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# SOME NEW SPECIES OF HELOTIALES FROM THE NORTH-WEST HIMALAYAS (INDIA)

In the present report 5 new species belonging to 4 genera of the *Leotiaceae* are described. All holotype specimens are deposited in **PAN** (Herbarium of Botany, Panjab University, Chandigarh, India) and the isotypes are deposited in **TAA** (Mycological Herbarium, Institute of Zoology and Botany, Tartu). The authors are greatly indebted to Dr. Ilmi Parmasto for help in preparing the manuscript.

**Bisporella allantospora** Raitv. et Sharma sp. nova

Apothecia subsessilia, applanato-cupulata, 0.5—1.5 mm in diametro, subgelatinosa, extus flavida, hymenio luteo, sicca toto luteo-brunnea. Ectoexcipulum ex textura porrecta. Asci cylindracei, octospori, 110—120×5—7 μm, poro iodo caerulescente. Sporae cylindraceo-ellipsoideae vel suballantoideae, aseptatae, hyalinae, 14—15×4 μm. Paraphyses filiformes, 1.5 μm in diametro.

Holotypus: in lignum putridum, Dhandty (2,300 m alt), Mussoorie, Uttar Pradesh, India, Sept. 9, 1973, M. P. Sharma 11465 (**PAN**, isotypus **TAA**).

Ad species aliis generis sporis latis suballantoideis differt.

Apothecia solitary, densely gregarious, sometimes in coherent groups, 0.5—1.5 mm in diameter, subsessile, shallow-cupulate to discoid, gelatinized, external surface bright yellow, shiny, minutely roughened, hymenium deep yellow, becoming yellowish-brown, sometimes with an orange tinge after drying; margin wavy, incurved after drying. Excipulum distinctly two-layered. Medullary excipulum of textura intricata, hyphae compactly arranged, narrow, up to 2.7 μm wide. Ectal excipulum of gelatinized textura porrecta, hyphae up to 5.5 μm wide, undulating with thick glassy walls. Asci cylindrical, 8-spored, 110—120×5—7 μm, ascus pore J+. Spores cylindric-ellipsoid to suballantoid, aseptate, hyaline, 14—15×4 μm. Paraphyses filiform, 1.5 μm in diameter.

Collection examined: on much decayed hardwood, Dhandty (2,300 m alt), Mussoorie, Uttar Pradesh, India, Sept. 9, 1973, M. P. Sharma 11465 (holotype **PAN**, isotype **TAA**).

This species was growing in a cold-temperate coniferous forest. It differs from the other known species of the genus by its comparatively wide cylindrical-ellipsoid to suballantoid spores.

**Godronia rhododendri** Raitv. et Sharma sp. nova

Apothecia sessilia, 1—1.5 mm in diametro, globosa, cupulata vel urceolata, extus viridula subtomentosa, hymenio concoloro, sicca toto nigrofusca. Excipulum medullatum ex textura angularis-globulosa, cellulis fuscoparietalis. Ectoexcipulum bistratosum ex textura angularis. Stratum

internum hyalinum gelatinosum, stratum externum ex cellulis fuscoparietalis. Asci clavati, 105—120×11—14 µm, octospori, iodo non caerulascente. Sporae vermiformes vel fusoideo-cylindraceae, hyalinae, 35—41×3 µm. Paraphyses filiformes, 2 µm in diametro.

Holotypus: in foliis Rhododendri arborei, Gilen, (1,800 m alt), Simla, Himachal Pradesh, India, Sept. 4, 1980, M. P. Sharma 11364 (**PAN**, isotypus **TAA**).

Apothecia sessile, solitary or in small scattered groups of 2—3, 1—1.5 mm in diameter, globose or cupulate when young, becoming urceolate at maturity; external surface greenish, becoming dark brown to almost black after drying, roughened, minutely downy; margin raised, incurved after drying; hymenium concolorous with the outer surface, concave, rough. Subhymenium 40—50 µm thick, hyaline, of compact textura intricata. Medullary excipulum 100—120 µm thick, intermediate between textura angularis and textura globulosa, cells brown-walled. Ectal excipulum two-layered. Inner layer 30—40 µm thick of textura angularis, cells hyaline with gelatinized walls. Outer layer 30—50 µm thick of textura angularis, cells with thick black walls. Asci clavate, 8-spored, 105—120×11—14 µm, with J-pore. Spores arranged in two fascicles, fusoid-cylindric or vermicular, aseptate, 35—41×3 µm. Paraphyses filiform, 2 µm in diameter, filled with numerous oil drops.

