

A new species of *Psilachnum* Höhn. from India

by

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With 1 plate and 1 table

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Abstract: *Psilachnum woodwardiae* n. sp. (Hyaloscyphaceae), on dead fronds of *Woodwardia unigemata* collected from Mussoorie hills in the north-western Himalayas is described illustrated, and compared with other pteridicolous species.

Introduction

Psilachnum is a small genus proposed by von Höhnel (1926) to accommodate those hyaloscyphaceous taxa possessing small sessile tomentose apothecia; excipular hairs cylindrical smooth-walled, one-celled or 1-2 septate; 8-spored, clavate-cylindrical, J+ asci; narrowly lanceolate paraphyses; and small fusoid ascospores. *Helotium lateritio-album* Karst. was designated as the type species.

Presently, the genus is represented by only 14 species (Hawksworth et al. 1983) mainly recorded from Great Britain, North America and U.S.S.R. by Dennis (1956, 1962), Raitviir (1970), and Svrček (1977) from Germany.

In India, the genus is being reported here for the first time (Butler & Bisby 1931, Vasudeva 1960, Bilgrami et al. 1979, 1981 and Sharma 1986). A new species *Psilachnum woodwardiae* is described, illustrated and compared with other pteridicolous taxa reported earlier, see Table 1.

The holotype has been deposited at PAN (Herbarium, Botany Department, Panjab University, Chandigarh-160014, India) and isotypes have been distributed to Dr. Linda M. Kohn, TRT (Herbarium, Department of Botany, Toronto University, Canada) and Dr. M. Svrček, PRM (Nardoni Museum, Prague, Czechoslovakia).

***Psilachnum woodwardiae* sp. nov.**

Fig. 1 A-C

Apothecia ad 375 μ m diametro, gregaria vel solitaria, sessilia, cupulata, extus luteo, tomentosa, hymenio concolora. Poli breves, hyalini, cylindricei 1-septatae. Asci 30-50(-54) \times 3.6-5.5 μ m, cylindriceo-clavati,

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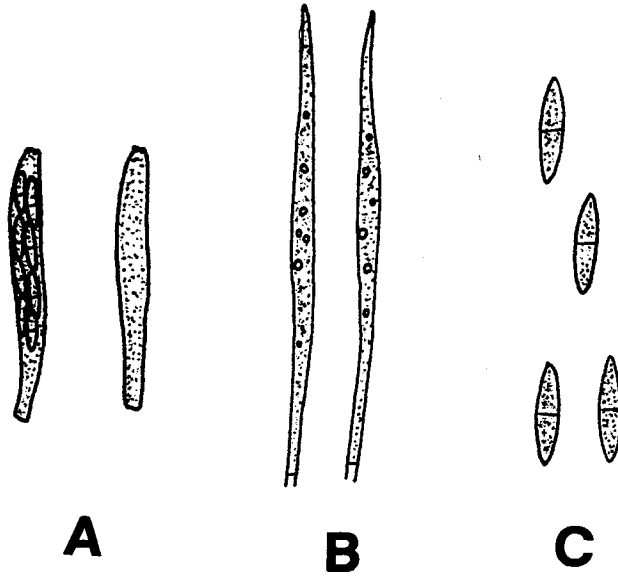


Fig. 1 A-C. *Psilachnum woodwardiae* M.P. Sharma, PAN 11186.
 A. Asci $\times 800$. B. Paraphyses $\times 2000$. C. Ascospores $\times 2000$.

octospori, J+. Paraphyses lanceolatae $4.5 \mu\text{m}$ diametro. Ascosporae $8-12 \times 1.5-2.5 \mu\text{m}$, fusoideae, hyalinae, 1-2 septatae, distichis.

Hab. Ad foliorum emortuorum *Woodwardia unigemmata* (Mak.) Nakai.

Holotypus: 11186 (PAN).

