

THREE NEW SWEDISH SPECIES OF GEOGLOSSUM.

BY

NILS HAKELIER.

In Svensk Bot. Tidskr. 1964 (pp. 337–343) I published some Swedish finds of *Geoglossaceae*. I mentioned then that I had also found some specimens which I had been unable to determine. Already then I had found that they represent three apparently distinct species of *Geoglossum*. I have later collected a larger material of them, and further studies in the field and under the microscope have confirmed my earlier views. As there are no described species with which they can be identified, I describe them here as three new species, viz. *G. fumosum*, *G. lineare* and *G. uliginosum*.

Geoglossum fumosum HAKELIER n. sp.

Ascocarpia clavata, ad 4,5 cm alta.—Pars ascigera fusca, lanceolata, compressa, a stipite distincte delimitata.—Stipes teres, obscure fuscus, dense squamulosus.—Asci clavati, $100-125 \times 12-17\mu$, apice rotundati, 8-spori.—Sporidia $30-40 \times 4,5-5,5\mu$, clavata, hyalina–pallide fulvescentia aseptata vel pallide brunnea et 1–3-septata.—Paraphyses numerosae, filiformes, raro septatae, infima parte subhyalinae, superiori parte fumosae, apice incrassatae, plerumque curvatae.—Habitat in pascuis in Suecia media.

Ascocarps clavate, up to 4,5 cm high.—Ascigerous portion brown, as if impregnated by smoke, lanceolate, compressed, distinctly delimited from the stem.—Stem terete, dark brown, densely squamulose.—Asci clavate, $100-125 \times 12-17\mu$, apex rounded, 8-spored.—Spores $30-40 \times 4,5-5,5\mu$, clavate, hyaline–pale yellowish and aseptate or pale brown and 1–3-septate.—Paraphyses numerous, filiform, rarely septate, subhyaline below, greyish brown above, apex incrassate, mostly \pm curved.—Habitat: pasture-land in Central Sweden.

Typus: Västmanland, Viker parish, Älvhyttan, Venen, 11.IX.1965, N. HAKELIER, UPS.

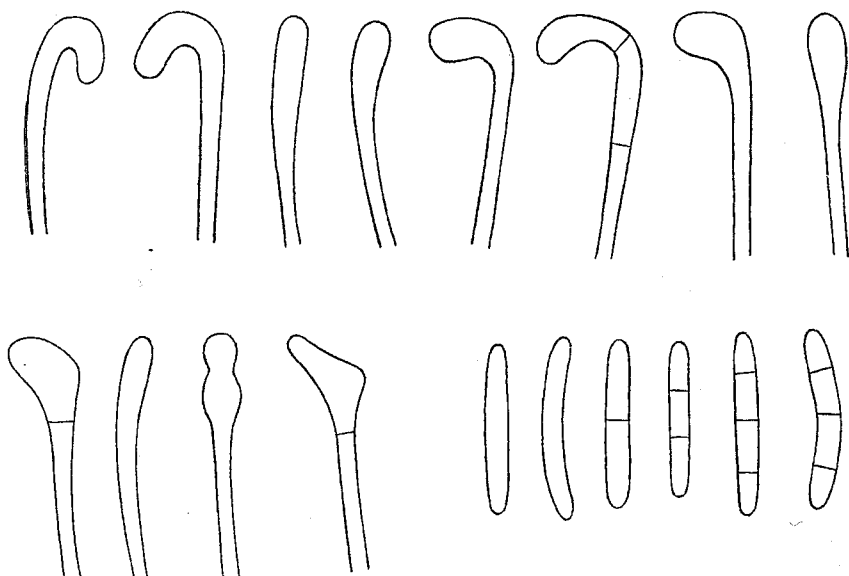


Fig. 1. *Geoglossum fumosum* n. sp. Paraphyses and spores from the type.

VÄSTERGÖTLAND. *Tived*: Bråten, pasture-land N of the houses, 9 & 17.X.1965, N. HAKELIER, UPS.

NÄRKE. *Lerbäck*: Önnabo, pasture-land along the road to Dunsjö railway-halt, 18.IX.1965, N. HAKELIER, UPS.

VÄSTMANLAND. *Grythyttan*: Bovik, NNE of Vadfallet, 3.X.1965, N. HAKELIER, UPS; Bovikstorp, 3.X.1965, N. HAKELIER, UPS. *Viker*: Älvhyttan, Venen, 11, 12, 26.IX & 3.X.1965, N. HAKELIER, UPS.