Collection examined: on fallen leaves of *Rhododendron arboreum*, Gilen (1,800 m alt), Simla, Himachal Pradesh, India, Sept. 4, 1980, M. P. Sharma 11364 (holotype **PAN**, isotype **TAA**).

This fungus was growing in a subtropical to temperate oak-cedar-dominated forest. There is no species of *Godronia* described from *Rhododendron* leaves, and the characters of our fungus do not fit any species described by J. W. Groves (1965).

**Hymenoscyphus biflagellatus** Raitv. et Sharma sp. nova

Apothecia solitaria, longe stipitata, applanato-cupulata, 1—2 mm in diametro, stipe 3×0.5 mm, carnosa, pallide lutea, sicca luteo-brunnea. Ectoexcipulum ex textura prismatica. Asci cylindraceo-clavati, octospori, 100—110×8.5—10 µm. Sporae fusoideo-clavatae, unicellulares, hyalinae, apicibus flagellatis, 25—35×4 µm. Paraphyses cylindraceae, 1.5—2 µm in diametro, apicibus moniliformibus 3.5 µm in diametro.

Holotypus: in rachibus filicis, Kalatope (2,050 m alt), Dalhousie, Himachal Pradesh, India, Aug. 24, 1973, M. P. Sharma 11384 (**PAN**, isotypus **TAA**).

H. scutulae similis, sporis longis et paraphysibus filiformibus differt.

Apothecia on a long stalk, shallow cupulate, 1—2 mm in diameter, soft, fleshy, external surface cream-coloured or pale yellow, hymenium concolorous, becoming totally yellowish-brown after drying. Stalk cylindrical, smooth, concolorous, up to 3×0.5 mm. Ectal excipulum of textura prismatica, cells hyaline, thin-walled, 15—20×5—7 µm. Asci cylindric-clavate, 100—110×8.5—10 µm, 8-spored. Spores fusoid-clavate, aseptate, hyaline, with a long cilium at the lower and a short and usually curved cilium at the upper end, 25—35×4 µm. Paraphyses cylindrical, 1.5—2 µm in diameter, apically inflated and moniliform up to 3.5 µm in diameter.

Collection examined: on the fronds of a fern, Kalatope (2,050 m alt), Dalhousie, Himachal Pradesh, India, Aug. 24, 1973, M. P. Sharma 11384 (holotype **PAN**, isotype **TAA**).

The fungus was growing in a temperate to cold-temperate, coniferous, in places mixed forest with the following elements of importance: *Cedrus*

*deodara, Abies pindrou, Quercus leucotrichopora, Bambusa* sp. It is evidently closely related to *H. scutula*, but differs from it by longer spores, moniliform paraphyse tips and substrate.

**Hymenoscyphus subherbarum** Raitv. et Sharma sp. nova

Apothecia subsessilia, 1—2 mm in diametro, discoidea, sicca cupulata, molle carnosa, extus lutea vel aurantiaca, hymenio luteo vel luteo-brunneo. Ectoexcipulum ex textura angularis, cellulis hyalinis, crassiter tunicatis, 8—10 μm in diametro. Asci cylindraceo-clavati vel clavati, octospori, poro iodo caerulescente, 65—85×6.5—8 μm. Sporae cylindraceo-fusoideae, uniseptatae, hyalinae, 8.5—10×2.5 μm. Paraphyses filiformes, 1.5 μm in diametro.

Holotypus: ad caules herbarum, the Camel's Back Road (1,900 m alt), Mussoorie, Uttar Pradesh, India, Aug. 30, 1973, M. P. Sharma 11443 (**PAN**, isotypus **TAA**).

