

SOME LARGER FUNGI OF THE BERROW DUNES

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As part of an investigation into the ecology of the larger fungi of coastal dunes a number of visits have been made at different times of the year to the sand dunes between Berrow Church and Brean. A list of the species so far found may be of interest.

Along the narrow strip of *Agropyron* fore-dunes the most abundant species are the Sand Agaric, *Psilocybe ammophila*, and a form of *Tricholoma melaleucum*: these occur in late summer and autumn. *Geopyxia ammophila*, a cup fungus, which grows half-buried in the loose sand, is less common and appears later.

Among the many species of the semi-fixed dunes are the rare mushroom, *Psalliota arenicola*, first described by Miss E. M. Wakefield and the late Mr. A. A. Pearson from specimens collected by Dr. F. R. Elliston Wright at Braunton Burrows in 1945 (1); usually the stem remains completely hidden in the sand, the cap just protruding above the surface. An ochraceous orange agaric, *Flammula flava* (Bres.) Lange (2), which has previously been recorded only in tufts of the Cock's-foot Grass (*Dactylis glomerata*) has several times been found at the base of degenerating Marram clumps. *Omphalia barbularum*, first described from the dunes of France by Prof. H. Romagnesi (3), occurs among mosses and lichens at Berrow: this species, which has also been found on other dunes in the South-West, is a new addition to the British List.

In the fixed dunes, two quaint little Gasteromycetes with a very local distribution in this country are common at Berrow in late autumn. One is *Tulostoma brumale*, a small stalked puff ball, which seems to be restricted to the carpets of the dune moss *Tortula ruraliformis*, and the other the Small Earth-star, *Geastrum nanum*, which grows in short grass, e.g., on paths and on the golf course fairways. Two tiny inconspicuous brown agarics of very similar appearance often occur together in short grass turf. *Omphalia obscurata* Kühner (4) has smooth white spores and *Eccilia rusticoides* (Gill.) n.c. (5) angled pink ones: these two species do not seem to have been previously reported in Britain, and have probably been overlooked.

On the Berrow dunes there are no *Salix repens* slacks, no *Salix atro-cinerea* *Betula* scrub and no planted Pines, whose presence on

some other dune systems greatly enrich the fungal flora. The almost impenetrable thickets of Sea Buckthorn (*Hippophae rhamnoides*) have not yielded any noteworthy larger fungi.

Collections of almost all the species in the following list have been preserved in the Department of Botany, University College, Exeter. The names without author citations are taken from the *Revised List of British Agarics and Boleti*, by A. A. Pearson and R. W. G. Dennis (Trans. Brit. Mycol. Soc., Vol. 31 (1948), pp. 145-190). For brevity, symbols used to indicate the zonation are:—

- I. In embryo and fore-dunes: particularly in loose sand among *Agropyron* and *Ammophila*.
 - II. In semi-fixed dunes.
 - III. In fixed dunes: particularly in grassy places.
 - IV. On the golf links on the seaward side.
- m* indicates particularly among mosses and lichens.

REFERENCES

- (1) A. A. Pearson. *New Records and Observations*. III. Trans. Brit. Mycol. Soc. 29 (1946): p. 205.
- (2) A. A. Pearson. *Ibid.*, p. 196.
- (3) H. Romagnesi. *Quelques Omphalies des Sables maritimes fixés*. Revue de Mycolgie. 17 (1952): pp. 39-45.
- (4) R. Kühner and H. Romagnesi. *Flore analytique des Champignons supérieurs*. Paris. 1953. p. 127.
- (5) J. E. Lange. *Flora Agaricina Danica*. Copenhagen. 1935-40. Vol. II, p. 165.
- (6) G. M. Boley. *The Vegetation of Berrow, N. Somerset*. II. *The Sand Dune Succession*. Procs. Bristol Nat. Soc. 9 (1943): pp. 510-520.

Armillaria mellea III, at base of dead *Hippophae*.

Bolbitius vitellinus II, IV.

Clitocybe dealbata II, III, IV; *popinalis* II, among *Festuca*, *Ammophila*, *Carex*, etc.

Clitopilus cretatus III, in short grass on paths.

Coprinus plicatilis I, III.

Crinipellis stipitarius II, IV, on dead grass stems.

Cyathus olla (Batsch) Pers. I, II, on litter, dead Marram, etc.

Eccilia rusticoides (Gill.) n.c. III (confirmed Dr. R. W. G. Dennis); *undata* II, III, IV.

- Entoloma sericeum* III, IV.
Flammula flava II.
Galera graminea II, III, IV, *m*; *hypnorum* II, *m*; *lactea* II, IV; *siliginea* var. *ochracea* sensu Kuhner II, *m*; *tenera* I (mobile dune form); II, III, IV (typical grassland form).
Geastrum nanum Pers. III, IV.
Geoglossum cookeianum Nannf. II, III, IV.
Geopyxis ammophila (Dur. & Mont.) Sacc. I.
Hebeloma mesophaeum III, under *Salix*.
Hygrophorus conicus II, III, IV; *virginus* III, IV.
Inocybe dulcamara III, under *Salix*.
Lepiota amianthina III, *m*; *excoriata* III; *procera* III.
Leptotus muscigenus II, III, on living *Tortula*.
Lycoperdon spadiceum Pers. III, IV.
Marasmius candidus sensu Quél. III, on dead grass stems and rabbits' pellets; *dryophilus* III; *oreades* III, IV.
Morchella rotunda (Pers.) Boud. II.
Mycena alcalina III, on half-buried branch; *pura* III, IV.
Naucoria abstrusa Fr. sensu Lange III, in marshy place among *Iris pseudacorus*, *Juncus* spp., etc. (not on *Salix*); *semi-orbicularis* II, III.
Omphalia barbularum Romagnesi (confirmed H. Romagnesi) II, *m*; *obscurata* Kühner II, III, *m*; *pyxidata* II, III, IV.
Panaeolus acuminatus III; *campanulatus* II, III, IV; var. *sphinctrinus* III.
Phallus impudicus Pers. II.
Pholiota praecox III.
Psalliota arenicola II.
Psathyrella atomata II, IV; *obtusata* III, IV.
Psilocybe ammophila I; *foenesecii* III, IV.
Stropharia aeruginosa II, III, IV; *coronilla* II, III, IV; *inuncta* II, IV.
Tricholoma carneum III, IV; *melaleucum* I (mobile dune form); III, IV (typical grassland form); *nudum* III, IV.
Tubaria embola Fr. sensu Lange I, II; *furfuracea* II, III; *inquilina* II, on dead grass stems; *pellucida* (Bull. ex Fr.) Gillet sensu Lange II, *m*.
Tulostoma brumale Pers. II, III, IV, among *Tortula*.
Volvaria speciosa II; f. *gloiocephala* II.