

Inonotus crustosus (Basidiomycota, Polyporales), first record for the Chilean mycobiota

Inonotus crustosus (Basidiomycota, Polyporales), nuevo registro para la micobiota chilena

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RESUMEN

Se registra por primera vez para Chile la especie *Inonotus crustosus* (Speg.) J.E. Wright & J.R. Deschamps (Hymenochaetaceae, Basidiomycota). Los basidiocarpos fueron encontrados desarrollándose sobre madera de *Nothofagus antarctica*, en dos puntos de la Región de Aisén. Se describen e ilustran los caracteres diagnósticos y se realizan comentarios acerca de la especie.

During two fungal surveys in the region of Aisén, Southern Chile, conspicuous fungal fructifications were observed growing on *Nothofagus antarctica* (ñirre) wood. Later, collections were identified as basidiomata of *Inonotus crustosus* (Speg.) J.E. Wright & J.R. Deschamps (Hymenochaetaceae, Kirk *et al.* 2008), which previously was only known from Southern Argentina (Rajchenberg 2006). Basidiomata were processed following Ryvarden & Gilberston (1993) and documented *in situ* and in laboratory by digital colour photographs with a Nikon D90 camera. Observations of microscopic characteristics were made on free hands sections of basidiomata, under a phase contrast microscope (Primo Star, Carl Zeiss, Germany), mounted on glass slides in water, 5% (w/v) KOH, Melzer's reagent, phloxine and cotton blue lactophenol. For preservation, specimens were desiccated for 48 h in a ventilated oven and deposited in the author's personal collection and in the fungal collection of the Natural History Museum Santiago, Chile (SGO).

TAXONOMY

Inonotus crustosus (Speg.) J.E. Wright & J.R. Deschamps. Fl. Criptog. Tierra del Fuego 11(3): 22 (1975).

Synonyms:

Polyporus (Resupinatus) crustosus Speg., Bol. Acad. Nac. Cs. Córdoba 11: 64 (1887).

Phellinus crustosus (Speg.) Gottlieb, J.E. Wright & Moncalvo, Mycol. Progress 1: 309 (2002).

Basidiocarp poroid, annual, resupinate, xanthocroic, up to 20 x 7 cm (Fig. 1), with margins weakly attached to the substrate, pores 2-3(-4) mm, decurrent, gray brown to reddish light brown; context thin, 0.5-1 mm thick, tubes up to 13 mm long, corky to fibrous when fresh and rigid and brittle when dry; *hyphal system* monomitic; generative hyphae simple-septate, up to 7.5 µm diam., hyaline to light brown (Fig. 2d); *basidia* broadly clavate, 7-11 x 20-25 µm, 4-spored, sterigmata up to 5 µm long. (Fig. 2b); *basidiospores* ellipsoid to obovoid, 8.3-11 x 6.5-8 µm, with hyaline to light brown, thick walls, IKI- and cyanophilous (Fig. 2a); *hymenial setae* abundant, subulate to ventricose, straight to strongly curved, few clavate, 15-35(-48) x 8-12 µm, thick walls [up to 5.5 µm thick], yellowish to reddish brown, incrusted or not at the apex (Fig. 2c).

SPECIMEN EXAMINED: CHILE, Region of Aisén, within *Nothofagus antarctica* Forest near Lake Yulton. On dead stems and branches of *Nothofagus antarctica*, lat. 45°9'20.19"S, long. 72°54'28.41"W, alt. 493 masl, 25-VI-2008, leg. & det. P. Sandoval-Leiva, PSL 160 (SGO 163550). Ibid. In *Sphagnum* bog near Turbio river; on dead stems of *Nothofagus antarctica*, lat. 45°6'49.79"S, long. 72°14'12.05"W, alt., 500 masl, 27-VII-2011, leg. P. Sandoval-Leiva, P. Saldivia & J. Martínez, det. P. Sandoval-Leiva, PSL 191 (SGO 163162).

