

A NEW GENUS AND SPECIES OF TREMELLACEAE FROM MEXICO

by B. Lowy*

UN NUEVO GENERO Y UNA NUEVA ESPECIE DE TREME- LACEO EN MEXICO

SUMMARY

A new genus and species of Tremellaceae, *Neotremella guzmanii* Lowy is described from the State of Michoacán, Mexico. The large, multilobed, brightly pigmented basidiocarp is characterized internally by the presence of a conspicuous central medullary zone from which fertile hyphae arise adjacently and terminate in cruciate septate metabasidia.

RESUMEN

Se describe un género y especie nuevos del Estado de Michoacán (México), *Neotremella guzmanii* Lowy. El basidiocarpo, que es grande, multilobulado y brillantemente pigmentado, se caracteriza en su estructura interna por la presencia de una zona conspicua medular central de la cual nacen hifas fértiles en zonas adyacentes que terminan en metabasidios septados.

This report is the continuation of a study of tremellaceous fungi of Mexico begun some years ago (Lowy, 1965). In that publication a new *Exidia* (*E. mexicana* Lowy) was described together with a systematic presentation of the Tremellales known to occur in Mexico until that time. Additional species were included in a monographic work (1971) and subsequently new species of *Phyllogloea* (*P. crassa* Lowy, 1977) and *Tremella* (*T. aurantiolutes* Lowy, 1978) were also reported from Mexico. In this paper a new genus of Tremellaceae is described.

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NEOTREMELLA Lowy, gen. nov.

Fructificatio firme gelatinosa, cum numerosis macrolobatis solidis et digitaliformibus; hymenio bilaterale; medulla conspicua centralis cuius lateribus oriuntur hyphae fertiles; metabasidia globosa vel subglobosa, cruciatim septata; hyphae nodosae; basidiosporae globosa vel subglobosa, per repetitionem germinantes. Species typica generis: N. guzmanii Lowy.

Fructification tough gelatinous, composed of several large, stout, finger-like, solid lobes with an amphigenous hymenium; lobes zonate in section, with a conspicuous central medulla giving rise to adjacent zones of fertile hyphae; metabasidia globose to subglobose, cruciate septate; hyphae with clamp connections; basidiospores globose to subglobose, germinating by repetition.

Neotremella guzmanii Lowy, sp. nov.

Figs. 1-6

Fructificatio humida firme gelatinosa, macrolobata, intense lutea, flabelliforme, ca 15 cm late; sicca cornea; lobata solida, convoluta, digitaliforme, ad 10 cm alt, 260-300 μ m crass; medulla centralis ca 55 μ m late, cuius lateribus oriuntur hyphae fertiles graciles in terminis ferentes basidia in hymenio amphigeno; metabasidia cruciatim septata (16-) 18-21 (-24) $\times$ (14-) 16-19 (-21) μ m; basidiosporae globosa vel subglobosa, 8-10 $\times$ 10-12 (-14) μ m diam, per repetitionem germinantes. Ad truncum Pinus et Quercus sylvae, Mexico, Estado de Michoacan, Municipio de Aguililla, Sierra de Coalcoman, Los Adames, I-III-1978, Leg. X. Madrigal (Typus ENCB).

Fructification tough gelatinous when wet, drying rigid; composed of multiple, stout, finger-like solid lobes up to 10 cm in height, arising from a woody substrate; lobes irregularly and deeply convolute, occasionally anastomosing; entire branching basidiocarp flabelliform, 15 cm or more broad, with bright yellow-orange pigmentation (Maerz & Paul "Cavalry Deep Chrome"); lobes $\pm$ 260-300 μ m thick, internally zonate with a prominent central medullary strand $\pm$ 55 μ m wide composed of irregularly inflated, branching hyphae 3-6 μ m diam; slender, fertile hyphae $\pm$ 3 μ m diam with small clamp connections arise bilaterally from the medulla and perpendicular to it, forming symmetrical zones $\pm$ 75 μ m wide adjacent to the medulla; basidia borne terminally on these hyphae constitute the amphigenous hymenial zones $\pm$ 50 μ m wide; basidiocarp fertile from base to apex; probasidia subvoid, 18-20 $\times$ 11-13 μ m; metabasidia cruciate septate, (16-) 18-21 (-24) $\times$ (14-) 16-19 (-21) μ m; sterigmata generally short-stubby with apiculate spiculae; basidiospores spherical to subspherical, 8-10 $\times$ 10-12 (-14) μ m diam, germinating by repetition. All hyphae and basidia generally have abundant pigment-containing vacuoles which are conspicuous in unstained, free hand sections.

Habitat Solitary on wood (*Quercus* log).

