

# A new non-hallucinogenic species of *Psilocybe* in Mexico, in honor of Dr. Teófilo Herrera

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## Una nueva especie no alucinógena de *Psilocybe* de México, en honor del Dr. Teófilo Herrera

**Resumen.** Se describe *Psilocybe novozoncuantlensis* como especie nueva no alucinógena de Zoncuantla, en la antigua carretera a Coatepec, Veracruz, México. Pertenece a la sección Pratensae y difiere de *P. apelluculosa*, *P. subviscida* y *P. zoncuantlensis*, las dos primeras únicamente conocidas de E.U.A. y de Europa y la última de Zoncuantla, por los queilocistidios más angostos y lageniformes en aquellas especies.

**Palabras claves.** *Psilocybe novozoncuantlensis*, nueva especie, no alucinógena, Veracruz.

**Abstract.** *Psilocybe novozoncuantlensis* from Zoncuantla, in the old road to Coatepec, Veracruz, Mexico, is described as a new non-hallucinogenic species. It belongs to section Pratensae and differs from *P. apelluculosa*, *P. subviscida* and *P. zoncuantlensis*, the first two known only from the U.S.A. and Europe and the latter known from Zoncuantla, for their thinner and lageniform cheilocystidia.

**Key words:** *Psilocybe novozoncuantlensis*, new species, non-hallucinogenic, Veracruz.

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## Introduction

Guzmán [4] discussed that the Veracruz State has the highest known diversity of *Psilocybe* in Mexico, in spite of the *Psilocybe* studies realized in Oaxaca started since 1956 [7]. Guzmán [4] reported 43 species of *Psilocybe* from Veracruz against 31 known in Oaxaca [6,8]. However, there is not information on the traditional use of the hallucinogenic mushrooms in Veracruz, in contrast with Oaxaca where it is the highest ethnomycological information. With the new non-hallucinogenic species here described, there are 13 species known in Mexico [3].

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## Materials and methods

Microscopic observations of dry specimens, were made on sections mounted in 5 % KOH solution or mixed with 1 % Congo red solution added to the slides. The size of spores is long and wide on face-view, and thick from side-view.

## Results

Pileus 7-18 mm latus, convexus vel subconvexus vel subconcavus, laevis vel subsquamulosus, lubricous vel siccus, cinnamomeus vel rufobrunneus, interdum cum metallicus splendeo. Lamellae subadnate vel sinuatum,

brunneolus subaurantiacus cinnamomeus. Stipes 20-34 x 1-2 mm, brunneolus rufobrunneus, lepidotus candicans. Velum arachnoideus. Sporae 6-7 x 4-5 x 3.5-4 µm, subellipsoidea vel exiguous subrhomboidae, tenuis tunicatae. Pleurocystidia absem. Cheilocystidia (18-) 20-27 (-37) x (7-) 8-10 (-10.5) µm, hyalina, ventricosus rostratus. Pileipellis subgelatinosus. Hyphae fibulatae. Ad terram, graminicola, subtropicali, Zoncuantla, Xalapa-Coatepec, prope Veracruz, Mexico, Guzmán 36342-B, Holotypus XAL.

*Pileus* 7-18 mm diam., convex to slightly subumbonate or plane to subconcave, even or with dar small scales toward the margin, surface lubricous to dry, cinnamon brown or reddish brown, pale toward the margin, sometimes with metal shine tones, when dry pale yellowishbrown, margin sometimes wavy and even to slightly sulcate when dry. *Lamellae* subadnate or sinuate, brownish- orange-rose to

dark cinnamon brown, edges concolor or paler, subfloccose. *Stipe* 20-34 x 1-2 mm, cylindrical, uniform, flexible, sinuose, hollow, pale brownish-red to darker or irregularly grayish, smooth or cover with whitish small fibrillose scales. *Veil* arachnoid, poorly developed, whitish to concolor with the gills. *Context* pale brown in the pileus to concolor in the stipe. *Odor and taste* slightly fungic. *Spore print* violaceous-black.