Chilean collections of *I. crustosus* correspond well to morphological descriptions by Gottlieb *et al.* (2002),

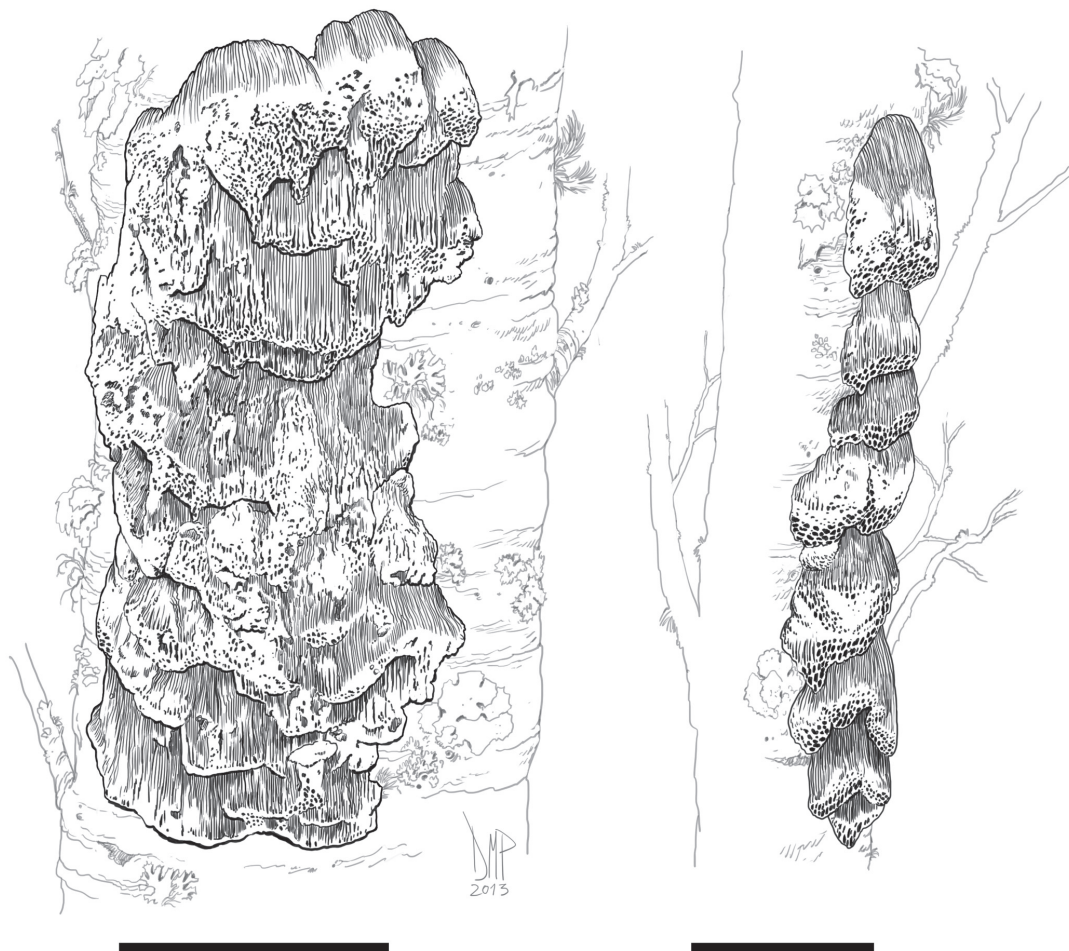


FIGURE 1. *Inonotus crustosus* (SGO 163162), basidiomata growing on *Nothofagus antarctica* dead stems. Bars: 5 cm (Drawings by D. Martínez).

FIGURA 1. *Inonotus crustosus* (SGO 163162), basidiocarpos desarrollándose sobre troncos muertos de *Nothofagus antarctica*. Barras: 5 cm (Dibujos por D. Martínez).

