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FOUR NEW SPECIES OF HELOTIALES FROM THE EASTERN HIMALAYAS (INDIA)

During the course of investigations of *Helotiales* of the Eastern Himalayas many interesting taxa have been collected in the unexplored forests there. Among those are four collections which do not match with the known species and therefore they are proposed as new species in the present communication. Holotype specimens are deposited in **PAN** (Herbarium, Botany Department, Panjab University) and isotype specimens are deposited in **TAA** (Mycological Herbarium, Institute of Zoology and Botany, Tartu).

Geoglossum tropicale Raitv., Thind et R. Sharma sp. nova

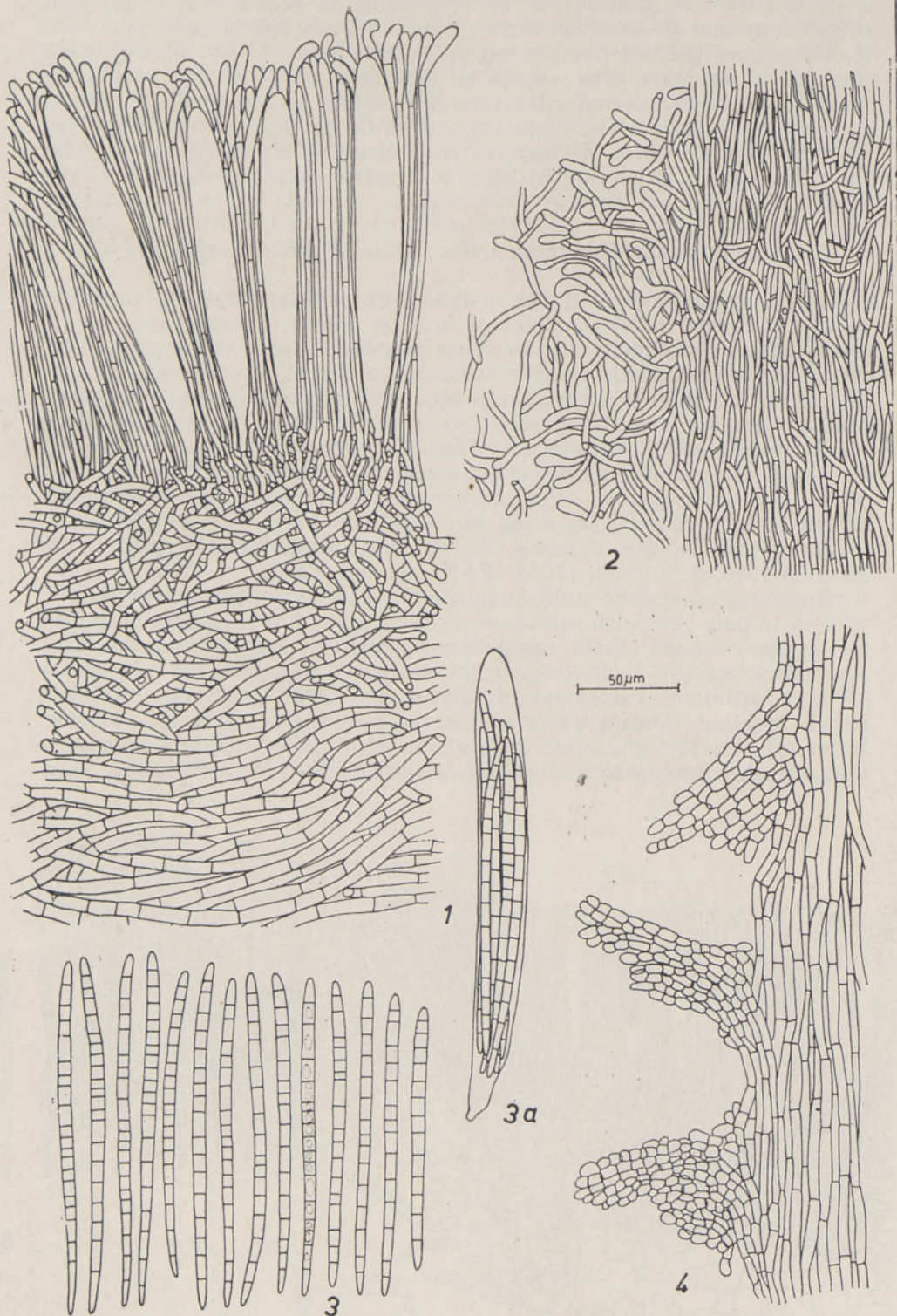
Ascomata solitaria vel gregaria, spathulata, 4–8 cm alta, brunnea, sicca nigra. Asci clavato-cylindraceuti, 180–237×25–28 μm, poro iodo non caerulascence. Sporae cylindraceutae, brunneae, 15–20-septatae, 150–178×5–8 μm. Paraphyses cylindraceutae, septatae, cellulis apicalibus clavatis brunneis, 50×8 μm.

