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NEW OR INTERESTING RECORDS OF BRITISH HYMENOMYCETES—V

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(With five Text-figures)

In this paper the new species *Myxarium crystallinum* is described and its relationships with *Tremella grilletii* and *Sebacina sphaerospora* discussed. The two latter species are transferred to the genus *Myxarium* Wallr. An account of a third British gathering of *Tremiscus helvelloides* is given, together with a detailed review of its world-wide distribution, since it is one of the species included in the European Mapping Scheme for fungi.

A NEW SPECIES OF MYXARIUM WALLR.

Myxarium crystallinum Reid, *sp. nov.*—Figs. 4a, b

Sporophora oculo nudo tenuia, caesio-cinerea ad instar *Corticii*, 4.5 cm longa, 1.5 cm lata; oculo armato pustularum minimarum, turbinatarum gelatinosarum, nitentium, dense confertarum efformata. Pustulae 120–150 μ altae, 100–200 μ latae, ad substratum anguste affixae et in vivo discretae, saccharo-crystallis similis; in sicco coalescentes et reticulum irregulare efformantes. Hyphae indistinctae, angustae, gelatinisatae, fibulatae, muris tenuibus praeditae. Dikaryophyses non visae. Basidia myxarioidea, bispora. Probasidia ad 25 μ longa, apice 7–8 μ lata, et septo basali fibulato provisa. Sporae ellipticae vel late ellipticae 6.0–7.75 × 4.2–4.75 μ vel globosae vel subglobosae, 4.75–5.2 μ. On very rotten stump, possibly *Alnus*, Vann Lake, Ockley, Surrey, coll. Dr. Petch (TYPUS).

Fructifications appearing to the naked eye as a thin, resupinate, corticioid, blue-grey film, covering an area 4.5 × 1.5 cm, but under a lens this can be seen to consist of myriads of minute, densely crowded, glistening, gelatinous, turbinate pustules, 120–150 μ high and 100–200 μ wide, each with a narrow point of attachment. These pustules, which resemble tiny grains of sugar, remain discrete even when in close contact, at least until dried, whereupon they coalesce to form an irregular reticulum (sub lente). Each consists of an erect spreading fascicle of rather indistinct, thin-walled, narrow, gelatinized, clamp-bearing hyphae, with scattered basidia in the apical portion. *Dikaryophyses* not preserved. *Basidia* myxarioid, 2-spored. The basidial initials, up to 25 μ long, are at first club-shaped, with a basal clamp-connexion; the enlarged apical portion 7–8 μ wide, becomes divided into two by a longitudinal septum and is cut off from an enucleate (?) stalk-cell, 15–18 μ long and 1.2 μ wide, without clamp formation. *Spores* varying in shape from elliptical or broadly elliptical, 6.0–7.75 × 4.2–4.75 μ, to more or less globose, 4.75–5.2 μ, with a small apiculus, and germinating by repetition.

HABITAT: on very rotten stump, possibly *Alnus*, Vann Lake, Ockley, Surrey, coll. Dr. Petch, Oct. 1972 (TYPE).