G. fumosum is a very distinct species, characterized by its spores and paraphyses, which are not like those of any other species of the genus. Owing to the occurrence of coloured, septate spores I have referred it to the genus *Geoglossum*. However, most spores remain hyaline and aseptate. The species thus forms a transition to *Corynetes* and shows that the limit between these two genera is not sharp.

G. fumosum is usually easily recognized even in the field by the ascigerous portion, which looks like impregnated by brown smoke. It grows in habitats typical of most species of the genus, i.e. not cultivated pasture-lands.

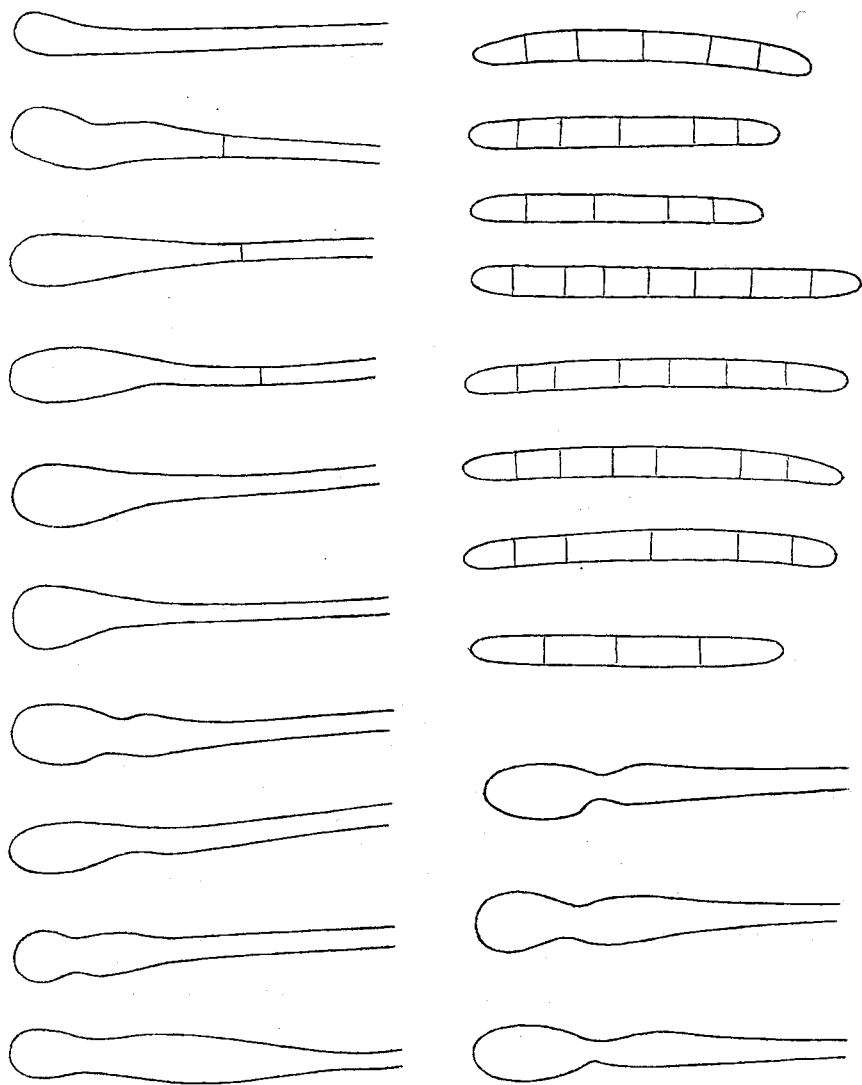


Fig. 2. *Geoglossum lineare* n. sp. Paraphyses and spores from the type.

***Geoglossum lineare* HAKELIER n. sp.**

Ascocarpia anguste linearia, cylindracea vel paullo compressa, ad 4 cm alta, atra.—Pars ascigera elongata, a stipite non distincte delimitata.—Stipes glaber, viscidus.—Asci clavati, 140–155 × 13–16 μ , apice angustati tamen rotundati, 8-spori.—Sporidia 45–65 × 4,5–5,5 μ , cylindraceo-clavata, pallide fusca, 3–7-spetata.—Paraphyses numerosissimae, ascis distincte

superantes, robustissimae, rectae, raro septatae, basaliter hyalinae filiformes, apicem versus subhyalinae—pallide fuscae, sensim incrassatae, apice ellipsoideo-globosae.—Habitat in pascuis in Suecia media et boreali.