Ascocarps up to $375 \mu\text{m}$ across, superficial, densely gregarious, solitary, soft, fleshy, sessile, seated on a flat base, cupulate, hairy; external surface yellow, roughened, hairy; hymenium concolorous, concave, rough; margin entire, hairy, incurved on drying. Hairs cylindrical, hyaline, thin-walled, smooth, 1-2 septate, apices obtuse, up to $3 \mu\text{m}$ wide. Asci $30-50(-54) \times 3.6-5.5 \mu\text{m}$, 8-spored, ascus pore turning deep-blue in Melzer's reagent (J+), clavate-cylindrical, apices narrow but obtuse, tapering lower down into a short stem-like base, base somewhat swollen, arising from a crozier cell. Ascospores $8-12 \times 1.5-2.5 \mu\text{m}$, fusoid, hyaline, thin-walled, 1-septate, smooth, eguttulate, biseriate or irregularly placed in the asci. Paraphyses up to $4.5 \mu\text{m}$ wide, narrowly lanceolate, light-yellow in mass, hyaline singly, thin-walled, non-septate, projecting up to $20 \mu\text{m}$ beyond the tips of asci, apices acute.

Anatomy: Excipulum two-layered; ectal excipulum *textura prismatica*, cells brick-like, small, placed end to end, lying at moderate angle to the surface, outermost layer beset with cylindrical hairs (as described above); medullary excipulum *textura intricata*, hyphae compactly arranged, narrow, thin-walled, up to $2 \mu\text{m}$ wide; hypothecium indistinct.

Table 1. Pteridicolous species of *Psilachnum* compared

No. Features	<i>P. inquilinum</i>	<i>P. chrysostrigum</i>	<i>P. thelypteridis</i>	<i>P. woodwardiae</i>
1 Ascocarp size	500-700 μm , sub-sessile	300-600 μm , substipitate	100-200 μm , sub-sessile	200-375 μm , sessile
2 Ascocarp colour	Whitish	Whitish with yellow hymenium	Yellowish-brown	Yellow
3 Host	Stems of <i>Equisetum</i> sp.	Fronds of ferns; <i>Dryopteris filixmas</i>	* <i>Thelypteridis</i> <i>palustris</i>	<i>Woodwardia</i> <i>unigemmata</i>
4 Exipular hairs	30-70 \times 2.5 μm , 1-2 septate	30-50 \times 5-3 μm , forming marginal teeth, aseptate	40-60 \times 2.3- 3.5 μm , 1-2 septate	30-45 \times 3 μm , 0-2 septate
5 Asci	35-45 \times 5-6 μm	25-40 \times 3-4 μm	20-30 \times 4-5 μm	30-50(-54) \times 3.6-5.5 μm
6 Iodine reaction	Unknown	J+	J-	J+
7 Paraphyses	Narrowly lanceolate	Cylindrical or filiform	Lanceolate	Lanceolate
8 Paraphyses size	2.5 μm		4-4.5 μm	4.5 μm
9 Paraphyses projection	10 μm	Slightly exceeding	9-16 μm	up to 20 μm
10 Ascospores	Cylindric fusoid or clavate-fusoid	Fusoid to clavate-fusoid	Acicular	Fusoid, 1-septate
11 Size of ascospores	6-9 \times 1.5-2 μm	5-9 \times 1 μm ; 4-7 \times 1-1.25 μm	6-7 \times 1.3- 1.5 μm	8-12 \times 1.5-2.5 μm

*Svrček (1977) reported *Thelypteridis palustris* as the host species, however, it may be pointed out here that there is no genus *Thelypteridis* among the ferns, rather *Thelypteris* Schmid. corr. Raf. = *Thelypteris* and *Thelypteris* Adens = *Pteris* L.; as verified: Christensen (1906), Pichii Sermolli (1977), Khullar et al. (1983) and Hegi (1984). Hence the correct name *Thelypteris palustris* (Salisb.) Schoott. is adopted.

Substratum: Dead fronds of *Woodwardia unigemmata* (Mak.) Nakai.

Holotype: PAN 11186 in TRT; isotype PRM.

Collection examined: M.P. Sharma 11186 (PAN, TRT, PRM) on dead fronds of *Woodwardia unigemmata*, The Park (alt. 1,900 m), Mussoorie, U.P., September 6, 1973.

Remarks: The present collection belongs to *Psilachnum* Höhn. It does not match well with any of the known species of this genus. The pteridicolous species, *P. chryostigmum* (Fr.) Raitv. has hairs that agglutinate to form marginal teeth; *P. thelypteridis* Svrček has still smaller apothecia, asci and ascospores; and *P. inquilinum* (Karst.) Dennis has much longer hairs and occurs on *Equisetum* sp. The unique features of the species are: small yellow sessile cupulate apothecia; lanceolate paraphyses; small fusoid, 1-sepate ascospores; and occurrence on *Woodwardia* fronds.

Acknowledgement

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