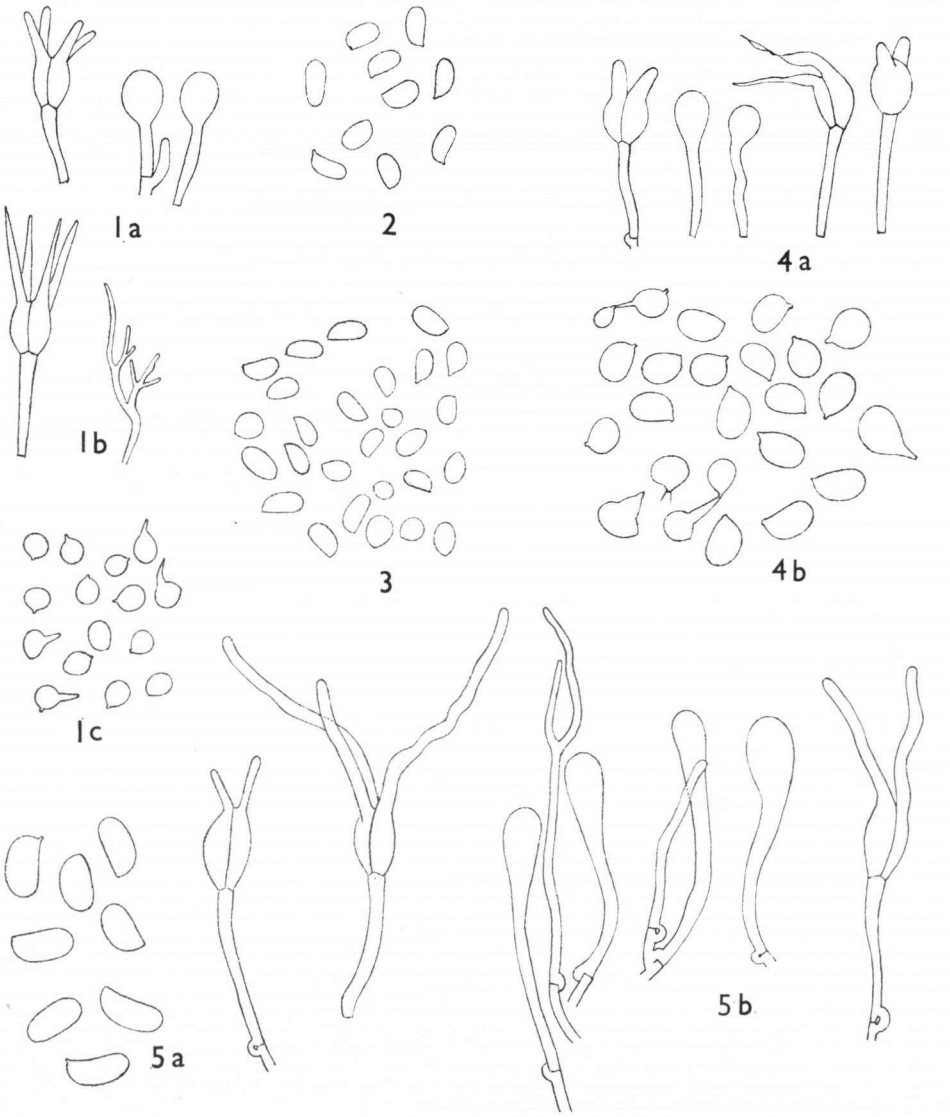

Fig. 1. *Sebacina sphaerospora*. — a. Two mature basidia and two probasidia. — b. Dikaryophysis. — c. Spores (Galzin No. 16069, K).
Fig. 2. *Tremella glacialis* Spores (Galzin No. 18518, K).
Fig. 3. *Stypella minor*. Spores (Rogers No. 335, K).
Fig. 4. *Myxarium crystallinum*. — a. Basidia and probasidia. — b. Spores (Type).
Fig. 5. *Tremiscus helvelloides*. — a. Spores. — b. Basidia, probasidia, and dikaryophyses (Bircher Common, Aug.-Oct. 1971). (All approx. × 570).

There is possibly an existing record of this fungus in the literature from Denmark under the name *Sebacina sphaerospora* Bourd. & Galz. (Christiansen, 1959).

Myxarium crystallinum belongs with a group of species which Donk (1966) included as "species incertae sedis" at the end of the genus *Tremella* Pers. ex St-Amans. These species were listed by Donk under "Microtremella" but he noted that this denomination "must be seen as that of a term rather than a name: it makes it possible to designate a group of tremellaceous fungi of a certain particular habit but no more; it does not even imply that all its members are known to possess sphaero-pedunculate basidia." The species involved are *T. albescens* (Sacc. & Malbr. apud Sacc.) Sacc., *T. coriaria* Bres. apud Strass., *T. fusispora* Bourd. & Galz., *T. grilletii* Bourd., *T. rosea* Höhn., *Sebacina sphaerospora* Bourd. & Galz., and *T. translucens* Gordon. Of these species *T. coriaria* was said to have spores "obovatis, saepe uno latere depressis, 12–15 × 8–10 μ" while those of *T. fusispora* were described as "fusiform, 12–21 × 5–8 μ", those of *T. rosea* as "ovata vel subsphaeroidea, 8–9 μ crassa" and those of *T. translucens* as "ellipsoideis, basi oblique apiculatis, 7.1–11.8 × 3.7–6.2 μ, plerumque 9 × 5 μ." From these data it is clear that these species may be readily distinguished from *M. crystallinum* in having larger and often differently shaped spores. The original material of *T. albescens* lacked spores. This leaves *T. grilletii* and *S. sphaerospora* for more detailed consideration since they would seem to be most closely related to *M. crystallinum*.

From the original diagnosis of *T. grilletii* it is clear that there is little to separate it macroscopically from *M. crystallinum*, but the spores were said to be "oblongues un peu courbes, obtuses et arrondies à l'extrémité, obliquement apiculées à la base, qui est un peu moins large . . . Leur longueur est de 0^{mm}, 008 à 10 sur 0^{mm}, 003 à 5 de largeur." This was later modified by Bourdot & Galzin (1928) to read "spores oblongues subcylindriques un peu déprimées ou arquées, 6 – 10 × 3 – 5 μ." Indeed in his original article Bourdot figured the spores as subcylindric or elliptic varying to allantoid. It is now customary to regard *T. glacialis* Bourd. & Galz. and *T. minutissima* Höhn. as synonyms of *T. grilletii*, and I have been able to examine an authentic collection of the former in K (Champignons de l'Aveyron, on *Populus*, Bordeaux, leg. Galzin No. 18518, Oct. 1915). This consists of minute, crowded, gelatinous sugar-like pustules exactly as in *M. crystallinum* but with elliptical to broadly elliptical spores, 5.75–7.5 × (2.2–) 3.0–3.75 μ (Fig. 2). This compares with Bourdot & Galzin's observations in which the spores were originally described as "oblongae, base acutae, saepe lateraliter subdepressae, 5–8 × 3–5 μ." Later they added that the spores were "souvent un peu déprimées latéralement" and they figured them with much the same shape as those of *T. grilletii*. On available evidence it therefore seems justifiable to relegate *T. glacialis* to synonymy under *T. grilletii*. However, the spores are smaller and proportionally more elongate than those of *M. crystallinum*.

