

*Ganoderma podocarpense*



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***Ganoderma podocarpense* J.A. Flores, C.W. Barnes & Ordoñez, sp. nov.**

*Etymology.* Name reflects the locality where the species was collected.

*Classification* — *Polyporaceae*, *Polyporales*, *Agaricomycetes*.

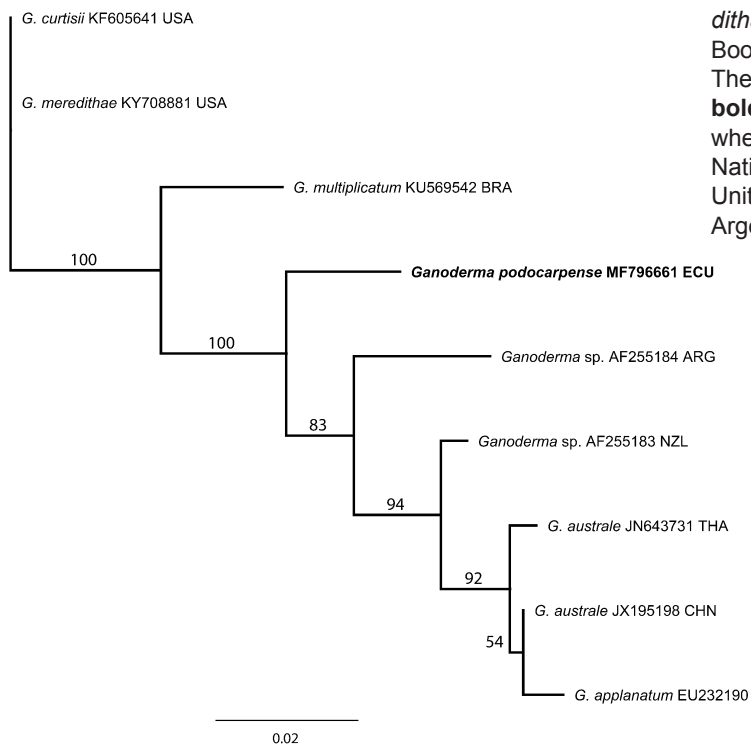
*Basidiomata* perennial, flattened, flabelliform, 3.2 × 2.5 cm, woody, hard consistency when dry, pileus glabrous, zonate, opaque, dark brown, covered with cinnamon coloured basidiospores, margin slightly lighter in colour. Black cuticle of uniform width throughout the basidiomata. Context woody, 0.4 cm in width, no resin bands. Hymenial surface pale brown when fresh or dry, turns darker upon contact, pores round, smooth, 5 per mm, thick wall; tubes brown, hymenium 7 mm in width, not stratified. Cutis trichoderm. *Hyphal system* trimitic, generative hyphae yellow, 3.5 µm wide, thin-walled, skeletal hyphae brown, predominant, 8 µm wide, thick-walled to solid, connective hyphae hyaline, thin, 2.5 µm wide. *Basidia* not observed. *Basidiospores* ellipsoid, double-walled, truncate, brown, 8–10 × 5–6 µm, Q = 1.6.

*Habit* — Solitary, on fallen tree trunk.

*Typus.* ECUADOR, Zamora Chinchipe province, Podocarpus National Park, Ecuador, alt. 1002 m, June 2016, J. Flores (holotype QCAM6422, Fungarium QCAM, ITS and LSU sequences GenBank MF796661 and MF796660, MycoBank MB822575, TreeBASE Submission ID 21473).

*Notes* — Based on morphology the sample belongs to the *G. applanatum* complex (Gottlieb & Wright 1999). According to the Neotropical Polypores key (Ryvarden 2004) *G. citriporum* is the closest species, given the presence of a lateral stipe and brown context colour. However, *G. podocarpense* differs in most morphological characteristics. Amongst the most contrasting are the smaller size of the stipe, absence of resin bands in the context, different colour of the hymenium and the trimitic hyphal system. The complete ITS sequence of 554 bases of the *G. podocarpense* holotype was used for the Blastn search; the ITS length followed Moncalvo & Buchanan (2008). The Blastn results gave the two highest scores to *Ganoderma* sp. from Argentina (GenBank AF255184) and *Ganoderma* sp. from New Zealand (GenBank AF255183) reported by Moncalvo & Buchanan (2008) as part of the *G. australe-applanatum* species complex. *Ganoderma podocarpense* had 23 single base differences with 4 gaps, and 24 single base differences with 5 gaps from the two highest Blastn scores respectively. The six highest Blastn scores, plus *G. curtisii* and *G. meredithae*, Blastn scores eight and nine, were used in the phylogenetic analysis. The final alignment was edited by hand for alignment errors.

The phylogenetic tree was constructed using the Maximum Likelihood plugin PHYML in Geneious R9 (<http://www.geneious.com>; Kearse et al. 2012), and the substitution model determined by jModelTest (Posada 2008) according to the Corrected Akaike Information Criterion (AICc). *Ganoderma curtisii* and *G. meredithae* (GenBank KF605641 and KY708881) is the outgroup. Bootstrap support values ≥ 50 % are given above the branches. The phylogenetic position of *G. podocarpense* is indicated in **bold**. The species name is followed by the GenBank ID, and when the country of origin was indicated, the three letter United Nations country code is used, in order of appearance: USA: United States of America, BRA: Brazil, ECU: Ecuador, ARG: Argentina, NZL: New Zealand, THA: Thailand, CHN: China.



*Colour illustrations.* Ecuador, Podocarpus National Park; basidiomata; hymenium; basidiospores (scale bar = 5 µm) and pileipellis (scale bar = 10 µm).

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