

THAMNOMYCES SUBGENUS SCOPIMYCES

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Thamnomycetes was erected by Ehrenberg in 1820 (*Horae physicae berolinenses* p. 79) to accommodate a rhizomorphic *Xylaria* and those distinctive tropical and subtropical pyrenomycetes where the perithecia are embedded singly in the tips of an erect, black, stalked, dendroid stroma. Fries used the name some ten years later (*Linnaea*, 5 p. 534) describing *T. chordalis* as a new species and mentioning *T. chamissonis* Ehrenb. *T. chordalis* Fr. appears not to be based on the earlier *Rhizomorpha chordalis* Ach. (see Dennis, 1957). Dennis (1957) whilst examining tropical *Xylariaceae* reviewed the genus *Thamnomycetes* but until the present no records were forthcoming of this genus in Central America. Material collected by Howard in Honduras during the summer of 1951, however shows the more northerly distribution of the genus.

The genus *Thamnomycetes* can be separated conveniently into two distinct subgenera, those members with their perithecia embedded in the tips of dichotomously branched stromata, forming subgenus *Thamnomycetes* and those which have scattered, beaked perithecia on little-branched stromata, subgenus *Scopimycetes*. The latter was erected by P. Hennings (1904) and resembles superficially true *Xylosphaera hippotrichoides* (Sow. ex Fr.) Dennis, one of the species originally included in *Thamnomycetes* but removed in 1879 to a separate genus *Simoninus* by Roumeguère. Also included by Dennis in his "Notes on Tropical American Xylariaceae" under *Thamnomycetes* is the anomalous *T. annulipes* Mont. more recently made the type of *Batistia* Cif. and transferred to the *Plectascales*.

The subgenus *Scopimycetes* in which the present collection is accommodated has an element of confusion in it, due to doubt as to the identity of *T. chordalis* Fr. and its differentiation from *T. rostratus* Mont. *T. chordalis* is said by Fries to have globose spores and thus cannot be identical with *T. rostratus* with elliptic cylindric spores ($8-9 \times 3-4\mu$) described by Montagne (1840) from French Guiana. If this is the case, *T. chordalis* has only three areas of distribution, French Guiana (type), Brazil (as *T. rostratus* var. *similis* Berk., type at Kew which differs from typical *T. rostratus* only by the poorly ostiolated perithecia) and the Philippines. The latter record is based on specimens collected by Sture and has been examined by Lloyd at the Herb. New York Bot. Garden. If it is correct it represents the only record outside the Americas, but it has never been recollected there since Sture's record. The opinion has been expressed that *T. chordalis* Fr. is sterile and immature and probably nothing but *T. rostratus* (Dennis in litt. after studying more recent Venezuelan collections). Lloyd also thinks the spore character in the original diagnosis of *T. chordalis* is an error and the two epithets refer to the same fungus. Another complication is that *T. annulatus* Ehrenb. is thought by Lloyd to be the same as *T. chordalis* but for the annulated stroma.

Hennings regarded collections similar to the present collection from

Honduras with a stout axis as typical *T. rostratus*, whereas the more slender collections he referred to *T. rostratus* var. *tenuior* Henn. However, Montagne's authentic material in Herb. Berkley and Herb. Cooke at Kew has shown this interpretation to be reversed. *T. rostratus* Mont. has been recorded from French and British Guiana, Brazil, Venezuela and now Honduras. Further collections in Central America will more than likely show that this fungus exists elsewhere on rotten wood under tropical and subtropical conditions, and will allow the life history to be completely worked out. Fresh material will also demonstrate whether Hennings was correct in separating the slender and stout forms. Certainly Howard's material looks uniform except for two fragments and is possibly worthy of varietal rank. Extensive collecting in similar regions may also yield more material referable to *T. chordalis* Fr. If not, it would seem likely that *T. chordalis* Fr. is the same as *T. rostratus* Mont. *T. chordalis* Fr. is the earlier name and so has priority. It is uncertain from available specimens whether the two are identical. The form with a thick axis with slightly bigger spores, approaches *T. fuciformis* Berk. only, it appears, recorded from Brazil, but this differs in having larger perithecia on short stalks and larger ascospores ($11-12 \times 4.5-5.5\mu$). The material from Honduras is almost intermediate between *T. rostratus* and *T. fuciformis* in perithecial shape, stroma stoutness and even in the spores. This is possibly what Fries had when he described *T. chordalis* but Dennis (in litt.) hardly thinks the scrap that remains in Fries' herbarium will support any hypothesis. However, the filiform fragments in the Honduras collection appear all to have immature perithecia if any at all and only the stouter stroma fragments bear typical and mature perithecia.