The second species, *S. sphaerospora*, was originally described by Bourdot & Galzin (1924) as "indeterminata, ceraceo-gelatinosa, granuloso-tuberculosa, subplicata, opaleo-fuscescens, denum mucosa, sicco evanescens v. rufescens, haud nitens." There

is no suggestion that the fructification originates as tiny, discrete pustules and this is one of the reasons which no doubt led Bourdot & Galzin to describe the species in *Sebacina*. Indeed in an authentic collection in K (Champignons de l'Aveyron, Bourdot No. 14094, on *Alnus*, Lubotis, leg. Galzin No. 16069, Sept. 1914) the fructification consists of a thin, continuous, smooth, gelatinous film, up to 180 μ thick. In section this can be seen to comprise a narrow basal layer of indistinct, horizontal, thin-walled, clamp-bearing hyphae, from which other hyphae curve upward to form the bulk of the tissue. It should be noted in contrast that Wells (1961) who had also studied two authentic specimens of this species found that these and other collections so named in the Mycological Herbarium at the State University of Iowa "all show a tuberculate structure in cross section, at least in certain portions of the fructifications. There is present in each specimen a basal layer . . .." It is not altogether clear from this whether the tuberculate structure referred to was merely a surface irregularity or whether a tubercular or pustular origin was to be inferred—the mention of a basal layer of horizontal hyphae is evidence against the latter possibility. To return to the Bourdot collection in K (see Fig. 1a–c), this was found to have branched dikaryophyses and 4-spored, myxarioid basidia; the probasidia measured 17—20 μ, and although no basal clamp-connexions were seen they were presumably present since clamps were demonstrated on the vegetative hyphae. The apical region of the mature basidium measured 8.0–10.2 × 5.0–6.5 μ and the enucleate (?) stalk cell about 12.75 μ. Spores were abundant, 3.5–4.75 μ, and were almost uniformly globose, many having germinated by repetition (Bourdot & Galzin gave the spore size as 4–6 × 3.5–5.5 μ). From this it would seem that *S. sphaerospora* differs from *M. crystallinum* in forming a continuous gelatinous film with a distinct, if narrow, basal layer, and also in having 4-spored basidia and small spherical spores.

A complication in regard to the interpretation of *S. sphaerospora* is that Wells gave it as his opinion that this species merely represented the nearly confluent phase of *Stypella minor* Moll. sensu Martin and in this he was followed by Donk (l.c.) who argued that Martin's (1934) interpretation of *S. minor* was unlikely to have been that of the original author. An Iowa collection in K of *S. minor* (on aspen bark, Turkey Creek, Johnson Co., coll. D. P. Rogers, No. 335, 28 Oct. 1933) which clearly consisted of minute, discrete pustules when fresh, bears abundant spores of somewhat variable shape ranging from elliptical, broadly elliptical or ovate, 4.5–6.2 × 2.75–3.5 μ, to occasionally globose 3–4 μ (Fig. 3). The evidence from this collection of a large preponderance of elliptical spores, together with Martin's illustration of similarly shaped spores from material he referred to *S. minor* suggests that *S. minor* sensu Martin might well be more appropriately listed in synonymy under *T. grilletii* than under *Sebacina sphaerospora*. In contrast *T. gangliformis* Linder, commonly regarded as based on *Stypella minor* sensu Martin, although having a pustular origin, was said to produce spores which were "subglobose to ovoid and obliquely apiculate 4–5 × 5.5–6 μ." Unfortunately no material of this species was available for study and until the spore shape is checked one cannot feel alto-

gether confident in placing it in synonymy along with *S. minor* sensu Martin under *T. grilletii* or on account of its pustular origin with *Sebacina sphaerospora.*

From the foregoing study of *T. grilletii* and *S. sphaerospora* it is clearly inappropriate to retain them in the genus *Tremella* on account of their having myxarioid basidia—a feature not shown by members of the genus *Tremella* sensu stricto. They are in my opinion better assigned to the genus *Myxarium* Wallr. and the transfers are accordingly made as follows:—

Myxarium grilletii (Bourd.) Reid, *comb. nov.* (basionym: *Tremella grilletii* Bourd. *in* Bull. Soc. bot. Fr. **32**: 284. 1885).

Myxarium sphaerosporum (Bourd. & Galz.) Reid, *comb. nov.* (basionym: *Sebacina sphaerospora* Bourd. & Galz. *in* Bull. trimest. Soc. mycol. Fr. **39**: 263. 1924).

AN ACCOUNT OF TREMISCUS HELVELLOIDES FROM SHROPSHIRE

TREMISCUS HELVELLOIDES (DC. ex Pers.) Donk — Figs. 5a, b

Tremella helvelloides DC., Fl. franç,. Ed. 3, **2**: 93. 1805 (devalidated name); *Tremella helvelloides* DC. *ex* Pers., Mycol. eur. **1**: 100. 1822. – *Guepinia helvelloides* (DC. ex Pers.) Fr., Epicr. Syst. mycol. 566. 1828. – *Gyrocephalus helvelloides* (DC. ex Pers.) Keissl. *in* Beih. bot. Zbl. **31**: 461. 1914. — *Phlogiotis helvelloides* (DC. ex Pers.) Martin *in* Am. J. Bot. **23**: 628. 1936. – *Tremiscus helvelloides* (DC. ex Pers.) Donk *in* Taxon **7**: 164. 1958.

Tremella rufa Jacq., Misc. austr. **1**: 143. 1778 (devalidated name); *Tremella rufa* Jacq. *ex* Pers., Mycol. eur. **1**: 103. 1822. — *Guepinia rufa* (Jacq. ex Pers.) Quél., Ench. Fung. 202. 1886. – *Gyrocephalus rufus* (Jacq. ex Pers.) Bref., Unters. Gesammtgeb. Mykol. **7**: 131. 1888.