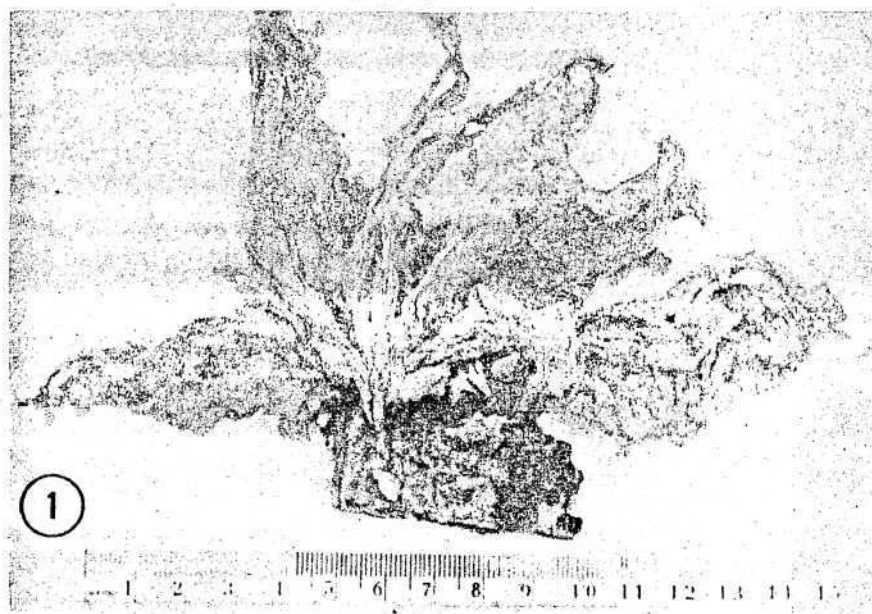
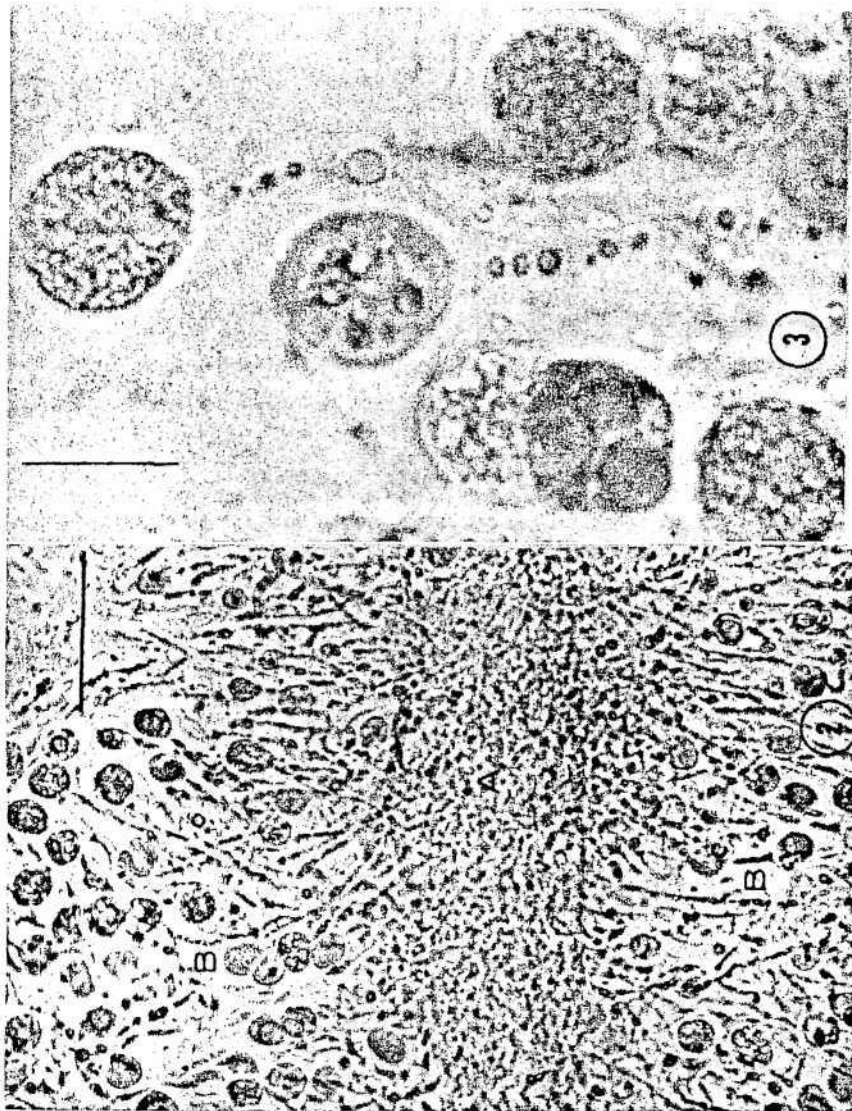


FIG. 1. *Neotremella guzmanii*. Basidiocarp in soaked, expanded condition.