*Basidiospores* 6-7 x 4-5 x 3.5-4 µm, subellipsoid, subovoid or slightly subrhomboid in both face- and side-view, thin-walled, wall up to 0.5 µm thick, brownish-yellow, with narrow germ pore and short hilar appendage. *Basidia* (16-) 18-24 (-26) x (5-) 6-7 (-8) µm, 4-spored, clavate-ventricose, hyaline. *Pleurocystidia* absent. *Cheilocystidia* (18-) 20-27 (-37) x (7-) 8-10 (-10.5) µm, ventricose-rostrate with a short and thick neck, up to 10 µm long, sometimes fusiform-ventricose, hyaline, thin-walled. *Hymenophoral trama*

regular, with hyphae 4-10 µm wide, and some subglobose elements, up to 24 µm wide, all of them hyaline. *Subhymenium* with elements up to 5 µm wide, subglobose or subcylindrical, hyaline. *Pileus trama* with elements 3.5-12 µm wide, cylindric and subglobose, hyaline, sometimes incrustated with yellowish-brown pigment. *Pileipellis* a subixocutis, up to 8 µm thick, subgelatinosus, hyphae 1-2.5 µm wide, repent-hyaline. *Stipitipellis* with hyphae 4-10 µm wide, hyaline, incrustated as those of pileal trama. *Clamp connections* present almost in all hyphae.

**Habitat.** Gregarious on soil, among grass, in a garden, in a subtropical (mesophytic) forest zone. Known only from the type locality.

**Material examined.** MEXICO: Veracruz, old road Xalapa to Coatepec, Zoncuantla, Mariano Escobedo Street, Sept. 17, 2006, Guzmán 36342-B (Holotype XAL); Guzmán 36365-B (XAL).

**Discussion.** *Psilocybe novozoncuantlensis* belongs to section *Pratensae* Guzmán because of the subellipsoid, thin-walled spores and absent of pleurocystidia, as discussed Guzmán in its new concept [2]. *Psilocybe apeliculosa* P.D. Orton, *P. subviscida* (Peck) Kauffman and *P. zoncuantlensis* Guzmán & Ram.-Guill. differ for the narrower and lageniform cheilocystidia. The first two are known only from the U.S.A.

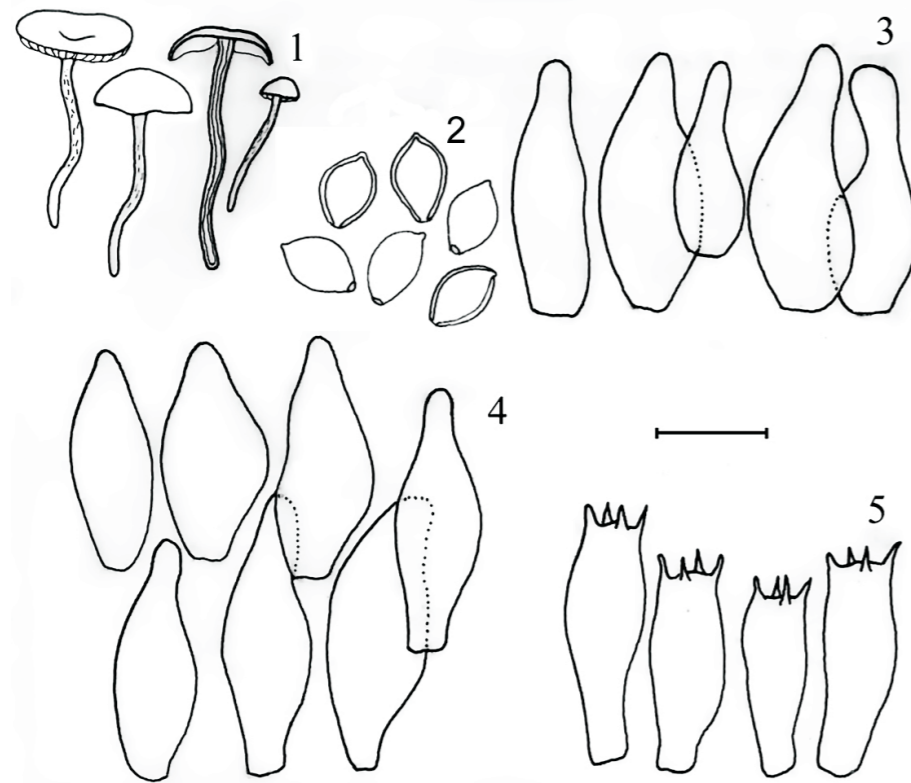
and Europe [1] and the lastest also known from Zoncuantla [6]. The fungus discussed by Guzmán *et al.* [5] as *P. zoncuantlensis* is another species for their pleurocystidia present.

**Etymology.** The name means a new *zoncuantlensis*, from Zoncuantla (the type locality), a Nahuatl word that means the region of the black wasps.

This species is honor to Dr. Teófilo Herrera for his valuable work in his 50 years working on fungi.

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Figuras 1-5. *Psilocybe novozoncuantlensis*. 1: Basidiomata. 2: Spores. 3-4: Cheilocystidia. 5: Basidia (1 & 3: holotype; 2, 4, 5: Guzmán 36365-B). Scale bar 17 mm in 1, 10 µm in 3-5.