Ascocarps narrowly linear, terete or slightly compressed, up to 4 cm high, black.—Ascigerous portion elongate, not sharply delimited from the stem.—Stem smooth, viscid.—Asci clavate, 140–155 × 13–16 μ , apex narrowed but rounded, 8-spored.—Spores 45–65 × 4,5–5,5 μ , cylindrical-clavate, pale brown, 3-7-septate.—Paraphyses very numerous, distinctly longer than the asci, very stout, straight, rarely septate, basally hyaline, filiform, above subhyaline—pale brown, gradually incrassate, apex ellipsoidal-globular.—Habitat: pasture-land in Central and North Sweden.

Typus: Västmanland, Ljusnarsberg parish, Östra Älvhöjden, 25.IX.1965, N. HAKELIER, UPS.

VÄSTMANLAND. *Grythyttan*: Bovik, NNE of Vadfallet, 3.X.1965, N. HAKELIER, UPS; Bovik, Bovikshyttan, pasture-land along the road to Saxhyttan, 3.X.1965, N. HAKELIER, UPS. *Hjulsjö*: Övre Gunnarshult, 19.IX.1965, N. HAKELIER, UPS. *Ljusnarsberg*: Östra Älvhöjden, pasture-land S of the forester's house, 25.IX.1965, N. HAKELIER, UPS.

JÄMTLAND. *Berg*: S of Vigge, pasture-land E of the road, 5.IX.1964, N. HAKELIER, UPS.

G. lineare is easily recognized even in the field by its narrow fruitbodies and viscid stem. It occurs in similar habitats as *G. fumosum* but has a more northern distribution.

Microscopically *G. lineare* is characterized by the 3-7-septate spores and the long, stout paraphyses. It may perhaps be confused with *G. vleugelianum* NANNF., which has similar spores and stout paraphyses. However, the paraphyses of *G. vleugelianum* are shorter, less robust, darker, remotely septate and interspersed with amorphous brown matter. Further, the fruitbodies of *G. vleugelianum* are broader and the stems squamulose and not viscid.

Geoglossum uliginosum HAKELIER n. sp.

Ascocarpia longe clavata, gracilia, ad 6 cm alta, atra.—Pars ascigera lanceolata, compressa, quam stipes brevior et ab ea non distincte delimitata.—Stipes teres, longus, non squamulosus sed plerumque rugosus, \pm viscidus.—Asci clavati, 140–175 × 14,5–17 μ , apice rotundati, 8-spuri.—Sporidia clavata, obscure fuliginea, 7-septata, plerumque paullo curvata, 60–80 × 4,5–6 μ .—Paraphyses numerosissimae, fragiles, basaliter hyalinae, filiformes, raro septatae, sensim incrassatae, apicem versus parce-dense
Sv. Bot. Tidskr., 61 (1967): 3

