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Ypsilonidium bananisporum sp. nov. (Ceratobasidiales) from Iriomote Island, Japan

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Ypsilonidium bananisporum **sp. nov. belonging to Ceratobasidiales is described and illustrated. This fungus has all the characteristics of the genus *Ypsilonidium* including reticulate-hypochnoid basidiomes, broad hyphae branching at right angles, broadly clavate basidia with two sterigmata, and basidiospores germinating by repetition. It differs from all hitherto known species in the genus by producing suballantoid to banana-shaped basidiospores, measuring 19.5–22 × 5.5–6 μm.**

Key Words——Ceratobasidiaceae; Japan; taxonomy; *Ypsilonidium bananisporum*.

The genus *Ypsilonidium* (Ceratobasidiales, Ceratobasidiaceae), which was erected by Donk in 1972, is primarily characterized by its reticulate-hypochnoid basidiomes, broad hyphae branching at right angles, broadly clavate basidia with two sterigmata and basidiospores germinating by repetition. The following three species have hitherto been reported for this genus: *Y. anomalum* Talbot (Warcup and Talbot, 1980), *Y. langlei-regis* (Reid) Donk (Donk, 1972) and *Y. sterigmaticum* (Bourd.) Donk (Donk, 1972). In 1996, the author collected a fungus belonging to *Ypsilonidium* from Iriomote Island, southwestern Japan. Since the fungus differed from all the known species of the genus in some important characteristics, it is proposed as a new species, *Y. bananisporum*.

Ypsilonidium bananisporum Maekawa, sp. nov. Figs. 1–5

Basidiomata resupinata, laxe adnata, effusa, tenua; superficies hymenialis in statu sicco griseo-alba, "Buff" usque "Ochreous" (sec. Rayner, 1970), laevis, sub microscopio (× 20) reticulata vel hypochnoidea; margo griseo-alba, indeterminata, sub microscopio (× 20) reticulata vel farinacea. In sectione, textura subhyalina, arachnoidea vel byssoidea. Systema hypharum monomiticum. Hyphae 4–6 μm diam, laeves, tenuiter vel paulumucrasse tunicatae (usque 0.5 μm), simpliciseptatae. Cystidia absunt. Basidia late clavata, sine fibula basali, 15–20 × 9–10.5 μm, 2 sterigmata gignentia. Basidiosporae suballantoidae vel bananiformae, 19.5–22 × 5.5–6 μm, laeves, tenuiter tunicatae, interdum materiam oleariam continentes, non-amyloideae, propagatione repetitiva germinantes.

Basidiomata resupinate, loosely adnate, effused, thin; hymenial surface greyish white, "Buff" to "Ochreous" (based on Rayner, 1970) when dried, smooth, reticulate to hypochnoid under the lens (× 20); margin greyish white, indeterminate, reticulate or farinaceous under the lens (× 20). In vertical section subhyaline, arachnoid or byssoid. Hyphal system monomitic; hyphae 4–6 μm in diam, smooth, thin- to slightly thick-walled (up to 0.5 μm), clampless-septate, with dolipores at the septa, branching almost at right angles, multinucleate celled; cystidia lacking; basidia broadly clavate without a basal clamp, 15–20 × 9–10.5 μm, producing 2 sterigmata, sometimes containing oily material; sterigmata 14–23 μm in length; basidiospores suballantoid to banana-shaped, 19.5–22 × 5.5–6 μm, smooth, thin-walled, usually containing oily material, non-amyloid, ger-

