



1, Ascocarp (ca  $\times 0.7$ ); 2, ovoid to nearly cylindrical ascospores from DAOM 46449; 3, paraphyses from 147465; 4, medullary excipulum with some swollen cells from 147398; 5, narrowly ovoid ascospores from 147398; 6, *Gyromitra ambigua*, mature ascospore with cap-like appendages from 92260. Scales equal  $20\mu$ .

*Gyromitra infula* (Schaeff. ex Fr.) Quél., Ench. Fung. 272. 1886.  
= *Helvella infula* Schaeff. ex Fr., Syst. Myc. 2: 17. 1822.

ASCOCARP stipitate with a saddle-shaped to irregularly lobate, somewhat globose pileus, 3-15 cm high and 2-12 cm broad. Pileus initially saddle-shaped with the margin free, eventually the margin becomes fused to the stipe and grows together with other marginal areas, finally becoming an irregularly globose shape; hymenial surface finely pruinose, smooth to undulating or weakly rugose, pale brown, gray-brown or chestnut-brown; flesh of the pileus to 1 mm thick, pale gray, translucent, brittle; stipe to 10 × 3 cm, hollow, rubbery-brittle, exterior pruinose or more irregularly roughened, pale tan often with a pinkish tinge and a sparse, yellowish (when dry) tomentum at the base. TISSUE of the *textura intricata* type, some hyphal segments with refractive contents, 5-20 $\mu$  in diam., with a few irregularly swollen cells. ASCI cylindrical, 225-325 × 10-20 $\mu$ , eight-spored, when immature the contents red-brown in Melzer's reagent. PARAPHYSES with a pinkish apical cell in KOH, pale brown to yellow in Melzer's, thin-walled, septate, inflated to almost spherical at the apex (9-13 $\mu$  in diam.), tapering to 4-6 $\mu$ , branching more than 100 $\mu$  below the apex. ASCOSPORES narrowly ovoid, some almost cylindrical or narrowly ellipsoid, the apices broadly rounded, (17-)18-21.4(-23) × (6.5-)7-8.5(-9.5) $\mu$ ; epispore often indistinct, hyaline in KOH, moderately blue in cotton blue, yellow in Melzer's, very thin, thickening to 1-1.5 $\mu$  at the spore apex; endospore often indistinct, hyaline to pale yellow, to 1 $\mu$  thick.

SUBSTRATE: Generally well-rotted wood of angiosperms and gymnosperms, also soil among mosses, etc., or mineral soil.

DISTRIBUTION: In August, September and October from Nova Scotia, Quebec, Ontario, (Manitoba — in Bisby et al., The fungi of Man. & Sask., N.R.C., Ottawa. 1938), British Columbia.

COLLECTIONS (selected): N.S., Kings Co., Baxter's Harbor, 17.VIII.1957, DAOM 112639 (K.A. Harrison, Pl. Path. 4183). Que., L'Islet Co., St. Aubert, 12.IX.1946, 87305 (H.A.C. Jackson); La Vérendrye Park, Le Domaine, 29.VII.1960, 71022 (R. Macrae). Ont., Frontenac Co., Kingston, 11.IX.1966, 115358 (M.E. Elliott); Nipissing Dist., L. Timagami, 10.IX.1923, 71709 (G.D. Darker, 7695). B.C., Trinity Valley (near Vernon), 1938, 5351 (I. Mounce); between Vanderhoof and Fort St. James (ca. 52°20' N Lat.), 1.VIII.1954, 46449, (D.B.O. Savile, et al. 13856); Vancouver Isle., Victoria, Goldstream Park, 10.X.1967, 147398 (J. Ginns, 1094).

NOTES: The description of the gross features is, unless otherwise specified, from fresh specimens. The microscopic features are described from dried specimens. Spore characters are taken from apothecial sections in Melzer's, no spore casts being available.

The fungus Wells and Kempton reported (Mycologia 60: 888. 1968) as *G. infula* from Alaska is *G. ambigua* (Karst.) Harmaja (see also Harmaja, Karstenia 9: 19. 1969). Harmaja determined two Canadian collections to be *G. ambigua*: Alberta, Minnewanka L. (NE of Banff), DAOM 22960 (A. Funk, V-13218) and Yukon Terr., Watson L. (60°07' N Lat.), 12258 (W.G. Ziller, V-14422). And, because of the large size of spores (no other distinct features in dried specimens were found), two additional collections are assigned to *G. ambigua*: B.C., Victoria, 54649 (M.C. Melburn) and Ont., Algoma Dist., Agawa Bay (N of Sault Ste. Marie), 147399 (D. Malloch). *G. ambigua* is apparently a species of the boreal or montane forests in Canada.

Fresh ascocarps of *G. ambigua* are somewhat smaller than *G. infula* with "a distinctly violet tinge" (Harmaja).

*Pseudorhizina sphaerospora* (Peck) Pouzar, *G. gigas* (Krombh.) Cke. and *G. esculenta* Fr. are similar in gross features but they occur in the spring (For a more detailed comparison of these species with *G. infula* see Groves and Hoare, Can. Field-Nat. 67: 95-102. 1953).

Old ascocarps are occasionally parasitized by *Sphaeronaemella helvella* (Karst.) Karst. (see Fungi Canadenses No. 53).

J. Ginns