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GENUS *PERIDOXYLON* SHEAR IN INDIA[1]

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ABSTRACT

Taxonomy of genus *Peridoxylon* Shear (Xylariaceae-Pyrenomycetes) is discussed in the light of recent researches. *P. petersii*, the lone species reported here, is described and illustrated for the first time from India.

INTRODUCTION

This genus was erected by Shear (1923) based on *Hypoxylon petersii* Berk. & Curt. He discussed the close affinities of the genus with *Engleromyces* P. Henn., *Sarcoxylon* Cke., *Penzigia* Sacc., *Thuemanella* Penz. & Sacc., *Entonema* Moell. and *Xylocrea* Moell., but separated it from these genera because of the presence of the peculiar 'peridium' covering in it; the feature which he considered of high taxonomic value. Lloyd (1924), however, transferred the genus under *Bolinia* (Nke.) Sacc. due to its similarities with *B. tubutina* (Alb. & Schw.) Sacc. This was followed by Rick (1931) and Miller (1961). von Arx and Muller (1954), without giving the importance to the 'peridium', treated it under *Sarcoxylon* Cke. another genus with fleshy, pale or bright coloured, pulvinate or depressed stromata. Dennis (1961), however, regarded *Peridoxylon* as a distinct genus but stated that 'peridium' which is just a thin membrane and covers the stromata is no more visible in the type specimen *H. petersii* and further-more, this layer often coherent membrane, to cover the immature, perithecial surface is present throughout the Xylariaceae. He, instead, consideres the character of flesh (entostroma) to be important which, though dark coloured, is never black and carbonaceous in *Peridoxylon*. According to him, *Peridoxylon* may be regarded as a transitional form towards Hypoxyloideae. Dennis (1961) described another species *P. goosensii* Denn. under this genus. Taking the dark coloured, nonblack, non-carbonaceous flesh, he transferred *Xylaria spathulata* Berk. & Br. also to *Peridoxylon* as *P. spathulatum* (Berk. & Br.) Denn.

Martin (1969) treated this genus under *Numulariola* House. Recently Nannfeldt (1972) transferred *Peridoxylon* under his emended genus *Camarops* Karst. alongwith few other genera depending upon the structure of the ascal tip and morphology of ascospores. However, Muller and von Arx (1973) treat *Camarops* Karst., *Bolinia* (Nke.) Sacc. and *Peridoxylon* Shear as three distinct genera.

This is a small genus comprising only two species (fide Ainsworth 1971)

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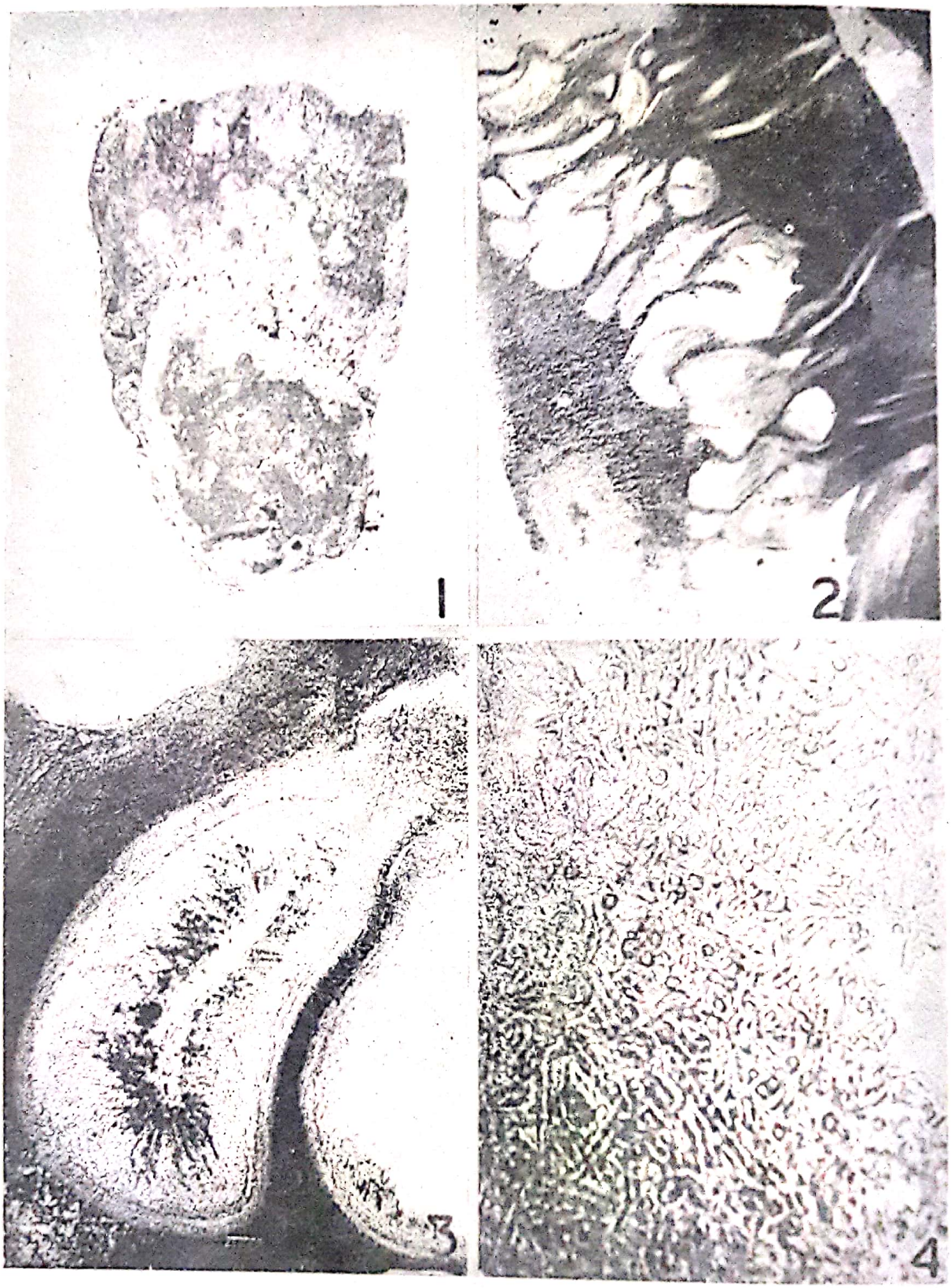
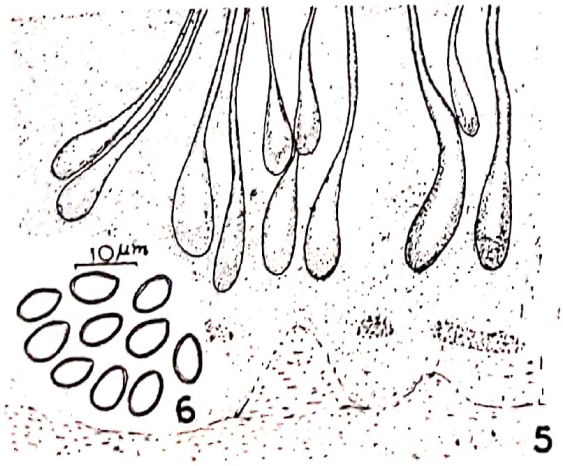