Holotypus: ad terram humosam inter gramina, Rongtong, Siliguri, West Bengal, India, 9. VIII 1980, R. Sharma 17361 (**PAN**, isotypus **TAA**).

G. pumilum Wint. similis, sporis pluriseptatis differt.

Ascomata scattered singly as well as in groups of 2–3, spoon-shaped, 4–8 cm in total length, raw umber or coffee coloured, almost black when dry. Ascigerous region takes one-third to one half of the total length, compressed with obtuse apex, up to 1 cm wide, grooved in the middle, grooves becoming prominent in dried specimens. Stalk cylindrical to flat, solid, grooved, up to 5 mm in diameter. Excipulum wholly of textura porrecta, dark brown, cells up to 38×8 μm. Hypothecium distinct, of textura intricata, dark brown, up to 37 μm thick, hyphae septate, up to 4 μm in diameter, compactly arranged. Excipulum of stalk wholly of textura porrecta, hyphae compact towards the periphery, slightly loose in the middle, up to 5 μm wide. Surface of the stalk marked by abundant loose hyphae with conspicuous clavate terminal cells up to 16×9 μm. Asci clavate-cylindrical with an obtuse apex and a small stem-like base, 8-spored, 180–237×25–28 μm, J-. Spores cylindrical with round ends, tapering both ways but more towards the lower end, dark brown, 15–20-septate, 150–178×5–8 μm. Paraphyses filiform, branched, septate, dark brown, the apical cell clavate, up to 50×8 μm, projecting up to 38 μm beyond the tips of asci (Figs 1–4).

Collection examined: on humicolous soil, between the stones, hidden by long grass, Rongtong, Siliguri, West Bengal, Aug. 9, 1980, R. Sharma 17361 (holotype **PAN**, isotype **TAA**).



Figs 1—3. *Geoglossum tropicalis*. 1—vertical section of ascomata through the ascigerous region; 2—vertical section of ascomata through the stalk region; 3—ascospores; 3a—ascospores within an ascus.

Fig. 4. *Geoglossum pumilum*. 4—vertical section of ascomata through the stalk region.