Gyrocephalus juratensis Pers. *in* Mém. Soc. linn. Paris **3**: 77. 1825.

Fruitbodies caespitose in a cluster of about 12 sporophores, each 3–8 cm high, basically erect, stipitate, spathulate, with a flattened pileate margin, the sides of the stalk enrolled to give a pseudoinfundibuliform structure slit down one side almost to the base and somewhat resembling the apothecia of *Otidea* spp. The fructifications are reddish-fawn, of firm gelatinous texture with creamy-buff outer surface. The flesh is creamy-buff, translucent, up to 3 mm thick, and consists of narrow, branched, clamp-bearing hyphae, up to 2.5 μ wide, lacking well-defined walls and lying more or less parallel in a gelatinous matrix. There is no distinctly differentiated cuticle on the upper (inner) side. Hymenium, up to 100 μ thick, is inferior and consists of a dense mass of dikaryophyses and scattered basidia. *Dikaryophyses* 1.5–2.0 μ wide, originate from a clamp-bearing septum, and are mostly simple, although sometimes branched toward the apex. *Basidia* myxarioid, originating as elongate-clavate structures, 36–40 μ long, 4.5–7.2 μ wide at the apex, but tapering to a long narrow base only 1.75–2.0 μ wide, and terminating at a clamp-bearing septum. Eventually the apical portion swells and becomes more or less globular or ovate and is cut off from an elongate, enucleate (?) stalk cell, 22–25 μ in length. The swollen apical portion, which lacks a clamp-connexion, measures 11.2–13.0 × 7.2–8.0 μ, and soon becomes divided by a longitudinal septum, each half then gives rise to an elongated sterigma. The basidia are mostly 2-spored but a very occasional 3-spored basidium was seen. *Spores* 8.75–11.2 × (4–)4.75–5.0 μ, varying from elliptical or elongate-elliptical, to slightly allantoid. Germination not observed.

HABITAT: Growing in a line 4 feet long on sawdust, Bircher Common, Herefordshire, coll. E. Blackwell, Aug.–Oct. 1972.

The occurrence of this fungus in the West of England is remarkable since it is typically a mountain species of coniferous forests. There are two previous records from the British Isles; the first, by Cooke (1891) but without locality, and the second by Crossland (1914) from Sandsend, Yorkshire, but unfortunately no specimens appear to have been kept.

In Europe it is known from the Pyrenees in the West: SPAIN: Prades, Castellfullit (Maire, 1935); Salardu (Singer, 1947); without locality (Bertaux, 1964) and FRANCE: Haute Garonne: Joueou (Boidin, 1957b). Romagnesi (1967) also observed that it is "pas rare en été et en automne dans l'humus ou les mousses des pâturages humides et des bois de conifères, mais presque uniquement en montagne, ou du moins dans l'est de la France"—there are records as follows, Moselle: Metz (Anon., 1965a). Vosges: St. Die (Anon., 1966). Jura: (Quélet, 1872). Saône-et-Loire: Château d'Arlay (Bigeard & Jacquin, 1898), de Changey près Saizy (Gillot & Lucand, 1891). Ain: Outriaz (Maublanc, 1949). Isère: Grande Chartreuse (Tulasne, 1872, Maublanc, 1949). Loire: (Jimmy-Sibert, 1971). Lyon Region: (Maublanc, 1924; Anon., 1965b). Haute Savoie: (Boidin, 1957a). Savoie: Aix les Bains (Malençon, 1959; Maublanc, 1938). Haute Alpes: Briançon (Remy, 1965). In addition there are collections in K from Jura: Desmazières- Plantes Cryptogames de France, Series II, 1853–1860, No. 661. Isère: St. Pierre de Chartreuse, coll. N.Y. Sandwith, 6 Oct. 1949; Dauphiné Mts. Lyon Foray, coll. A. A. Pearson, Sept. 1947. Alpes Maritimes: coll. J. B. Barla, 1889 (Roumeguère, Fungi Selecti Exsiccati, No. 5333). SWITZERLAND: where it is said to be very common (Neuhoff, 1938), (Secretan, 1833; Trog, 1844; Anon., 1936; Favre, 1960; Oefelein, 1969). There are specimens in K from Neuchâtel, prope Corielles, coll. Dr. Morthier, Oct. 1873; Neuchâtel, coll. Dr. P. Morthier, Aug. 1878 (de Thümen, Mycotheca Universalis, No. 1609); Zürich, coll. G. Winter (Roumeguère, Fungi Selecti Exsiccati, No. 5111); Thun, Dorfhalden, coll. Trog, Sept.; Bad Ragaz (Fuckel, Fungi Rhenani, No. 2487); Engadin, coll. Miss Lewis, 1887; Les Bioux, Lac de Joux, coll. A.D. Cotton, Aug. 1903; without locality, coll. Miss M. Miles, Aug. 1904. ITALY: without locality (Bresadola, 1932; Balletto, 1972). Lombardia, Veneti and Trentino (Neuhoff, 1938); Valtellina (Pirola, 1966). Trentino: Sella, Mt Rivere Vezzena (Anon., 1970). There is a specimen in K from Val Visdende (Belluno), Aug. 1901 (D. Saccardo, Mycotheca Italica, No. 819). YUGOSLAVIA: Laibach (Neuhoff, 1938); Croatia: Gorski Kotar (Tortic, 1968, who noted it amongst the most common fungi in that area). There is a specimen in K from Croatia: Triglav, 1000–4000 ft., coll. Mrs. M. Leathes, 1923. ROMANIA: (Eliade, 1965, data for 17 collections, mostly from the Carpathian Mts in the east of the country, from the regions of Bacau, Brasov, Cluj, Ploiesti and Suceava; Toma, 1967 data for 3 collections); Moldova (Chifu et al., 1965); Basinul Stina de Vale (Bechet et al., 1968). CZECHOSLOVAKIA: Tatra Mts (Neuhoff, 1938). Moravia & Slovakia: (Pilát, 1957, data for 7 collections), Unicov and Sechovice (Kriz et al., 1961); Vrátna Dolina (Kunc. 1965). The following specimens are in K: Montibus Carpatorum Centralium, haud rara, leg. Kalchbrenner (Rabenhorst, Fungi Europaei, No. 131); Weisskirchen, leg. F. Petrak,

