Hodophilus indicus
**Hodophilus indicus** K.N.A. Raj, K.P.D. Latha & Manim., sp. nov.

**Etymology.** Name refers to India, the country where this species was first discovered.

**Classification —** Clavariaceae, Agaricales, Agaricomycetes. Basidiocarps small, somewhat ophalminoid. **Pileus** 6–13 mm diam, hemispherical to convex with a very shallow central depression; surface greyish brown (6D3/OAC773) at the centre and on the striations, and brownish orange (6C5/OAC653) elsewhere, strongly hygrophanous and becoming paler soon after collection, finely pellucid-striate, somewhat tacky when wet, smooth or occasionally finely appressed-squamulose at the centre, somewhat plicate towards the margin; margin incurred when young, becoming decurved or slightly reflexed with age, crenate or somewhat wavv. **Lamellae** 16–18, arcuate-subdecurrent, rather waxy, moderately close, pale orange (6A4, 6A5/OAC655), up to 4 mm wide, with lamellulae in 1–3 tiers; edge entire to the naked eye, finely torn under a lens, concolorous with the sides. **Stipe** 12–26 × 1.5–3.5 mm, central, terete, equal, rather flexuous, solid; surface greyish orange (6B3/OAC633) all over, glabrous to the naked eye, weakly pruinose all over under a lens, somewhat tacky when wet; base with scanty basal mycelium. **Odour** and **taste** not distinctive. **Basidiospores** 4–5 × 3–5 (4.57 ± 0.37 × 4.17 ± 0.45) μm, Q = 1.0–1.66, Qm = 1.11, subglobose to globose, smooth, thin-walled, hyaline, inamyloid, hilar appendage up to 1 μm. **Basidia** 32–46 × 4–7 μm, narrowly clavate, often tapered and flexuous towards the base, pale yellow, thin-walled, 4-spored; sterigmata up to 4 μm long. **Basidioles** 29–45 × 3–6 μm, cylindrical to narrowly clavate, often flexuous, thin-walled, pale yellow. **Pleurocystidia** absent. **Lamella-edge sterile** with crowded marginal cells. **Marginal cells** 14–48 × 3–8 μm, cylindrical or flexuous, occasionally septate, hyaline, thin-walled. **Lamellar trama** subregular to somewhat irregular; hyphae 2–16 μm wide, thin-walled, hyaline or pale yellow, inamyloid. **Subhymenium** poorly developed. **Pileus trama** parallel interwoven; hyphae 3–12 μm wide, thin-walled, hyaline, inamyloid. **Pileipellis** a hymeniderm with diverticulate elements; hyphae 3–10 μm wide, thin-walled, hyaline; terminal elements 12–32 × 10–16 μm, diverticulate, broadly clavate or inflated-clavate, thin- to slightly thick-walled, hyaline. **Stipitipellis** a cutis disrupted by patches of ascending or erect, somewhat diverticulate caulocystidia; hyphae 3–7 μm wide, thin- to slightly thick-walled, hyaline or with a pale-yellow wall pigment. **Caulocystidia** multisepitate, terminal elements 14–88 × 4–8 μm, cylindrical-flexuous, clavate, obstone or at times with apical constrictions, thin- to slightly thick-walled, inamyloid. **Clamp connections** not observed on any hyphae.

**Habit, Habitat & Distribution —** In small groups, on humus-rich soil. Known only from the type locality in Kerala State, India.

**Typus.** **INDIA.** Kerala State, Wayanad District, Tirunelli, Brahmagiri Hill, from a shola forest of rolling shola grasslands of Western Ghats, 17 Nov. 2010. **K.N. Anil Raj** (holotype CAL 1526, ITS and LSU sequences GenBank KY807130 and GenBank KY815097, MycoBank MB820666).

Notes — The combination of characters such as the hymeniderm-type pileipellis composed of clavate or inflated-clavate terminal elements and the absence of clamp connections indicates that this species belongs to the genus Hodophilus (Adamčík et al. 2016, Birkebak et al. 2016). **Hodophilus hymenocephalus**, a species originally described from USA by Smith & Hesler (1942, as *Hygrophorus hymenocephalus*), shows similarity with *H. indicus* in having a similar-looking pileus with somewhat similar surface features, almost similar number and attachment of lamellae, similar-sized basidiospores (4–5 μm), an irregular lamellar trama and a similar pileipellis. **Hodophilus hymenocephalus**, however, is distinguished by its pale pinkish cinnamon to brown pileus, hair-brown lamellae, longer stipe (3–4 cm), a hymenium devoid of marginal cells and the geographical location. Additionally, a pairwise comparison of the ITS sequences (GenBank KY807130/DO484066) of these two species showed only 87 % sequence similarity (with a high e-value). **Hodophilus micacea** shares a few features with *H. indicus* such as a hygrophanous pileus with somewhat similar surface features, rather similarly-attached lamellae, somewhat similar-sized basidiospores (3.5–4–5(–5.5) × (3–)3.5–4.5 μm), a hymenium devoid of pleurocystidia, an irregular lamellar trama, similar pileipellis and stipitipellis structure and clamped hyphae. **Hodophilus micacea**, however, differs from *H. indicus* in having slightly larger basidiomata with a dark grey-brown pileus, very distant, dark grey-brown, slightly purple-tinted lamellae with a pale brown edge, a beige-brown stipe with pruinosity confined to the apex, a weak aromatic odour, infrequent presence of ellipsoid or broadly ellipsoid basidiospores, occasional absence of cystidia on the lamella-edge, hyphae of lamellar trama with an encrusting pigment, a pileipellis with larger terminal elements (23–70 × 11–42 μm) and a stipitipellis with smaller (18–50 × 5–14 μm) and inflated-clavate terminal elements (Arnolds 1990).

A BLASTn search using the ITS (593 bp) sequence of *H. indicus* showed *H. micaceus* (GenBank KU882873; 91 % identity) as the closest hit. While using the LSU (706 bp) sequence, **Hodophilus micaceus** (GenBank KP257222; 93 % identity), a collection from Slovakia resulted as the closest hit. ML and BI analyses of the combined ITS and LSU dataset recovered two large clades designated as **Hodophilus micaceus** and **Hodophilus foetens** superclades following Adamčík et al. (2016). **Hodophilus indicus** was found nested inside the **Hodophilus micaceus** superclade with strong posterior probability (0.98 PP) and weak bootstrap support (58 % BS). Within this **Hodophilus micaceus** superclade, **H. indicus** resolved as an independent lineage well-differentiated from other species of the clade with significant support values (0.93 PP/72 % BS) (MycoBank supplementary data).

**Colour illustrations.** Kerala State, Wayanad District, Tirunelli, Brahmagiri Hill shola forest, type locality; basidiocarps, basidiospores, basidium, lamella-edge showing marginal cells, pileipellis, terminal elements of pileipellis. Scale bars = 10 mm (basidiocarps), 10 μm (microscopic structures).