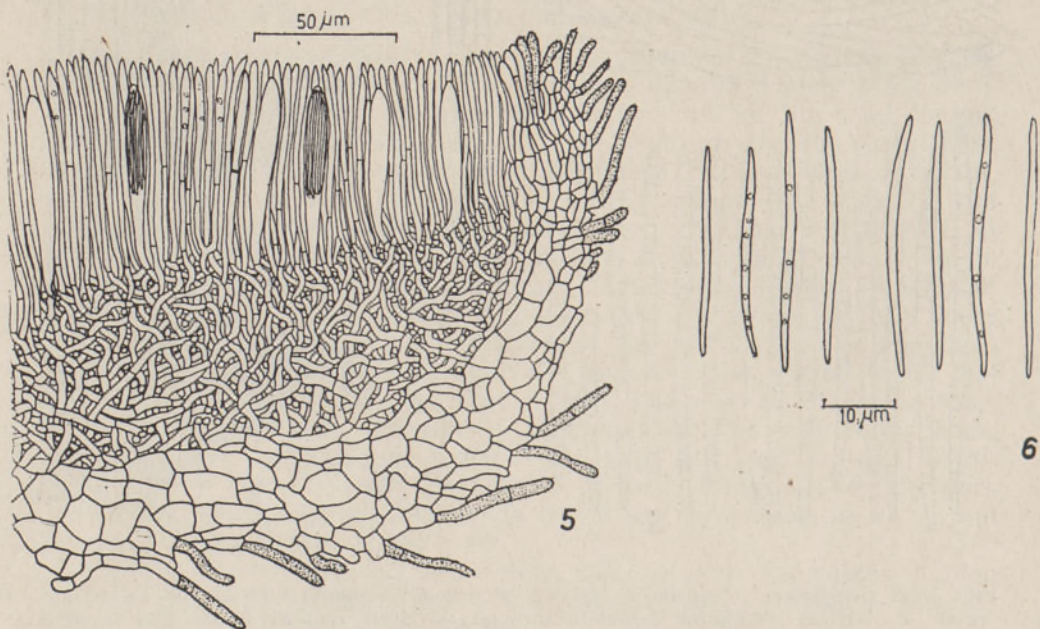
It is a very interesting species resembling *G. fallax* Dur. in external morphology and *G. pumilum* Wint. in most microscopic details. However, it differs from the latter in having up to 20-septate ascospores which are generally 16-septate. The spores of *G. pumilum* Wint. are regularly 15-septate. The microscopic structure of the stalk surface is also different in these two species. The stalk surface of *G. pumilum* Wint. is marked by minute tufts formed of clustered rows of cells, but in our new species the stalk surface is covered by clavate terminal cells of loosely arranged hyphae.

***Lachnum darjeelingense* Raitv., Thind et Sharma sp. nova**

Apothecia gregaria, 0.5–1 mm in diametro, breviter stipitata, cupulata, extus albida vel luteo-cinnamomea, breviter pilosa, hymenio cremeo vel armeniaco. Ectoexcipulum ex textura angularis vel textura prismatica, 50 μm crassum, cellulis tenuiter tunicatis, hyalinis, 12–28 \times 6.5–18 μm . Excipulum medullatum ex textura intricata. Pili cylindranei, pallide aureo-brunnei, tenuiter tunicati, granulati, 6–9-septati, 60–100 \times 4–5 μm . Asci clavato-cylindranei, octospori, 54–75 \times 7–9 μm , poro iodo caerulascente. Sporae longe cylindraneo-fusioideae, aseptatae, multiguttulatae, 28–38 \times 1.5 μm , fasciculatae. Paraphyses anguste cylindraneo-lanceolatae, 12 μm ascos superantes, 2–4 μm in diametro.

Holotypus: in folio dejecto, Dhotra, Darjeeling, West Bengal, India, 26. VIII 1980, R. Sharma 17633 (PAN, isotypus TAA).

Apothecia on a short stalk, cupulate, 0.5–1 mm in diameter, externally whitish to pale yellowish brown, covered by short hairs, hymenium cream to orange coloured. Ectal excipulum of textura angularis to textura prismatica, up to 50 μm thick, cells hyaline, thin-walled, 12–28 \times 6.5–18 μm . Medullary excipulum of textura intricata, up to 80 μm thick, hyphae hyaline, thin-walled, branched, septate, up to 5 μm in diameter. Hairs cylindrical with obtuse tips, almost hyaline to pale golden brown, thin-walled, coarsely granulate, 6–9-septate, 60–100 \times 4–5 μm . Asci



Figs 5–6. *Lachnum darjeelingense*. 5—vertical section of apothecium; 6—ascospores.

clavate-cylindrical with narrow obtuse apex, 8-spored, $54-75 \times 7-9 \mu\text{m}$, with J+ pore. Spores elongated cylindric-fusoid, hyaline, aseptate, multi-guttulate, $28-38 \times 1.5 \mu\text{m}$, fasciculately arranged in the upper portion of the ascus. Paraphyses narrowly cylindric-lanceolate, up to $12 \mu\text{m}$ exceeding the asci, $2-4 \mu\text{m}$ in diameter (Figs 5-6).