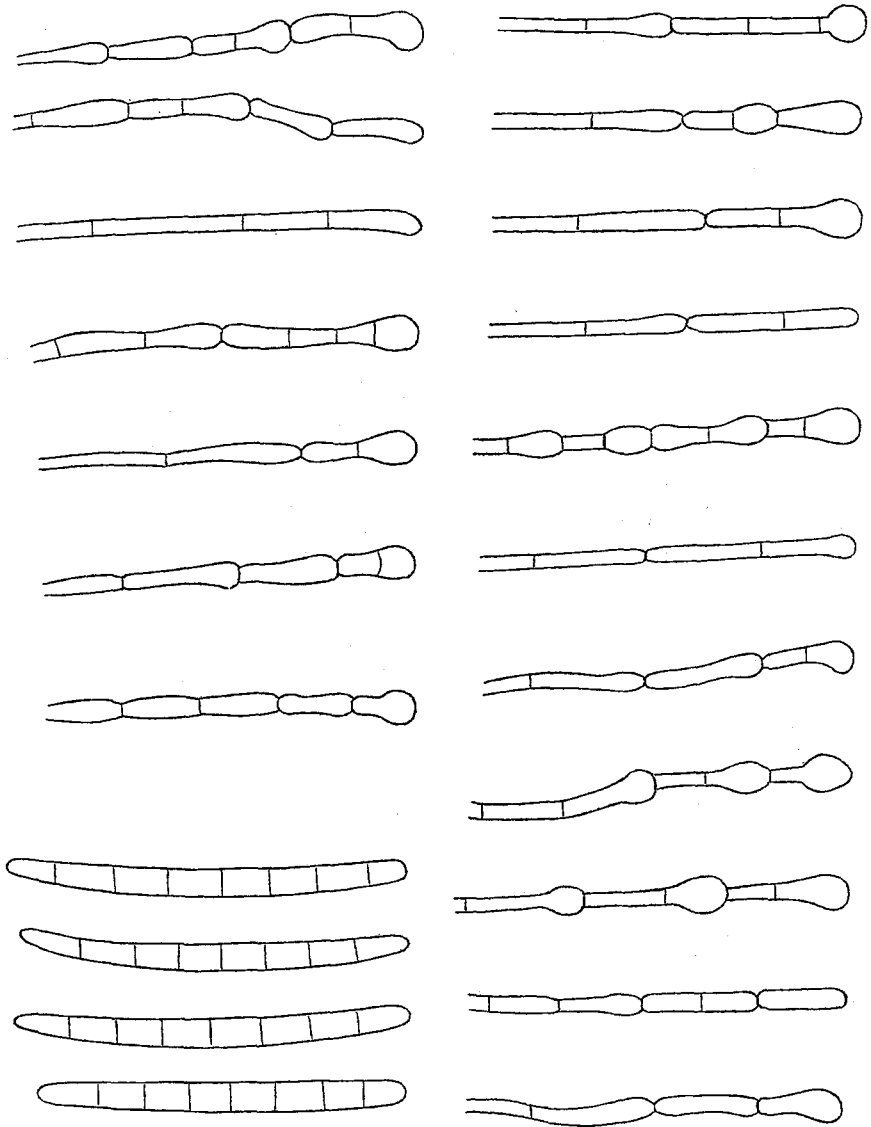


Fig. 3. *Geoglossum uliginosum* n. sp. Paraphyses and spores from the type.

septatae, subhyalinae-pallide fuscae, ad septa non vel leviter constrictae, cellulis tubuliformibus, cylindraceutis vel pyriformibus, apice interdum abrupte globuloso.—Habitat in paludosis in Suecia media.

Ascocarps longly clavate, gracile, up to 6 cm high, black.—Ascigerous portion lanceolate, compressed, shorter than the stem

and not sharply delimited.—Stem terete, long, not squamulose but usually rugose, \pm viscid.—Asci clavate, $140-175 \times 14,5-17\mu$, apex rounded, 8-spored.—Spores clavate, dark fuliginous, 7-septate, usually slightly curved, $60-80 \times 4,5-6\mu$.—Paraphyses very numerous, fragile, basally hyaline, filiform, remotely septate, gradually incrassate and remotely—closely septate above, subhyaline—pale brown, not or only slightly constricted at the septa; cells tubular, cylindrical or pyriform; apex sometimes abruptly globular.—Habitat: swampy places in Central Sweden.

Typus: Västmanland, Viker parish, Enbergsång, 5.IX.1965, N. HAKELIER, UPS.

NÄRKE. *Askersund*: L. Bergshult, swampy pasture-land NE of the houses, 18.IX.1965, N. HAKELIER, UPS. *Lerbäck*: Önnabo, swampy pasture-land, 7.IX.1963 & 2.X.1965, N. HAKELIER, UPS.

VÄSTMANLAND. *Ljusnarsberg*: along the rivulet between Småtjärnarna and Grästjärnen, amongst *Sphagna*, 17.VIII.1966, N. HAKELIER, UPS. *Nora*: Greksåsar, swampy pasture-land S of the road, 30.IX & 7.X.1962, 19.IX.1963, N. HAKELIER, UPS. *Viker*: Enbergsång, swampy pasture-land SW of the houses, 5.IX.1965, N. HAKELIER, UPS.

G. uliginosum seems to be most closely related to *G. cookeianum* NANNF. and *G. simile* PECK and can be said to be intermediate between them. The paraphyses of *G. uliginosum* are unusually variable in shape. The most typical ones are remotely septate into tubular cells. Sometimes paraphyses occur which are similar to those of *G. cookeianum* or *G. simile*, but such typical of *G. uliginosum* are always present and make the species easily recognized.

G. uliginosum grows in swampy places in pasture-lands and woods amongst *Sphagna* and other fen-mosses (but not like *G. glabrum* PERS. ex FR. in mires), often together with *G. simile* and *Trichoglossum hirsutum* (PERS. ex FR.) BOUD. From *G. simile*, which is similar in habit, *G. uliginosum* can usually be separated even in the field by its viscosity.

Rynningegatan 30, Örebro.