Rajchenberg (2006) and Wright & Deschamps (1975). However, Chilean materials present some differences compared to the above-cited descriptions: at macroscopic level, the Chilean basidiomata are larger, apparently under good environmental conditions the basidiomata can continue advancing through the stem or branches of the host. In addition, decurrent pores reach a greater length. In terms of microscopical features, basidia were slightly shorter than described by Rajchenberg (2006), whereas cyanophilous spores were present, unlike findings by Wright & Deschamps (1975), hymenial setae were longer than those observed by all other authors. Also, it is important to note that this is the first record of the species growing on wood of *Nothofagus antarctica*.

I. crustosus is an easily identifiable species, characterized by its resupinate basidiomata, large spores with thickened

walls and the presence of hymenial setae occasionally apically incrustated. This taxon had previously been recorded only from Andean-Patagonian forests of Argentina between the provinces Chubut and Tierra del Fuego, the latter material having been described by Spegazzini (1887).

Gottlieb *et al.* (2002) suggested to transfer this taxon to the genus *Phellinus*, based on one hand on molecular data which showed that Argentinean specimens of *I. crustosus* do not share a recent common ancestor with *Inonotus sensu stricto*, on the other hand on the distinction of two types of generative hyphae. In this work, it is followed the conservative concept proposed by Rajchenberg (2006), maintaining the name *Inonotus* until there is a better comprehension of the relationships within the Hymenochaetales, adding to the fact that Chilean collections clearly show a monomitic hyphal system.

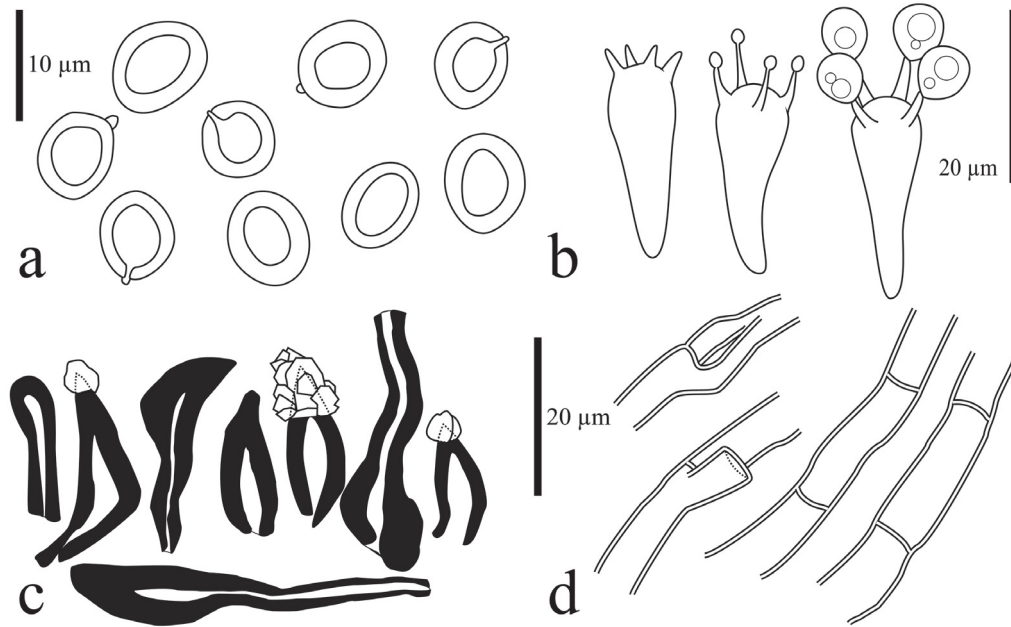


FIGURE 2. *Inonotus crustosus* (SGO 163162), microscopic characters: a: basidiospores, b: basidia, c: hymenial setae, d: generative hyphae (Drawings by P. Sandoval-Leiva).

FIGURA 2. *Inonotus crustosus* (SGO 163162), caracteres microscópicos: a: basidiosporas, b: basidias, c: setas himeniales, d: hifas generativas (Dibujos por P. Sandoval-Leiva).

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