Collection examined: on both surfaces of fallen angiosperm leaf, Dhotra, Darjeeling, West Bengal, India, Aug. 26, 1980, R. Sharma 17633 (holotype PAN, isotype TAA).

This fungus is close to *Dasyscyphus mapirianus* (Pat. et Gaill.) Dennis from tropical America, which, however, has longer and slenderer ascospores ($53-60 \times 0.5 \mu\text{m}$).

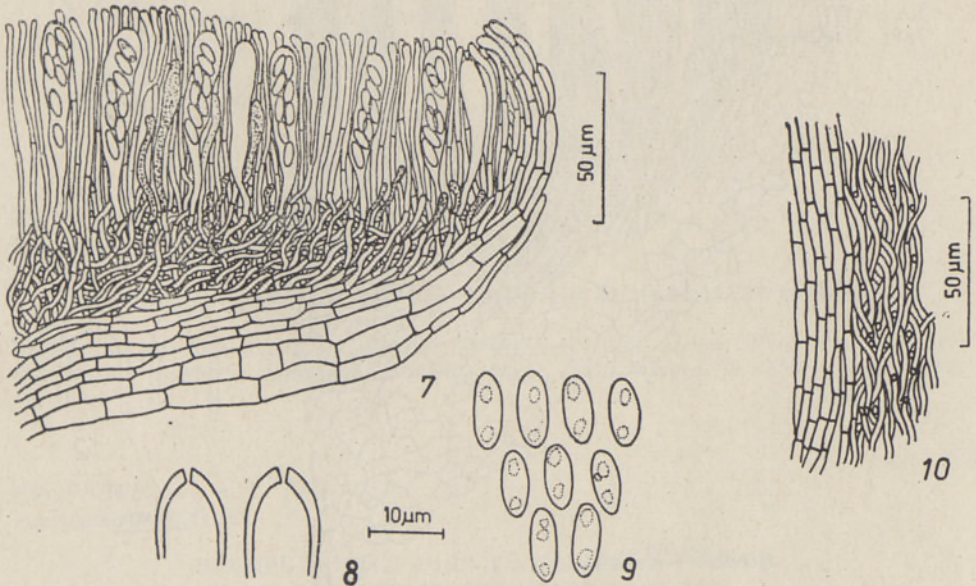
Lanzia minuta Raitv., Thind et R. Sharma sp. nova

Apothecia stipitata, applanato-discoidea, 0.5-1 mm in diameter, 1 mm alta, rubro-cinnamomea, sicca atro-rubra, stipes basi nigra. Ectoexcipulum ex textura prismatica, cellulis tenuiter tunicatis, pallide brunneis, $12-32 \times 6.5-14.5 \mu\text{m}$. Asci clavati, $61-72 \times 9-11 \mu\text{m}$, poro iodo caerulascente. Sporae ellipsoideae vel subreniformes, aseptatae, 2-3-guttulatae, $9-11 \times 2.5-4 \mu\text{m}$, uniseriatae. Paraphyses filiformes, apicibus anguste clavatis, maxime $3.5 \mu\text{m}$ in diametro.

Holotypus: in petiolo dejecto, 7 km ab Algarah in directione Labha, Darjeeling, West Bengal, India, 6. IX 1980, R. Sharma 17482 (PAN, isotypus TAA).

Lanziae velutinosae Tewari et Singh similis, ascis brevibus et sporis angustis differt.