Aug. 1921 (Flora Moravica); Frayn in Mähren, leg. & det. Dr. J. Hruby, Aug. 1930 (Petrak, Flora Bohemiae & Moraviae Exsiccata, No. 2344); Valle rivuli Hoverla Podkarpatská Rus., leg. & det. A. Hilitzer, 25 Aug. 1934 (K. Kavina – A. Hilitzer, Cryptogamae Cechoslovenicae Exsiccatae, No. 131); Corveny Klastor, near Prague, coll. J. Ramsbottom, 9 Sept. 1960; Slovakia: Harmanecka dolina, Banska Bystrica, coll. F. Kotlaba, Z. Pouzar & D. A. Reid, 27 Sept. 1965; High Tatra, coll. B. Hawkes, 18 Aug. 1965. AUSTRIA: without data (Neuhoff, 1938, who states that it is very frequent); Attergau (Thirring, 1962); Tirol, Fritzens (Trentepohl, 1970). The following specimens are preserved in K: Salisburgia, non frequens, leg. Dr. Sauter, 1872 (de Thümen, Fungi Austriaci, No. 667) Tirolia Centralis: Trins in valle Gschnitz, 1200 m, coll. A. Kerner (Flora Exsiccata Austro-Hungarica, No. 766); Austria Inferior: prope Purkersdorf, leg. F. de Höhnel (Mus. Palat. Vindebon. Kryptogamae Exsiccatae, No. 1713b); Stiria prope Aussee, Sept., leg. L. et C. Rechinger (Mus. Palat. Vindobon. Kryptogamae Exsiccatae, No. 1713); Igls, Innsbruck, coll. A. D. Cotton, July 1922; Brannenburg, coll. P. James. Sept. 1956. GERMANY: Most of the records are from the central and southern mountainous areas: Bavaria: Augsburg, nicht raren; Algaü (Britzlemayr, 1887; Stangl, 1969, 1970), (Killermann, 1922– several collections cited from the Regensburg area), Weismain and Durrbacher Wald (Ade, 1923). Württemberg: (Neuhoff, 1938, data for 6 collections); Rheinwald Rappenworth (Vollmer), 5 Oct. 1943; Albtal bei Marxzell (Findeisen), 9 Sept. 1946 (Stricker, 1950). Baden: (Neuhoff, 1938, data for 3 collections). Thüringen: Blankenhain (Neuhoff, 1938); Schneptenthal, Friedrichroda (John, 1964). It should be noted that Bresinsky & Dichtel (1972) have published a map of the distribution of the species in West Germany. This confirms the distribution outlined above but in addition shows a remarkable record from the Baltic coast, seemingly from the Norden region of Ost Friesische—a very flat area. There is also a specimen in K from Württemberg: Untersontheim, coll. Kemmler, 1858 & 1859 (Rabenhorst, Fungi Europaei Exsiccati, Klotzschii Herbarii vivi Mycologici Continuatio, Editio Nova, Series Secunda, 1859–, No. 1316). POLAND: for a summary of all records until 1967 see Skirgiello (1967) from which it is obvious that with one exception all the collections are from the extreme south; the exception being from Danzig: Starogard. In addition there are records from Zakopane: Dolina Koscieliska, Sept. 1946, Aug. 1958; Dolina Malej Laki, Aug. 1958 (Rudnicka – Jezierska, 1965). Tatry: Dolina Mietusia; Pieninski Park Narodowy (Anon, 1968; Guminska, 1969). LATVIA: Riga (Stoll, 1923); Odsen and Wenden (Neuhoff, 1938); without localities (Raitviir, 1967). ESTONIA: without localities (Kalamees, 1966; Raitviir, 1967). RUSSIA: Leningrad area: Gatschinam (Weinmann, 1836; Fries, 1874; Karsten, 1882). NORWAY: records are mostly from around Oslo but there are also a few from the central region (Eckblad, 1960; Torkelsen, 1972). SWEDEN: there are only 3 records from the mainland: Västmanland, Medelpad and Jämtland, but the fungus is very common on the island of Gotland from which there are about 18 records (Nilsson, 1958). Outside Europe it is known from ASIA: PAKISTAN: Murree; Kagan Valley; Sharhan; Shogan; Swat, Kalam, common (Ahmad, 1972). RUSSIA: Primorsk