Thamnomycetes rostratus Montagne in Ann. Sci. Nat. Bot. Series 2, 13, 339 (1840).

Syn.: *Xylaria rostrata* (Mont.) Sacc. in Syll. Fung. 1, 344 (1882).

The material consists of numerous fragments of what appear to be many stromata, with some basal parts connected to a woody substrate:-

The position and insertion of the axis into the wood and bark fragments indicates that the stroma is erect, cylindrical and simple (no forking seen or branching amongst fragments). It is between 0.75 mm. and 2 mm. in diameter, black, matt, smooth on the outside but interrupted from 20 mm. up the axis (which in the fragments may be up to 90 mm. in length) by flask-shaped perithecia. The perithecia are scattered separately along the axis without, it seems, any definite arrangement. In some parts of the axis the perithecia are sparse yet in others they are crowded. The perithecia frequently break off to leave either scars in the carbonaceous crust or part of the base of the perithecium in the form of a frustum. The axis has four distinct layers, an outer thick carbonaceous crust which passes into a black pseudoparenchymatous flesh. An abrupt demarcation separates this from a layer of loosely packed thin-walled cells which obviously in some material break down to give an air space. The medulla is very darkly pigmented and appears to be a mass of collapsed cells. Where the axis joins the substrate it swells to form a frustroid foot, obviously for support, up to 2.5-2.7 mm. wide. Perithecia 0.75-1.0 mm. at the venter in width, the neck 0.22-0.28 mm. in diameter and 0.9-1.1 mm. long with the apical 0.5 mm. often coated in a dried

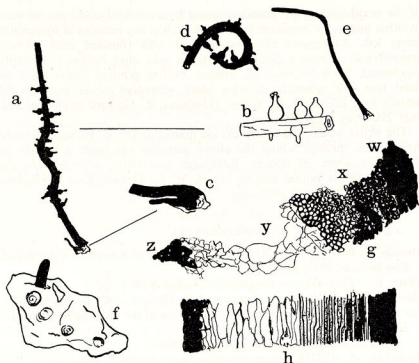


FIG. 1. *Thamnomycetes rostratus*. a. Erect portion of stroma, x $1\frac{1}{2}$ showing distribution of mature and immature (see also b, x 2.) perithecia and holdfast (see also, c, x 2). d. Coiled fragment of stroma, x $1\frac{1}{2}$. e. Filiform portion of collection, x $1\frac{1}{2}$. f. Woody substrate with stroma scars and young stroma developing, x $1\frac{1}{2}$. g. Transverse section of mature stroma showing thick crust w), thick walled, pseudoparenchymatic tissue x), thin walled cells y), and medulla collapsed and pigmented z). x 66. h. Longitudinal section. x 66.

spore mass. The venter is often longer than wide and up to 1.2 mm. in length supported by a frustum often 0.4 mm. wide, yet frequently little differentiated. There appears to be no connection between the perithecia and the thin-walled cells of the stroma, even in youngest fragments with urn-shaped immature perithecia. It appears, as in the *Melanosporaceae*, that the asci break down within the perithecia, the spores oozing out of the rounded ostiole and often being left as an apical plug. By soaking herbarium material these can be released or the spore mass picked out

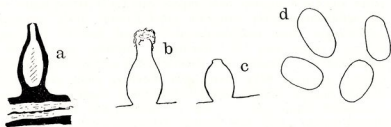


FIG. 2. *Thamnomycetes rostratus*. a. Section through stroma and perithecia, x 7.5. b. Perithecia with apical plug of spores, x 7.5. c. Immature urn-shaped perithecia, x 7.5. d. Ascospores, x 400.

of the perithecial cavity unaccompanied by asci. Asci could not be seen in either mature or immature fruit bodies, few if any remains of hymenium being left. Ascospores elliptic-cylindrical with rounded ends, almost symmetrical, without a distinctly flattened side, olive brown, not deeply pigmented, $7.5-9.5 \times 3.0-4.5\mu$, without hyaline groove. Saprophyte on dead tree, the substrate showing black sclerotoid zones beneath the stroma axis. Edge of Lake Yojoa, Honduras. R. Howard et al. No. 622, July 29th-Aug. 10th 1951.

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