 33″W, on dead log, 27 January 2004, *Robledo 205*, *Robledo 206* (CORD).

Polyporus melanopus Sw.:Fr., Syst. Mycol. 1: 347, 1821

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Boreal species, in northern hemisphere circumpolar in temperate zones (Núñez and Ryvarden 1995), in southern hemisphere in southern South America. In Argentina recorded in the Andean Patagonian forests region (Rajchenberg 2002), Yungas region in Montane forests of Tucumán Province (Silveira 2001) and in *Polylepis australis* forests of Sierras Grandes of Córdoba.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, 31°38′ 51.8″S, 64°44′ 58.5″W, *Robledo 212* (CORD). Departamento San Alberto, Los Gigantes, Quebrada de Anselmo, 31°23′46.7″S, 64°48′57.2″W, on dead log, 17 July 2005, *Robledo 696* (CORD).

REMARKS: Previously recorded from the Patagonian Andes forests as *Polyporus dictyopus* Mont. (Wright and Deschamps 1975*a*).

Postia caesia (Schrad.: Fr.) P. Karst., Rev. Mycol. 3: 17, 1881

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan. In Argentina: in native substrates of Andean Patagonian forests region (Rajchenberg 2002), in Mesopotamian region in Buenos Aires and Misiones Provinces on *Salix humboldtiana* Willd. (Salicacaeae) and on wood of *Pinus* plantations (Wright et al. 1973), and in *Polylepis australis* forests of Sierras Grandes of Córdoba Province.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, Quebrada del Tigre, 32°00′39.3″S, 64°57′33.3″W, on dead log, 17 August 2003, *Robledo 162* (CORD). Ibid., 32°00′35.8″S, 64°57′50″W, on dead log, 18 August 2003, *Robledo 163* (CORD).

ADDITIONAL MATERIAL STUDIED: CZECHOSLAVAKIA. Moravia: Zbilidy, silva "Panské les", 13 km WSW of Jihlava, alt. ca. 650 m a.s.l., on *Picea abies*, 7 August 1993, Leg. et Det. P. Vampola (*BAFC s/no.*).

REMARKS: This is the second record from native substrates in Argentina.

Pycnoporus sanguineus (L.: Fr.) Murrill, Bull. Torrey Bot. Club 31: 421, 1904

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Pantropical to warm-temperate species. In Argentina commonly found up to 38°44′S (Wright and Deschamps1977). A generalist saprobe species.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento San Javier, "El Hueco" forest, on dead standing stem, 30 March 2003, *Robledo 156* (CORD).

Trametes versicolor (L.: Fr.) Pilát, Atl. Champ. Eur. 3: 261, 1936

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Cosmopolitan species. In Argentina: widespread throughout the country. A generalist saprobe species.

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Punilla, Quebrada del Condorito National Park, on living stem, 9 March 2000, *Robledo 5* (CORD).

REMARKS: Several forms of this species have been recorded from Argentina (Rajchenberg 1982) and two of them in the study area. In accordance with compatibility studies of the Argentinean forms made by Rajchenberg (2003), they are treated here as a single species.

Trametes hirsuta (Wulf.: Fr.) Pilát, Atl. Champ. Europe 3: 265, 1939

MATERIAL STUDIED: ARGENTINA. Córdoba: Departamento Pu-

Table 1. Polypore species arranged according to distribution pattern.

Polypore species	Known distribution	Host specificity[a]	Habit	Fructification location
Ganoderma adspersum	Unknown	Generalist	Facultative parasite	Base of living and dead trunks
Bjerkandera adusta	Cosmopolitan	Generalist	Facultative parasite	Living and dead trunks
Funalia gallica	Cosmopolitan	Generalist	Saprobe	Dead fallen logs
Perenniporia medulla-panis	Cosmopolitan	Generalist	Saprobe	Dead trunks
Polyoporus arcularius	Cosmopolitan	Generalist	Saprobe	Dead fallen logs
Postia caesia	Cosmopolitan	Generalist	Saprobe	Dead fallen logs
Trametes hirsuta	Cosmopolitan	Generalist	Saprobe	Dead logs and trunks
Trametes versicolor	Cosmopolitan	Generalist	Saprobe	Dead fallen logs
Gloeoporus dichorus	Cosmopolitan	Generalist	Saprobe	Dead trunks
Diplomitiporus lindbladii	Cosmopolitan	Generalist	Saprobe	Dead trunk
Oxyporus obducens	Boreal + South America	Generalist	Facultative parasite	Living and dead trunks
Polyporus melanopus	Boreal + South America	Generalist	Saprobe	Dead fallen log
Ceriporia spissa	Pantropical	Generalist	Saprobe	Dead fallen logs
Pycnoporus sanguineus	Pantropical	Generalist	Saprobe	Dead fallen logs
Fuscoporia gilva	Pantropical	Generalist	Facultative parasite	Living trunks, dead logs
Inonotus quercustris	Amphitropical	Generalist	Facultative parasite	Living trunks
Inocutis jamaicensis	Neotropical + temperate South America	Generalist	Saprobe	Dead trunks and logs
Phellinus apihaynus	Neotropical	Generalist	Facultative parasite	Living trunks
Inonotus venezuelicus	Neotropical	Generalist	Facultative parasite	Living and dead trunks
Phellinus tabaquilio	Neotropical, montane[b]	*Polylepis*	Facultative parasite	Living trunks
Phellinus uncisetus	Neotropical, montane[b]	*Polylepis*	Facultative parasite	Living trunks
Datronia orcomanta	Neotropical, montane[b]	*Polylepis*	Saprobe	Dead attached branches
Phellinus daedaliformis	Neotropical[b]	*Polylepis*?[c]	Saprobe	Dead trunks

[a]Polypore species that occur in more than one host species are considered "generalists".