Region (Raitviir, 1967). MANCHURIA: Kirisamedani, Mt Tyôhakusan, 12 Sept. 1942 (Kobayasi, 1953). JAPAN: Hokkaido; Mt Daisetu, 4 Aug. 1913; Nakagawa experimental Forest. Honshu: Nagano Prefecture, Kamikôti, Aug. 1954; Saitama Prefecture, Mt Ryôgami, Sept. 1954 (Kobayasi, 1953; Ito, 1955, Imazeki & Hongo, 1965; Anon., 1969.) NORTH AMERICA: Ontario, Michigan, Manitoba, Nova Scotia to British Columbia, south to New York and California (Martin 1952). There are specimens in K from CANADA: without locality, coll. Carleton Rea, 19 Sept. 1921; Western Manitoba: Clear Lake, coll. G. R. Bisby, 17 Aug. 1935. UNITED STATES: Idaho: Seven Devils Range, coll. L. Hawker, 10 Aug. 1962. California: Woodside (Coastal), coll. Mrs. Newhall, 1 Sept. 1934, very rare (Fungi of Pacific Coast States, E. E. Morse); Dr. Harkness, No. 473. New York: Taughanrock Falls, coll. Carleton Rea, 15 Sept. 1962. MEXICO: Estado de Mexico and Estados de Morelos (Romero et al., 1970; Lowy, 1971). PUERTO RICO: near Mayaguez (Lowy, 1971). BRAZIL: Sao Paulo, Serra de Mar (Lowy, 1971).

There are a number of published illustrations of *Tremiscus helvelloides* amongst which may be cited the following: Atkinson (1901: fig. 208), Bresadola (1932: pl. 1130), Gillet (1874: pl. 707 [= 304 & 517]), Imazeki & Hongo (1965: pl. 57 fig. 334), Jacquin (1778: pl. 14), Kalamees (1966: fig. 217), Lloyd (1922: pl. 206 fig. 2178), Maublanc (1959: pl. 213 fig. 2), Michael-Hennig (1960: fig. 204), Neuhoff (1936, 1938: pl. 1 pl. 7 figs. 6–15), Patouillard (1889: fig. 688), Peter (1964: fig. 319/349), Pilát (1957: pl. 37 & 38a, Poelt & Jahn (1964: pl. 24), Prihoda (1952: pp. 181 & 183), Quélet (1872: pl. 20 fig. 4, Romagnesi (1963: pl. 330; 1967: pl. 307c), Torkelsen (1972: fig. 38).

REFERENCES

ADE, A. (1923). Review of Killermann's Pilze aus Bayern. *In* Z. Pilzk. **2**: 64.

AHMAD, S. (1972). Basidiomycetes of West Pakistan. *In* Monogr. biol. Soc. Pakist. **6**: 8.

ANON. (1936). Liste des espèces récoltées aux herborisations ou apportées aux séances en 1932, 1933 et 1934. *In* Bull. Soc. mycol. Genève No. 13: 18.

ANON. (1965a). Le congrès de la S.M.F. à Metz (12–19 Septembre 1964). *In* Bull. trimest. Soc. mycol. Fr. **81**: xv.

ANON. (1965b). Compte rendu de l'exposition mycologique de Lyon des 17, 18 et 19 Octobre 1964 à l'ancienne chapelle du Lycée Ampère. *In* Bull. mens. Soc. linn. Lyon. **34**: 298.

ANON. (1966). Le Congrès de la S.M.F. a Saint-Die (4–11 Septembre 1965). *In* Bull. trimest. Soc. mycol. Fr. **81**: ix.

ANON. (1968). Compte rendu du IV-ème Congrès des Mycologues Européens Warszawa 1968. *In* Acta Mycol. **4**: 196.

ANON. (1969). Fungi in Nakagawa District Experimental Forest of Hokkaido University (1969, M.S.J. Fungus Foray). *In* Trans. mycol. Soc. Japan **10**: 97.

ANON. (1970). Le congrès de la S.M.F. à Trente (7–14 September 1968). *In* Bull. trimest. Soc. mycol. Fr. **86**: xxv, xxix.

AKTINSON, G. F. (1901). Studies of American fungi. Mushrooms edible, poisonous, etc.: 207.

BALLETTO, C. (1972). Flora micologica: 86.

BECHET, M., O. RATIU & G. SILAGHI, (1968). Cercetàri micofloristice in bazinul Stine de Vale. *In* Contr. bot. **10**: 81.

