

the definite stipe and the reddish peridium which is so evident in dried material of *E. russuloides*. There is a similarity in the markings of the spores of *Arcangeliella alveolata*, *A. Gardneri*, and *Elasmomyces russuloides*, but those of *A. Gardneri* are somewhat ellipsoid while the spores of the other two species are spherical.

17. *GASTROSPORIUM SIMPLEX* Mattiolo.

The writer has had opportunity to study type material of this species from the Farlow Herbarium, Harvard University. It would appear that Mattiolo⁴ and Pilat⁵ have both overlooked the roughness of the spores (FIG. 36). Under oil immersion and also with dark field illumination the verrucosity shows plainly. The genus description therefore should be emended to include verrucose spores.

Because of the type of development one may agree with Pilat that *Gastrosporium* be placed in a family by itself. Since the work of Pilat indicates the development of the fructifications of *Gastrosporium* to be the converse of that described by Fitzpatrick⁶ for *Phallo-gaster*, the writer would place the family, Gastrosporiaceae Pilat, in another series of development parallel with that of the Hysterangiaceae, but doubtless outside the Hysterangiales.

18. *Hysterangium Darkeri* sp. nov.

Fructificationes 1-4 cm. crass., depresso-globosae, lobulatae, "deep grayish olive" pellucidae, inquinatae, "pale olive buff" vel "avellaneous" siccatae; superficie glabra; superne funiculi fere desunt, inferne inconspicui; columella percurrrens ramosaque, lamellis radiantibus ex fructificationis axe ortis, hyphis gelatinosis hyalinis compositis; peridio tenui evanescenti, 35-100 μ crass., hyphis tenuibus composito, super peridium tramiatem formato; gleba gelatinosa, "dark-ivy-green," "slate-olive" siccata, in strato crasso externo novissimis glebae partibus cum insulis parenchymaticis evolventibus; septis 80-125 μ crass., hyphis laxis, septatis, parallelibus, gelatinosis composita; basidiis irregulariter cylindraceutis 4-vel 8-sporis, 17-22 \times 3-7 μ ; sporis lato-ellipsoideis, sessilibus, "olive-green," singulatim hyalinis, 4-5 \times 2-2.5 μ .

⁴ Mattiolo, O. Memorie della Reale Accademie delle Scienze di Torino (Ser. II) 53: 361. 1903.

⁵ Pilat, A. Bull. Soc. Myc. Fr. 50: 37-49. *illus.* 1934.

⁶ Fitzpatrick, H. M. A comparative study of the development of the fruit body in *Phallo-gaster*, *Hysterangium*, and *Gautieria*. Ann. Myc. 11: 119-149. *illus.* 1913.

Fructifications 1–4 cm. in diameter, depressed globose, somewhat lobed, a translucent deep-grayish-olive, drying a dirty-pale-olive-buff to avellaneous, surface glabrous, a few fibrils below, almost wanting above; columella percurrent and with whitish cartilaginous lamellae radiating from the middle of the fructification; peridium thin, evanescent, 35–100 μ thick, of slender thin-walled hyaline hyphae, underlaid by a thick tramal peridium (FIG. 32); gleba gelatinous, dark-ivy-green drying slate-olive the newest parts of the gleba together with parenchymatous islands evolving in a thick external layer (tramal peridium?); septa 80–125 μ broad, of gelatinous loose septate hyphae about 3–4 μ in diam. bordered on each side by finer sub-hymenial hyphae which are closely entwined; basidia irregularly cylindrical, 4–8-spored (mostly 6), 17–22 \times 3–7 μ ; spores sessile, broadly ellipsoid, hyaline under the scope, olive-green *en masse*, 4–5 \times 2–2.5 μ (FIG. 33).

On ground in coniferous woods. Utah and California. Summer.

H. Darkeri is similar to *H. Phillipsii* in spore size and development of the gleba just beneath the peridium. It differs, however, in color, thickness, and structure of the peridium, size of basidia, number of spores per basidium and the fact that the spores are sessile. In *H. Phillipsii* the peridium is composed of a thin-walled pseudoparenchyma. It may be significant that the basidia in *H. Darkeri* are typical of those found in phalloids. The size of the spores is also of the same magnitude as those found in *H. Phillipsii*, *Phallobata*, *Phallogaster*, etc.

SPECIMENS EXAMINED:

Utah: Salt Lake County, East of Brighton (Silver Lake), elev. 9600 feet, *G. D. Darker*, 5957, type, Aug. 3, 1936 (in Farlow Herb., Harvard, and a portion in Zeller Herb.).

California: Siskiyou County, Mt. Shasta, 8000 feet, *W. B. Cooke*, 8580, July 14, 1937.

19. ***Hysterangium affine* M. & R. oreades** var. nov.

This variety is distinguished from the species by the softer texture of the gleba and its association with a conifer, under or near which it forms "fairy rings."

The basidia are 4–6-spored; spores 10–14.5 \times 4–5.3 μ , fusoid-