Apothecia solitary or gregarious, plane discoid on a long stalk, 0.5-1 mm in diameter, up to 1 mm in total height, totally reddish brown, turning dark red or blackish red after drying, base of stalk black at the point of attachment. Ectoexcipulum of textura prismatica, pale brown, cells thin-walled, $12-32 \times 6.5-14.5 \mu\text{m}$, of textura porrecta in the stalk, cells up to $25 \times 5 \mu\text{m}$. Medullary excipulum of textura intricata, hyphae



Figs 7-10. *Lanzia minuta*. 7—vertical section of apothecium; 8—ascus tips; 9—ascospores; 10—vertical section of stalk.

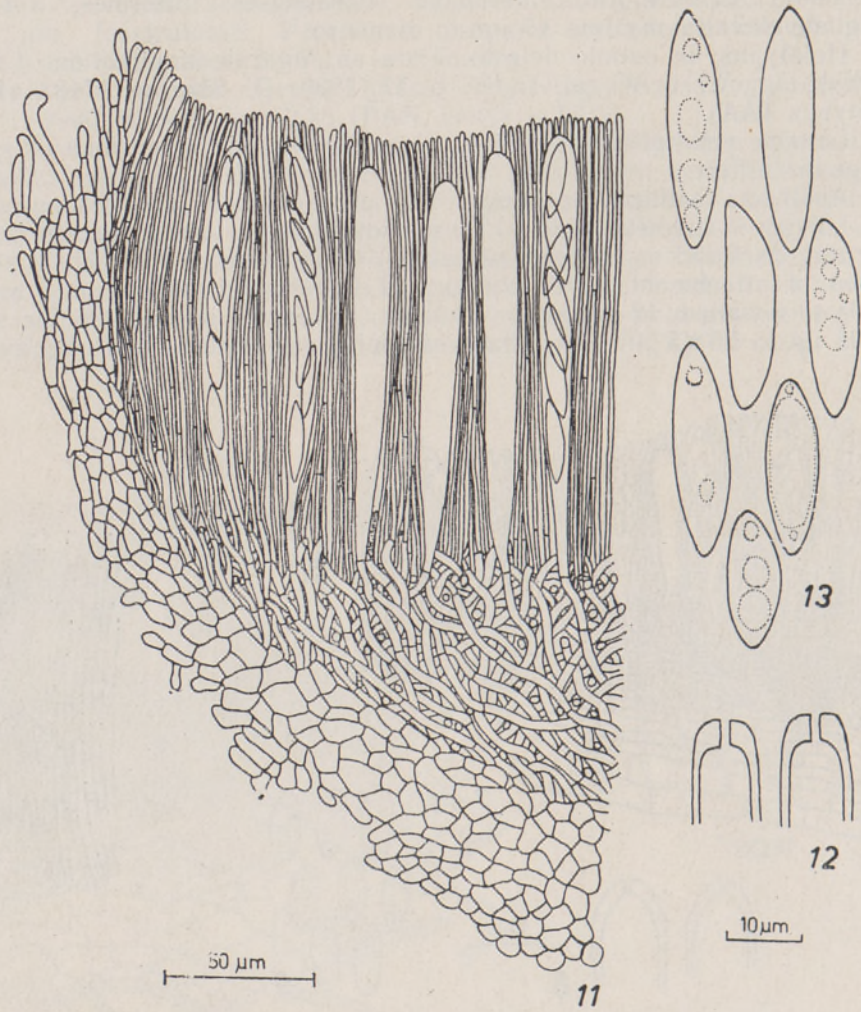
thin-walled, up to 3 μm in diameter. Asci clavate, arising from croziers, 61–72 \times 9–11 μm , pore J+. Spores ellipsoid to almost reniform, hyaline, 2–3-guttulate, 9–11 \times 2.5–4 μm , biseriata. Paraphyses filiform, branched, septate, slightly swollen at the apices, up to 3.5 μm in diameter, light brown (Figs 7–10).