[b]Species endemic to Argentina.

[c]Host specificity was established from field collections, and only the type specimen was collected on another host, a decayed banister of *Tabebuia*.

nilla, Quebrada del Condorito National Park, 31°39′17.5″S, 64°42′02″W, on dead log, 20 June 2004, *Robledo 230* (CORD).

GEOGRAPHICAL DISTRIBUTION AND HOSTS: Temperate regions of Northern hemisphere, Australia and New Zealand. In South America only present in Argentina in Buenos Aires Province on exotic substrates (Rajchenberg 1982) and in *Polylepis australis* forests of Sierras Grandes of Córdoba Province.

REMARKS: This is the first record on a native substrate of Argentina.

Discussion

This study shows that at least 23 polypore species live on the decaying wood of living and dead *Polylepis* in the southern extreme of its distribution. The relatively high regional endemism (seven species restricted to Central and South America, six exclusively neotropical) and the occurrence of four species restricted to *Polylepis* (Table 1) indicates that this substrate is very important for the occurrence of certain taxa. Rajchenberg (1989) reported similar patterns of endemism for polypores in southern South America associated with the genus *Nothofagus*, which also has a narrow distribution. In contrast, a recent study of polypores in *Alnus acuminata* forests in northwestern Argentina (Robledo et al. 2003*b*), a species that may develop in adjacent areas or co-occur with *Polylepis australis*, reported 21 species, of which none were endemic or host specific. In fact, most reported species are cosmopolitan or widely distributed species. This could be related to the fact that *Alnus* is a holartic genus widely distributed in the northern hemisphere, occurring in both sides of the Equator in the Americas. Conversely, *Polylepis* has a narrow distribution being native of the South American Andean mountains and *Nothofagus* is a Gondwanic genus now restricted to southern South America, New Caledonia, New Guinea, New Zealand, Southeast Australia, and Tasmania. The absence of specificity among polypores decaying the co-occurring species *Alnus acuminata* together with the efficient long-distance dispersal of most wood-inhabiting fungi (Hallenberg 1991; Hallenberg and Küffer 2001; Ryvarden 1991) suggest that dispersal limitations are not sufficient to explain the restricted patterns of distributions of polypores found decaying *Polylepis australis*. Rather, together with the patterns of distribution and historical events (Arnolds 1997), it suggests important host specificity restrictions (Ryvarden 1991).

Host specificity relationships and substrate conditions

It has been suggested that highly diverse forests (with a high number of tree species and scattered trees of each species) would promote a low host specificity of fungal species (May 1991). On the contrary, in a low diversity forest, host specificity should be higher (Gilbert 2005). In support of Gilbert's prediction, the results reported here (Table 1)

show that 17% of the species (4 out of 23) are host specific in the low diversity *Polylepis* forests.

Patterns of host specificity have been previously observed for tropical polypores and are generally most prominent among fungi that decay wood in early decomposition stages (i.e., living or newly fallen trunks) (Gilbert and Sousa 2002; Hattori and See 2003). Recently, it has been proposed that, according to the substrate condition that polypores are able to decay, different functional groups can be recognised (Urcelay and Robledo 2004), that is, those decaying (*i*) living trunks, (*ii*) dead trunks, and (or) (*iii*) dead branches. In the present study 9 out of 23 species (39%) of polypores found in *Polylepis* woodlands (Table 1) belong to the first group. Among them, two appear to be host specific. On the other hand, most of the species found decaying dead wood of *Polylepis* are well known generalist taxa. Similarly, Lindblad (2000) found that most wood-inhabiting fungi occurring on dead fallen trunks in Costa Rica lacked host specificity. The physical and chemical structure of living or dead wood enclosed in living tissue act as a strongly selective filter to decomposers (Boddy 2001) and only a restricted number of wood decay fungi are able to colonize these substrates. Therefore, those species that are able to decay living trunks with intact structural components with highly selective conditions, so-called facultative parasites, are more specific (Boddy 2001). A more functional approach may therefore help to understand the ranges and patterns of distribution and host specificity in polypore species (see below).

Species distribution and patterns of endemism

It has been pointed out that the ratio of endemic species in the widespread genera *Phellinus s.l.* and *Inonotus s.l.* (Hymenochaetaceae) is high in southern South America and Australia (Ryvarden 1991, 1996). Among the seven polypore species occurring exclusively in Central and South America, six are xanthochroic polypores (Hymenochaetaceae) (Table 1). Many members of Hymenochaetaceae from southern South America are parasites on living trees (Wright and Blumenfeld 1984; Urcelay et al. 1999, 2000; Urcelay and Rajchenberg 1999; Robledo et al. 2003*a*, this study). Thus it seems plausible to hypothesize that the high proportion of regional endemism in this group could be attributed, at least in part, to their capacity to decay wood on living trees in the particular flora of South America. In other words, the distributions of facultative parasite polypores might be closely related to host plant distribution as has been proposed for ectomycorrhizal fungi and other obligate parasites (Pirozynski 1983). Altogether, our results suggest that *Polylepis* forests are very important habitats/substrate for some polypore taxa. The genus *Polylepis* comprises 15 species (Simpson 1979) along the Andes, but only 3 species, restricted to the extremes of its distribution (*Polylepis australis* and *Polylepis tomentella* in Argentina and *Polylepis* sp. in Venezuela), have been studied so far. Therefore, more knowledge of the mycota associated with *Polylepis* woodlands appear to be highly desirable not only for conservation and management purposes, but also to further understand the patterns of polypore species distribution in South America.

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