Apothecia solitary or gregarious, subsessile to almost sessile, 1—2 mm in diameter, saucer-shaped to almost plane discoid, becoming cupulate after drying, externally yellow or orange-coloured, smooth or minutely roughened, hymenium yellowish or yellowish-brown, sometimes concolorous with the external surface. Ectal excipulum of textura angularis, cells 8—10 μm in diameter, with thick, hyaline, refractive walls. Medullary excipulum of compactly arranged subparallel slightly interwoven hyphae, intermediate between textura intricata and textura porrecta. Asci cylindric-clavate to clavate, 65—85×6.5—8 μm, 8-spored, apical pore very faintly and diffusely blued in iodine. Spores cylindric-fusoid, 1-septate during maturity, hyaline, 8.5—10×2.5 μm. Paraphyses filiform, 1.5 μm in diameter.

Collection examined: on dead herbaceous stems, The Camel's Back Road (1,900 m alt), Mussoorie, Uttar Pradesh, India, Aug. 30, 1973, M. P. Sharma 11443 (holotype **PAN**, isotype **TAA**).

This fungus was growing in an oak-dominated subtropical to temperate forest. It is very closely related to *H. herbarum* (Fr.) Dennis, from which it differs in the following points: the spores are distinctly smaller and the excipular cells are distinctly larger (13—17×2.5—3 μm and 5—8 μm respectively in *H. herbarum*). The new species also seems to be more brightly coloured than *H. herbarum*.

**Phaeohelotium fluviatilis** Raitv. et Sharma sp. nova

Apothecia gregaria, breviter stipitata vel subsessilia, 2—4 mm in diametro, applanato-cupulata vel discoidea, molle carnosa, extus lutea vel luteo-cinnamomea, hymenio concoloro. Ectoexcipulum ex textura angularis, extus strato fusco tecta. Asci clavato-cylindracei, octospori, 80—100×6—9 μm, poro iodo caerulascente. Sporae late ellipsoideae, inequilaterales, hyalinae, aseptate, biguttulatae, 7.5—10×3.5—4.5 μm, uniseriatae. Paraphyses ramosae, filiformes, apicibus clavatis, fuscoguttulatis.

Holotypus: ad lignum putridum *Abietis* sp. in alveo rivuli, Sonamarg, J & K, India, Aug. 13, 1974, M. P. Sharma 11235 (**PAN**, isotypus **TAA**).

Apothecia highly gregarious, sometimes solitary scattered, subsessile to shortly stipitate, 2—4 mm in diameter, shallow cupulate to almost plane discoid, soft-fleshy, externally yellow to yellowish-brown, smooth to minutely roughened, hymenium concolorous. Ectal excipulum of textura angularis, cells thin-walled, hyaline, 15×12 μm, outer cells covered by a dark brown layer. Medullary excipulum of textura angularis. Asci clavate-cylindrical, 8-spored, 80—100×6—9 μm, apical pore J+. Spores

broadly ellipsoid, inequilateral, hyaline, aseptate, biguttulate, 7.5—10× ×3.5—4.5 µm. Paraphyses branched, filiform, apically inflated, filled with brown oil-drops.

Collection examined: on fallen log of *Abies* sp. in a flowing stream, Sonamarg (2,400 m alt), J & K, India, Aug. 13, 1974, M. P. Sharma 11235 (holotype **PAN**, isotype **TAA**).

This fungus was growing in a predominantly coniferous *Abies-Cedrus* forest. It is rather difficult to place at first sight, but *Phaeohelotium* seems to be the proper genus for it.

## REFERENCES

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### MÕNED UUED TIKSIKULAADSETE LIIGID LOODE-HIMAALAJAST (INDIA)

Artiklis on kirjeldatud 5 teadusele uut liiki sugukonna *Leotiaceae* 4 perekonnast. Need on *Bisporella allantospora, Godronia rhododendri, Hymenoscyphus biflagellatus, H. subherbarum* ja *Phaeohelotium fluviatilis.*

*Айн РАЙТВИЙР, М. П. ШАРМА*

### НЕКОТОРЫЕ НОВЫЕ ВИДЫ ГЕЛОЦИЕВЫХ ГРИБОВ ИЗ СЕВЕРО-ЗАПАДНЫХ ГИМАЛАЕВ (ИНДИЯ)

В статье описываются пять новых для науки видов, принадлежащих к четырем родам семейства *Leotiaceae*: *Bisporella allantospora, Godronia rhododendri, Hymenscyphus biflagellatus, H. subherbarum, Phaeohelotium fluviatilis.*