
Hymenochaete macrochloae

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Hymenochaete macrochloae Olariaga & M. Prieto, *sp. nov.*

Etymology. The epithet refers to its host, *Macrochloa tenacissima*.

Classification — *Hymenochaetaceae*, *Hymenochaetales*, *Agaricomycetes*.

Basidioma annual, effuse, with appressed margin, loosely adnate, sometimes raised at the margin when old, brittle when dry, initially orbicular, confluent afterwards, up to 5 cm diam. *Hymenophore* smooth, initially even, minutely cracked in aged basidiomata, cinnamon brown (6C8, 6D8) (Kornerup & Wanscher 1978). *Margin* appressed, slightly fimbriate and yellowish brown (5B7) in young basidiomata, smooth and concolorous with the hymenophore in older basidiomata. *Basidioma section* 60–130 µm thick, not stratified, composed of the hymenium and the context. *Basidia* claviform, 4-spored, clampless, the lower 2/3 embedded in a resinous brown matter, 18–25 × 4–5.5 µm. *Basidiospores* ellipsoid in side view, thin-walled, smooth, hyaline, sometimes brown, multiguttulate, non-amyloid, 5.5–7 × 3–4 µm (L_m = 6.1–6.5; W_m = 3.5–3.8; Q_m = 1.7–1.8). *Setae* abundant, arising from the subhymenium or the upper part of the context, projecting up to 50 µm over the hymenium, subulate, dark brown, thick-walled (up to 3 µm thick), smooth, rarely with a few hyphae forming a sheath, sometimes gibbose at the base, often with a bi- or trifurcate base, (30–)69–87(–100) × 6.5–9(–10) µm. Context formed by interwoven generative hyphae, cylindrical, moderately thick-walled, often branched at a right angle, golden brown, clampless, 2.5–4 µm diam. Basal layer of vaguely parallel-arranged hyphae observed in aged basidiomata. *Crystals* sometimes present on the subhymenial and context hyphae, bipyramidal to sphaeroid, 2–3 µm diam.

Distribution — Currently known from several localities in the central area of the Iberian Peninsula.

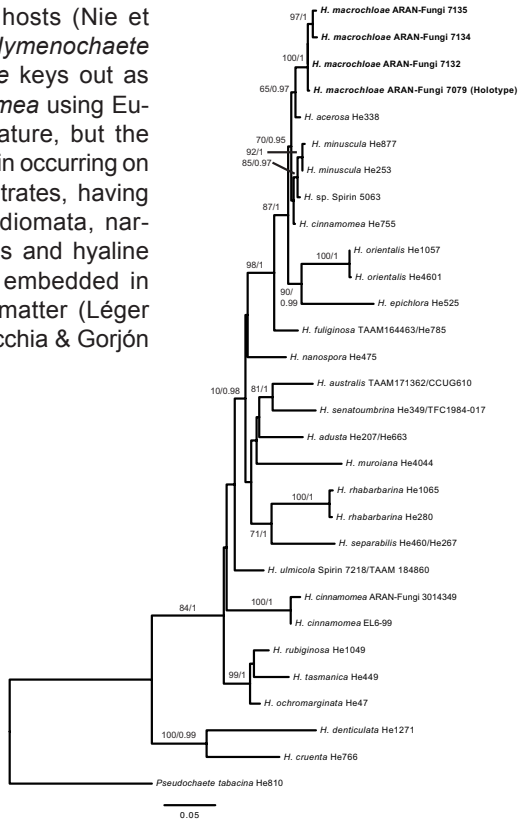
Phylogeny — ITS-LSU analyses reveal that specimens of *H. macrochloae* form a clade with maximum support in both analyses and are included in a major clade together with *H. acerosa*, *H. epichlora*, *H. minuscula*, *H. orientalis*, and an Asian specimen assigned to *H. cinnamomea* (support values 87/1). Sequences from European material of *H. cinnamomea* fall outside this clade. Based on a megablast search of the NCBIs GenBank nucleotide sequence database closest hits to the ITS sequence of the holotype of *H. macrochloae* are *H. fuliginosa* (GenBank JQ279545; Identities = 649/667 (97 %), Gaps = 3/667 (0 %)), *H. acerosa* (GenBank NR120042; Identities = 647/667 (97 %), Gaps = 2/667 (0 %)) and *Hymenochaete* sp. (GenBank KM017419; Identities = 644/665 (97 %), Gaps = 3/665 (0 %)).