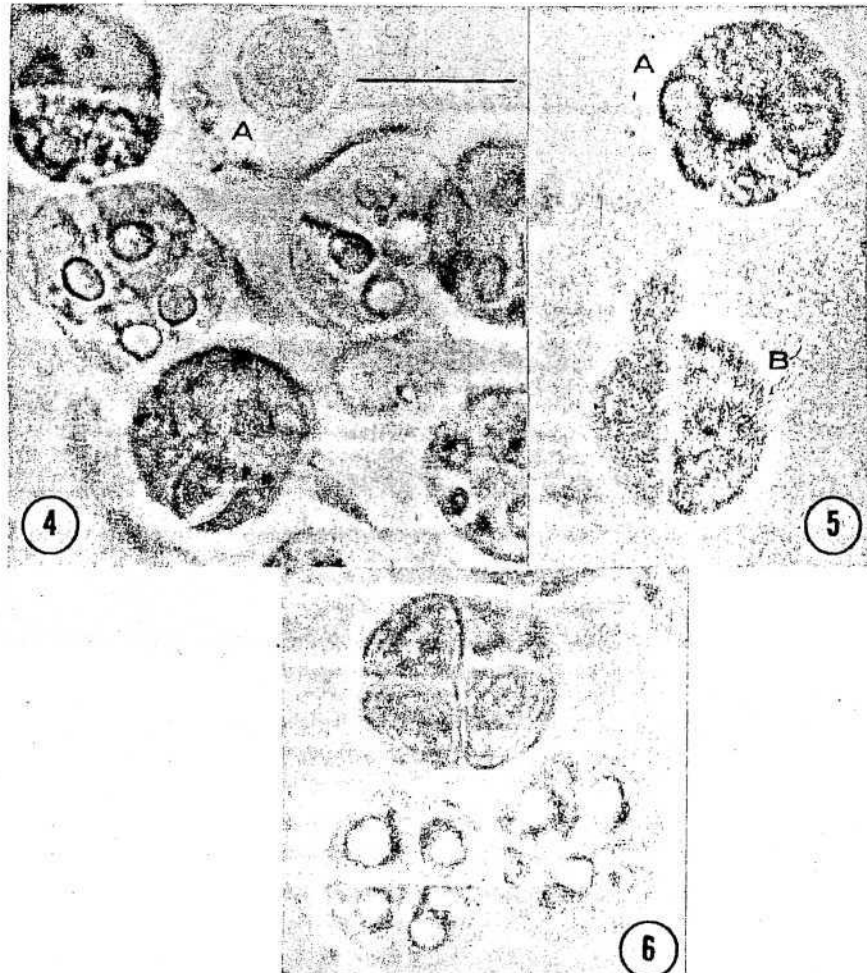
Material studied: MICHOACAN, Municipio de Aguililla, Sierra de Coalco-man, Los Adames, Mesa de las Yeguas, in wood in *Pinus-Quercus* forest, alt. 1630 m. Leg. X. Madrigal 2813-A, March 1, 1978. Holotype (ENCB); Isotypes (LSUM, TENN).

Discussion. The new fungus appears to be most closely related to solid lobed species of *Tremella* (Lowy, 1971), but these differ greatly not only in gross morphology but in their lack of a comparable internal zonation which is the unique microstructural feature of *Neotremella*. The massive, brightly pigmented, flabelliform basidiocarp of *Neotremella* easily distinguishes it from other Tremellaceae, but its gelatinous texture, cruciate septate metabasidia and basidiospores which germinate by repetition are typical of the family.

The species is named for the distinguished Mexican mycologist, Dr. Gastón Guzmán, from the ENCB Herbarium, who sent the studied material to the author. The Biologist Xavier Madrigal from the Instituto Nacional de Investigaciones Forestales at Uruapan, State of Michoacán, collected the fungus and kindly gave it to Dr. Guzmán for study. This paper is part of the studies carry out by Dr. Gastón Guzmán at the Instituto Politécnico Nacional in Mexico City, supporting by CONACYT.



FIGS. 2-3. *Neotremella guzmanii*. 2: Free hand section through portion of basidiocarp lobe. A, Medulla, B, Stalked basidia arising in zones adjacent to medulla. Line (upper right) = 60 μ m. 3: Basidia borne terminally on stalks; pigment globules are prominent. Line (upper left) = 20 μ m.



FIGS. 4-6. *Neotremella guzmanii*. 4: Various septate basidia, some with pigment globules. A, Basidiospore. 5: A, Septate basidium with pigment globules. B, 2-celled basidium with a single sterigma. 6: Three cruciate septate basidia, two of them with prominent pigment globules. Line (upperleft) = 18 μ m, applies to figures 4, 5, 6.

LITERATURE CITED

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