BERTAUX, A. (1964). Champignons exposés à Barcelone en Octobre 1961. *In* Collnea bot., Barcinone **6**: 470.
BIGEARD, R. & JACQUIN, A. (1898). Flore des champignons supérieurs du Département de Saône-et-Loire: 342.
BOIDIN, J. (1957a). Hétérobasidiomycètes saprophytes et Homobasidiomycètes résupinés. I. Catalogue raisonné des especès de la région de Samoens (Alpes de Haute-Savoie). *In* Publs Mus. Hist. nat. No. 17: 115.
—— (1957b). Hétérobasidiomycètes saprophytes et Homobasidiomycètes résupinés. II. Catalogue raisonné des espèces pyrénéennes de la région de Luchon (Haute-Garonne). *In* Bull. Soc. Hist. nat. Toulouse **92**: 279.
BOURDOT, H. & GALZIN, A. (1924). Heterobasidieae nondum descriptae. *In* Bull. trimest. Soc. mycol. Fr. **39**: 261–263.
—— & —— (1928). Hyménomycètes de France: 26, 43.
BRESADOLA, G. (1932). Iconographia mycologica **23**: pl. 1130.
BRESINSKY, A. & DICHTEL, B. (1972). Bericht der Arbeitsgemeinschaft zur Kartierung von Grosspilzen in der BRD (1). *In* Z. Pilzk. **37**: 97.
BRITZELMAYR, M. (1887). Hymenomyceten aus Südbayern (Schluss) Polyporei, Hydnei, Thelephorei, Clavariei und Tremellinei. *In* Ber. naturf. Ver. Augsburg: 292 (n.v.).
CHIFU, T., DASCALESCU, D. & TOMA, M. (1965). Contributii la cunoasterea macromycetelor din Moldova I. *In* Comunicârile Bot. **3**: 170.
CHRISTIANSEN, M. P. (1959). Danish resupinate Fungi I. Ascomycetes and Heterobasidiomycetes. *In* Dansk bot. Ark. **19**(1): 29.
COOKE, M. C. (1891). British Tremellineae. *In* Grevillea **20**: 20.
CROSSLAND, C. (1914). Mycology at Sandsend. *In* Naturalist, Hull. No. 691: 251–252.
DONK, M. A. (1966). Check list of European hymenomycetous Heterobasidiae. *In* Persoonia **4**: 145–335.
ECKBLAD, F.-E. (1960). Notes on some larger Basidiomycetes and their distribution in Norway. *In* Nytt Mag. Bot. **8**: 182–185.
ELIADE, E. (1965). Conspectul macromicetelor din România: 272–274.
FAVRE, J. (1960). Catalogue descriptif des champignons supérieurs de la zone subalpine du Parc National Suisse. *In* Ergebn. wiss. Unters. schweiz. Natn Parks **6**: 362.
FRIES, E. M. (1874). Hymenomycetes europaei: 697.
GILLET, C. C. (1874). Les Hyménomycètes ou description de tous les champignons (Fungi) qui croissent en France: Pl. 707.
GILLOT, F.-X. & LUCAND, L. (1891). Catalogue raisonné des champignons superiéurs (Hyménomycètes) des environs d'Autun et du Département de Saône-et-Loire: 447.
GUMINSKA, B. (1969). Mycoflora of the Pieniny National Park I. *In* Acta mycol. **5**: 239.
IMAZEKI, R. & HONGO, T. (1965). Coloured illustrations of fungi of Japan. **2**: 170.
ITO, S. (1955). Mycological flora of Japan. **2**: 29–30.
JIMMY-SIBERT, A. (1971). Recensement des espèces fongiques croissant dans le Département de la Loire. *In* Bull. trimest. Soc. mycol. Fr. **87**: xxi.
JOHN, A. (1964). Beobachtungen am ältesten Fundort von *Boletus satanas* Lenz. *In* Z. Pilzk. **29**: 111.
KALAMEES, K. (1966). Seened: 273–274.
KARSTEN, P. (1882). Rysslands, Finlands och den Skandinaviska Halföns Hattsvampar 2. *In* Bidr. Finl. Nat. Folk **37**: 193–194.
KILLERMANN, S. (1922). Pilze aus Bayern. Kritische Studien, besonders zu M. Britzelmayr: Standortsangaben u (kurze) Bestimmungstabellen I. Thelephoraceen, Hydnaceen, Polyporaceen, Clavariaceen und Tremellaceen. *In* Denkschr. K. bayer. bot. Ges. Regensb. **15**: 125.
KOBAYASI, Y. (1953). Monographic studies of Japanese tremellaceous fungi VI. *In* Nagaoa **4**: 41–42.