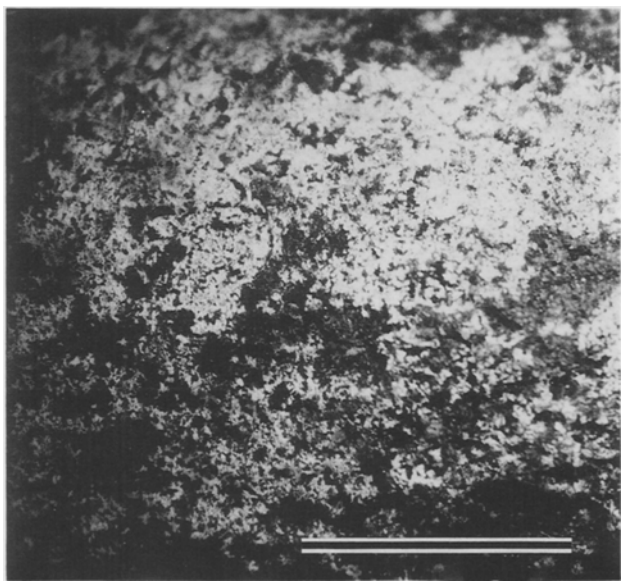

Fig. 1. Basidioma of *Ypsilonidium bananisporum* (TMI 20013, holotype). Scale bar = 5 mm.

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Figs. 2–5. *Ypsilonidium bananisporum*.
2. Basidiospores. 3. Basidiospores germinating by repetition. 4. Basidia at various stages of maturation. 5. Hyphae. Scale bar = 10 μm.

minating by repetition.

Specimen examined: TMI 20013 (holotype, TMI), on a decaying branch of a broad-leaved tree, Iriomote Island (24°19′N, 123°54′E, at an altitude of 50 m), Taketomi-cho, Yaeyama-gun, Okinawa prefecture, 11 June 1996.

Ypsilonidium bananisporum produces resupinate, effused, reticulate-hypochnoid basidiomes (Fig. 1), broad hyphae branching at right angles (Fig. 5), broadly clavate basidia with two sterigmata (Fig. 4) and basidiospores germinating by repetition; i.e., by the production of a secondary spore (Fig. 3). These features concur with those of the genus *Ypsilonidium*. This species, however, is distinguishable from the previously described species of *Ypsilonidium*, *Y. anomalum*, *Y. langlei-regis* and *Y. sterigmaticum*, by the shape and size of basidiospores as shown in Table 1. Basidiospores of *Y. bananisporum* are suballantoid to banana-shaped (Fig. 2), whereas those of the other species are usually ellipsoid to cylindrical and smaller than *Y. bananisorum* (Table 1).

Recently, Langer (1994) treated *Y. sterigmaticum* (Bourd.) Donk (Donk, 1972) as a synonym of *Thanatephorus sterigmaticus* (Bourd.) Talbot (Warcup and Talbot, 1967). According to Donk (1974), however, *Thanatephorus* comprises species that are parasitic and regularly form *Rhizoctonia* stages, while *Y. sterigmaticum* is saprobic and lacks a *Rhizoctonia* state.

Table 1. Basidiospores of *Ypsilonidium bananisporum* and hitherto known species.

Species	Shape	Size (μm)	Reference
Y. bananisporum	suballantoid to banana-shaped	19.5–22 × 5.5–6	
Y. anomalum	ellipsoid usually with one side flattened or rarely curved	(8–)14–16(–20) × (5–)7(–9)	Warcup and Talbot (1980)
Y. langlei-regis	ellipsoid, broadly ellipsoid or ovate to pyriform	8.75–13(–15) × (5–)5.75–7.5	Reid (1969, as *Thanatephorus langlei-regis*)
Y. sterigmaticum	cylindrical or broad ellipsoid with one side flattened, sometimes slightly curved	10–17 × 5–8	Warcup and Talbot (1967, as *T. sterigmaticus*)

Furthermore, *Ypsilonidium* possesses two-sterigmate basidia that are broadly clavate and wider than the supporting hyphae (Warcup and Talbot, 1980; Sneh et al., 1991). The basidial characteristic was recognized also in *Y. bananisporum* (Fig. 4). On the other hand, basidia of *Thanatephorus* are usually subcylindrical to barrel-shaped or ovoid, not much wider than the supporting hyphae and bear mostly four sterigmata (Tu et al., 1977; Sneh et al., 1991; Currah and Zelmer, 1992). In addition, basidia and basidiospores of *Y. bananisporum* as well as *Y. sterigmaticum* (Hjortstam et al.,1988; Langer, 1994) contain oily material, whereas such material has not been found in those of *Thanatephorus* as far as the author is aware. These differences are considered to be sufficient to justify segregating *Ypsilonidium* from *Thanatephorus*, although the two genera share a number of common features including structure of basidioma and manner of basidiospore germination.

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