Collection examined: on a petiole of unknown broad-leaved tree, 7 km from Algarah towards Labha, Darjeeling, West Bengal, India, Sept. 6, 1980, R. Sharma 17482 (holotype PAN, isotype TAA).

This species is close to *Lanzia velutinos* Tewari et Singh, but differs in shorter asci and narrower ascospores.

***Ciboria megaspora* Raitv., Thind et R. Sharma sp. nova**

Apothecia gregaria vel solitaria, breviter stipitata, cupulata vel influndibuliformes, 1.5–2.5 mm in diametro, maxime 3 mm alta, extus brunnea, hymenio brunneo-griseo, sicca toto fusca. Stipes basi stromaticus. Ectexcipulum ex textura angularis vel angularo-globularis, cellulis tenuiter tunicatis, pallide brunneis, 10–16 \times 8–11 μm . Cellulae marginales pili-



Figs. 11–13. *Ciboria megaspora*. 11—vertical section of apothecium; 12—ascus tips; 13—ascospores.

formes, cylindraceo-clavatae, 40—50×4—5 μm. Asci cylindraceo-clavati, 122—147×12—14 μm, poro iodo caerulascente. Sporae ellipsoideofusoidae, aseptatae, hyalinae, 18—34×5.5—7.5 μm, uniseriatae. Paraphyses filiformes, 2—2.5 μm in diametro.

Holotypus: ad lignum putridum, Palmajuha, Darjeeling, West Bengal, India, 30. VIII 1980, R. Sharma 17474 (PAN, isotypus TAA).

Species ab aliis generis sporis magnis differt.

Apothecia gregarious or solitary, shortly stalked, at first cupulate, at maturity infundibuliform, 1.5—2.5 μm in diameter, external surface brown, hymenium brownish-gray, turning dark brown after drying, up to 3 mm in total height. Base of the stalk stromatized. Ectexcipulum of textura angularis or textura angularis-globularis, cells light brown, thin-walled, 10—16×8—11 μm, excipular cells at the margin elongated into cylindric-clavate hairs, 40—50×4—5 μm. Medullary excipulum of textura intricata, hyphae thin-walled, septate, up to 5 μm in diameter. Asci clavate-cylindric, arising from croziers, apex round with a broad J× pore, 122—147×12—14 μm. Spores ellipsoid-fusoid, hyaline, aseptate, multiguttulate, 18—34×5.5—7.5 μm. Two lower spores in the asci remarkably larger than the six upper spores, 28—34 μm and 18—24 μm long, respectively. Paraphyses filiform, branched, septate, 2—2.5 μm in diameter (Figs 11—13).

Collection examined: on dead angiosperm log, Palmajuha, Darjeeling, West Bengal, India, Aug. 30, 1980, R. Sharma 17474 (holotype PAN, isotype TAA).

This collection does not fit any of the known species of *Ciboria* because of small characteristic obconical apothecia and very large ellipsoid-fusoid multiguttulate spores. The remarkable feature of this species is also the dimorphism in the size of spores. The two lower spores in the ascus are constantly significantly larger than the six upper ones.

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NELI UUT TIKSIKULAADSETE LIIKI IDA-HIMAALAJAST (INDIA)

Artiklis on kirjeldatud nelja teadusele uut liidseente liiki seltsist *Helotiales*. Need on *Geoglossum tropicale*, *Lachnum darjeelingense*, *Lanzia minuta* ja *Ciboria megaspora*.

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ЧЕТЫРЕ НОВЫХ ВИДА ГЕЛОЦИЕВЫХ ГРИБОВ ИЗ ВОСТОЧНЫХ ГИМАЛАЕВ (ИНДИЯ)

В статье описаны четыре новых для науки вида дискомицетов из порядка *Helotiales*: *Geoglossum tropicale*, *Lachnum darjeelingense*, *Lanzia minuta* и *Ciboria megaspora*.