Typus. Spain, Toledo, Villarubia de Santiago, Valdelaparrilla, 654 m a.s.l., on dead stems in the core of cushions of *Macrochloa tenacissima*, 19 Dec. 2016, *M. Prieto & I. Olariaga* (holotype ARAN-Fungi 7079, ITS and LSU sequences GenBank MF990738 and MF990745, MycoBank MB822948). Isotypes at AH and UPS.

Colour illustrations. *Macrochloa tenacissima* community where the holotype of *Hymenochaete macrochloae* was encountered; basidiomata growing on dead stems of *M. tenacissima*, setae, basidia, multiguttulate basidiospores in H_2O (left) and basidiospores with homogeneous content in KOH 5 % (right). Scale bars = 10 µm.

Additional material examined: Spain, Madrid, Aranjuez, El Regajal, 562 m a.s.l., on dead stems of *Macrochloa tenacissima*, 14 Feb. 2016, *M. Prieto* & *I. Olariaga*, ARAN-Fungi 7132, ITS and LSU sequences GenBank MF990739 and MF990744; Madrid, Arganda del Rey, El Dragón, 620 m a.s.l., on dead stems of *M. tenacissima*, 21 Apr. 2017, *I. Olariaga*, ARAN-Fungi 7133; Madrid, Arganda del Rey, Dehesa de Carrascal, 630 m a.s.l., on dead stems of *M. tenacissima*, 21 Apr. 2017, *I. Olariaga*, ARAN-Fungi 7134, ITS and LSU sequences GenBank MF990740 and MF990745; Madrid, San Martín de la Vega, El Rincón Verde, 585 m a.s.l., on dead stems of *M. tenacissima*, 23 Apr. 2017, *I. Olariaga*, ARAN-Fungi 7135, ITS and LSU sequences GenBank MF990741 and MF990746). ***Hymenochaete cinnamomea***: Spain, Basque Country, Irun, Elurretxe, on dead wood of *Fagus sylvatica*, 14 Mar. 2014, *J.M. Lekuona*, ARAN-Fungi 3014349, ITS and LSU sequence GenBank MF990742 and MF990747).

Notes — *Hymenochaete macrochloae* is characterised by producing thin basidiomata, short setae with a furcate to multifurcate base, basidia embedded in a resinous brown matter and being apparently restricted to *Macrochloa tenacissima* – an endemic *Poaceae* from arid areas of the Western Mediterranean countries. *Hymenochaete acerosa* differs from *H. macrochloae* in its considerably longer setae, basidia not embedded in a resinous matter and occurring on angiosperm wood (He & Li 2011). *Hymenochaete orientalis* shares with *H. macrochloae* setae that sometimes have a furcate base, but it has longer setae and inhabits bambusoid hosts (Nie et al. 2017). *Hymenochaete macrochloae* keys out as *H. cinnamomea* using European literature, but the latter differs in occurring on woody substrates, having thicker basidiomata, narrower spores and hyaline basidia not embedded in a resinous matter (Léger 1998, Bernicchia & Gorjón 2010).



Maximum likelihood (ML) tree inferred from ITS-LSU sequences. The Bayesian analysis (MrBayes v. 3.3) was performed using mixed models of evolution for 20 M generations. Supported values of maximum likelihood bootstrap (BP-ML) and posterior probabilities (PP) are depicted at the nodes (BP-ML: > 70 % / PP: > 0.95 are shown).

Ibai Olariaga, Aranzadi Society of Sciences, Mycology section, Zorroagagaina 11, P.C. 200014, Donostia-San Sebastián, Basque Country, Spain; e-mail: ibai.olariaga@ehu.eus
María Prieto, Área de Biodiversidad y Conservación, Universidad Rey Juan Carlos, c/Tulipán, P.C. 28933, Móstoles, Madrid, Spain; e-mail: maria.prieto@urjc.es