KRIŽ, K., SVRČEK, M. & ŠMARDA F. (1961). Pilzausstellung in Brünn. *In* Česká Mykol. **15**: 16.
KUNC, K. (1965). Zpráva Ústrední houbarské poradny ČsMS u nálezech vzácnějších a zajímavých druhu v Poce 1964. *In* C.C.H. Mykol. Sb. **42**: 45.
LOWY, B. (1971). Tremellales. *In* Flora neotropica, Monograph **6**: 89.
MAIRE, R. (1935). Fungi catalaunici 2. *In* Publicions Inst. bot, Barcelona, **3**: 27.
MALENÇON, G. (1959). Rapport sur le congrès mycologique tenu à Aix-les-Bains du 14 au 21 Septembre 1957. *In* Bull. trimest. Soc. mycol. Fr. **75**: 212.
MARTIN, G. W. (1934). The genus *Stypella*. *In* Stud. nat. Hist. Iowa Univ. **16**: 143–150.
—— (1952). Revision of the North Central Tremellales. *In* Stud. nat. Hist Iowa Univ. **19** (3): 84–85.
MAUBLANC, A. (1924). Rapport sur la session générale organisée en Octobre 1922, aux environs de Lyon, par la Société Mycologique de France. *In* Bull. trimest. Soc. mycol. Fr. **39**: xxii.
—— (1938). Rapport sur la session générale de la Société Mycologique de France, tenue a Aix-les-Bains du 20 au 27 Septembre 1936. *In* Bull. trimest. Soc. mycol. Fr. **53**; xx-xxvi.
—— (1949). Rapport sur la session générale tenue à Lyon du 21 au 28 Septembre. 1948. *In* Bull. trimest. Soc. mycol. Fr. **64**: xxvii, xxxi.
—— (1959). Les champignons de France. Ed. 5, **2**: Pl. 213, fig. 2.
MICHAEL, E. - HENNIG, B. (1960). Handbuch für Pilzfreunde. **2**: fig. 204.
NEUHOFF, W. (1936). Die gallertpilze Schwedens. (Tremellaceae, Dacrymycetaceae, Tulasnellaceae, Auriculariaceae). *In* Ark. Bot. A **28**(1): 3–4, pl. 1.
—— (1938). Die Gallertpilze (Tremellineae). *In* Pilze Mitteleuropas. **2**(a): 51–54.
NILSSON, S. (1958). Some notes on *Phlogiotis helvelloides* (DC. ex Fr.) Martin and its distribution in Sweden. *In* Bot. Notiser **111**: 424–430.
OEFELEIN, H. (1969). Beiträge zu einer Pilzflora des Hochrheingebietes. I. *In* Mitt. naturf. Ges. Schaffhausen **29**: 28 (reprint).
PATOUILLARD, N. (1889). Tabulae analyticae Fungorum, Fasc. 7: fig. 689.
PETER, J. (1964). Das große Pilzbuch: 424, fig. 319 (349).
PILÁT, A. (1957). Übersicht der europäischen Auriculariales und Tremellales unter besonderer Berücksichtigung der Tschechoslowakischen Arten. *In* Sb. nár. Mus. Praze B **13**(4): 198.
POELT, J. & JAHN. H. (1964). Mitteleuropäische Pilze: Pl. 24.
PRIHODA, A. (1952). Poznámky o vyskytu rosolovce červeného-*Guepinia helvelloides* (DC.) Fr. na Slovensku. *In* Česká Mykol. **6**: 181, 183.
PIROLA, A. (1966). Alcuni macromiceti nuovi per la Valtellina. *In* Atti Ist. bot. Univ. Lab. crittogam. Pavia VI **2**: 114.
QUÉLET, L. (1872). Les Champignons du Jura et des Vosges. *In* Mém. Soc. Émul. Montbéliard, II, **5**: 301.
RAITVIIR, A. (1967). Heterobasidiomycetidae C.C.C.P.: 76.
REMY, L. (1965). Contributions à l'étude de la flore mycologique Briançonnaise (Basidiomycètes et Discomycètes). *In* Bull. trimest. Soc. mycol. Fr. **80**: 463.
ROMAGNESI, H. (1963). Petit atlas des champignons. **1**: Pl. 330.
—— (1967). Nouvel atlas des champignons. **4**: Pl. 307c.
ROMERO, L. G., GUZMÁN G. & HERRERA, T. (1970). Especies de macromicetos citadas de Mexico I. Ascomycetes, Tremellales y Aphyllophorales. *In* Boln Soc. mex. Micol. **4**: 62.
RUDNICKA-JEZEIRSKA, W. (1965). Materials to the mycoflora of the Tatra National Park. *In* Acta mycol. **1**: 139.
SECRETAN, L. (1833). Mycographie suisse. **3**: 286–287.
SINGER, R. (1947). Champignons de la Catalogne. Espèces observées en 1934. *In* Collnea bot., Barcinone **1**: 205.

SKIRGIELLO, A. (1967). Matériaux à la connaissance de la distribution geographique des champignons supérieurs en Europe II. *In* Acta mycol. **3**: 246–247.

STANGL, J. (1969). Pilzfunde während der Tagung der Deutschen Gesellschaft für Pilzkunde in München vom 9.9 bis 13.9. 1966. *In* Z. Pilzk. **35**: 109.

—— (1970). Das Pilzwachstum in alluvialen Schotterebenen und seine Abhängigheit von Vegetationsgesellschaften. *In* Z. Pilzk. **36**: 244.

STOLL, F. E. (1923). *Gyrocephalus rufus* Jacq. (Gallert-Trichterling) in Lettland. *In* Z. Pilzk. **2**: 243.

STRICKER, P. (1950). Seltene Pilze und ihre Standorte im Oberrheingebiet. *In* Z. Pilzk. **19**: 9–10.

THIRRING, E. (1962). Österreichisches Mykologentreffen im Attergau. *In* Z. Pilzk. **28**: 104.

TOMA, M. (1967). Contributie la cunoasterea raspindirii micromicetelor din România. *In* Comunicârile Bot. **4**: 130.

TORKELSEN, A.-E. (1972). Gelésopper: 86–88.

TORTIČ, M. (1968). The mycoflora of Gorski Kotar in Yugoslavia. *In* Acta mycol. **4**: 353.

TRENTEPOHL, M. (1970). Mykologische Dreiländertagung in Fritzens/Tirol vom 31.8 bis 4.9.1969. *In* Z. Pilzk. **35**: 147.

TROG, J. G. (1844). Verzeichniss Schweizerischer Schwämme. *In* Mitt. schweiz. naturf. Ges. Bern: 43.

TULASNE, L. R. & TULASNE, CH. (1872). Nouvelles notes sur les Fungi tremellini et leurs alliés. *In* Annls Sci. nat. (Bot.) V **15**: 218–219.

WEINMANN, J. A. (1836). Hymeno- et Gastero-mycetes hucusque in Imperio rossico observator: 524–525.

WELLS, K. (1961). Studies of some Tremellaceae IV. *Exidiopsis*. *In* Mycologia **53**: 363–364.