Figs. 1-4. *Peridoxylon petersii*. 1. Stroma general habit 21 L. S. Stroma, showing perithecia with long tubular necks.. 3. Structure of perithecium. 4. Tissue type of outer entostroma.

and was not previously recorded from India. The present work includes an illustrated account of only one species based on a single North-Western Himalayan collection, studied from the herbarium of the Botany Department, Punjab University, Chandigarh.

Peridoxylon petersii (Berk. & Curt) Shear, Mycologia **15** : 126. 1923. Figs. 1-6.

Stromata superficial, flat, pulvinate, cushion-shaped, upto 5.7×2.8 cm and upto 1 cm thick, effused with the host, surface of stroma almost smooth without any perithecial elevations; ectostroma brown to black, usually disappearing but persistent at certain places; entostroma brown, leathery, becoming hard on drying, but easy to cut on softening with KOH. Perithecia monostichous, apparently looking polystichous, deeply immersed in the stroma, upto 2.4 mm long and upto 440 μm in diameter, ovoid, with long, slender, tubular necks, opening at the surface by umbilicate ostioles. Asci could not be observed in this collection. Ascospores 6.5—8.0×3.2—4.8 μm, ovoid to ellipsoid or inequilateral-ellipsoid with one end slightly narrow, germ slit absent, light brown to brown. Paraphyses filiform, hyaline, dissolving at maturity.



Figs. 5-6. *Peridoxylon petersii*. 5. L.S. part of stroma showing various zones and arrangement of perithecia. 6. Ascospores.

Anatomy : Ectostroma disintegrating; entostroma not well differentiated into two zones, when differentiated, outer zone narrow, composed of textura intricata hyphae closely packed, vertically placed, inner zone massive, textura intricata, hyphae hyaline, thick-walled, upto 3.8 μm wide. Perithecial wall upto 55 μm wide, textura intricata, composed of outer dark-brown zone, upto 37 μm wide, and inner hyaline zone upto 18 μm wide.

Specimen examined:

H. P.: Kulu, Khanag, Takrasi road, on decaying log in a mixed forest, H. S. Chahal 56 (PAN,K), September 15, 1965.

Remarks: The above herbarium collection is characteristic in having flat pulvinate, brownish, leathery stromata, deeply immersed, ovoid perithecia with long tubular necks, umbilicate ostioles and ellipsoid to oval flattened thick walled ascospores. These features are quite representative of the genus *Peridoxylon* Shear.

Due to its leathery entostroma which is soft and easy to section, long tubular perithecia, apparently looking polystichous and similar size of ascospores, it belongs to *Peridoxylon petersii* (Berk, .& Curt.) Shear. The species seems to be very rare and was not previously reported from India.

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