THE CONIDIA AND PARAPHYSES OF PEZICULA EUCRITA KARST.

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Pezicula eucrita Karst. was first recorded as British by Mr Carleton Rea ⁽¹⁾, the specimen having been found by the late Dr J. W. Ellis, 1912. The fungus is recorded for Germany by Rehm ⁽²⁾, and for France by Boudier ⁽³⁾. Both of these mycologists consider it rare but it seems to be quite common in the woods of Warwickshire (Sutton Park and Tanworth-in-Arden).

In some descriptions of the fungus, the colour is given as ferruginous yellow, but our specimens, although at first ferruginous yellow, gradually became paler in colour, even a dull white, due to the formation of conidia which are developed in great numbers, and cover the surface of the apothecia and so approximate more nearly to Karsten's description in *Myc. Fenn.* I, 166: "apothecia pallide ochracea velsordide ochraceo-pallescentia."

The formation of conidia by the fungus is not mentioned by any of the above mycologists, although the conidia apart from the apothecia are figured by Boudier ⁽³⁾. The conidia arise from the ascospores, either directly as buds from any part of the spore, or the ascospores may first produce germ-tubes, and from these numerous conidia may arise.

The ascospores very often germinate in the ascus, and conidia can be seen arising on the germ-tubes after they have penetrated the wall of the ascus.

The conidia are linear, quite unlike the ascospores, and are formed from any part of the spore or germ-tube in chains, bunches, or singly. The number of ascospores in the ascus is given by Boudier ⁽³⁾ as 8 and by Rehm ⁽²⁾ as 4-8. We have examined very many apothecia and have never found more than 6, usually 4 or 5.

× 800.

Spores germinating in ascus and budding of conidia.

The ascospores are very large and do not seem to be readily discharged from the ascus, although they have been under similar cultural conditions to *Peziza aurantia*, *Cudoniella acicularis* and *Dasyscypha virginea*, all of which we have frequently seen "puff" off their ascospores, yet we have never observed "puffing" in *Pezicula eucrita*.

We have also tried the effect of various chemical substances, solutions of silver nitrate, acetic acid, sulphuric acid, copper sulphate, alcohol, iodine, mercuric chloride, potassium nitrate, and sodium chloride (such as were used by Buller (4) in his experiments on *Peziza repanda*) on ripe asci lying in water, and found that none of them had the slightest effect in bringing about the discharge of ascospores, whereas ripe asci of *Dasyscypha Soppittii*, similarly treated, burst at once, discharging their ascospores. No doubt the profuse formation of conidia from ascospores which have germinated in the ascus, or from those lying on the surface of the apothecium may be correlated with the ineffective explosive mechanism of the asci.

When the ascospores of *Pezicula eucrita* were germinated in water in hanging-drop culture-chambers, the growth and profuse formation of conidia were similar to that seen under natural conditions; conidia treated similarly germinated and produced a small germ-tube, or they budded off conidia again.

Conidia were present in every apothecium examined, even in quite young specimens, but were more numerous in the more mature stages of growth.

In both young and old apothecia paraphyses were found. Some were long, slender and unbranched, whilst others were dichotomously branched and clavate, and similar to those figured by Boudier (3). Although the paraphyses are dichotomously branched they never presented the rigid dichotomy seen in those figured by Rehm (2), neither is there the abrupt transition from slender filament to clavate head.

The excipulum is parenchymatous and covered with short hairs. In all descriptions of this fungus no mention is made of the excipulum which is usually an important feature to note when identifying a discomycetous fungus.

REFERENCES.

- (1) Trans. Brit. Myc. Soc. 1912, Vol. IV, p. 198.
- (2) Rehm in Rabenhorst's Kryptogamen Fl. 1, 3, p. 255.
- (3) E. Boudier.—Icones Mycologicae, Pl. 559, p. 330.
- (4) A. H. R. Buller.—Researches on Fungi, p. 238.