It is evident that the name *Protascus* must be retained for the fungus described by Dangeard. For Wolk's genus I propose the name *Wolkia*. The species causing "yellow grains" of rice is *Wolkia decolorans* (Wolk), and the fact that its mycelium is light pink when immature and the young asci darker pink, taken together with its habitat will probably assure its specific identification.

No reference having been found to the fact that the name *Protascus* was already occupied, it has been considered advisable (owing to the possibility of the confusion arising in discussions on the origin of the Ascomycetes) to call attention to it here.

GUTTULAE IN SPORES OF DISCOMYCETES.

By J. Ramsbottom, M.A.

Hedwig (1789), who first described the ascus with its eight spores in Discomycetes, figured oil drops clearly in several species (*e.g.*, one in *Octospora leucoloma* and many in *O. hirta*). He called them "Kügelchen," and "Körnchen," and does not seem to have assigned any special function to them.

Persoon (*Traité sur les Champignons comestibles*, 1818, p. 31) writes concerning the ascospores: "Quelques mycologues les considèrent comme des *capsules* desquelles ils assurent avoir vu sortir, dans quelques circonstances une matière qui, selon eux, sont les semences proprement dites." These authors doubtless had the guttulae in view: but with the increase in the power of the microscope, many observers did not hesitate to assume that greater magnifications would reveal further structures within spores.*

Berkeley, in the *English Flora* (1836), used the name sporules for basidiospores, but alters his terminology when dealing with the other groups to agree with that of Fries and Greville. In a footnote on page 183 he writes: "When the granular mass with which the vesicles are filled is collected into one or more distinct bodies, as in some *Pezizae*, the bodies will be called *sporidiola*, the name of Sporules being reserved for the individual grains analogous to embryos of which the nucleus is composed."

* Cf. *Trans. Brit. Mycol. Soc.* IV., p. 85 (1913).

The presence of guttulae in certain species is so apparent and so constant that they have figured in specific diagnoses for practically a century. Boudier has laid special stress upon the presence or absence of oil-drops. In his most recent paper† he writes: "Bien qu'il ne faille pas se dissimuler que la fixité de ces gouttelettes soit loin d'être constante, tous nous avons observé le contraire, mais il n'en existe pas moins des règles qui non seulement sont pour beaucoup de mycologues un excellent critérium pour la distinction des genres et des espèces, mais encore par cela même un des moyens les plus utiles pour les caractériser." A glance at the generic key to the *Discomycetes* published in the last volume of the *Transactions* of this Society will indicate the importance which this eminent authority attaches to guttulae as generic characters. He regards them as having great biological importance, as they are reserve food material for the germinating spore. That there is some variation in any given species is well known to all who have paid any attention to the matter. "On doit donc toujours avoir grand soin d'examiner un certain nombre de spores pour établir son jugement, sans cela on risquerait fort de commettre des inexactitudes toujours préjudiciables à la science si on ne bornait son examen qu'à un petit nombre, comme aussi de ne les examiner que lorsqu'elles sont sorties naturellement des thèques, celles qui y sont incluses étant très fréquemment immatures et par conséquent pouvant présenter des différences qui pourraient induire en erreur, tant au point de vue de ces guttules qu'à celui des cloisons qu'elles peuvent présenter." Boudier points out that the oil drops are dissolved by tincture of iodine and by alcohol, observations which are readily confirmed. "Il faut se rappeler aussi que les descriptions faites sur des échantillons desséchés ou conservés dans de l'alcool seront toujours ou risqueront d'être fautives ou incomplètes, par les modifications que peuvent leur faire subir les liquides dans lesquels les exemplaires auront été plongés, et l'on doit toujours se mettre en garde contre ces erreurs."

During the examination of fresh specimens of *Peziza rutilans* three or four years ago the present writer noticed that the conspicuous guttulae disappeared overnight in a section mounted in glycerine, and this observation has been confirmed since in a large number of species. It did not seem possible that such a fact had not been previously observed, but the first reference* was not found until recently when reading through the papers of M. C. Cooke in preparing an obituary notice. "Those

† De l'importance que l'on doit attacher aux gouttelettes oléagineuses etc. *Rév. Gen. de Bot.* XXV. bis pp. 51-54.

* M. C. Cooke. On nucleated sporidia. *Journ. Quekett Micros. Club*, II., p. 251 (1871).

who have viewed the sporidia of *Peziza*, especially of such a species as *P. lanuginosa*, will have noted that the presence of 'nuclei,' as they are termed [i.e., guttulae], is so universal in certain species, and apparently so permanent, that they have been introduced into the diagnoses of species. In the case of *P. lanuginosa*, the sporidia are large, and with two or more nuclei. . . . Specimens were mounted in glycerine last year . . . and when mounted, all the sporidia had nuclei, some with one or two large, and two or three smaller nuclei, but all were nucleate. Examining the specimen again in a few weeks, I found that all the smaller nuclei had disappeared, and only large nuclei could be seen, whilst some sporidia were without nuclei. During the past week I have examined the slides again, but amongst all the sporidia, whether free or still enclosed in their asci, not a single sporidium can be detected in which a nucleus is visible."

The time mentioned by Cooke as requisite for the disappearance of the guttulae differs from that in my experience, a period of at most a few hours having always sufficed to remove all traces of the oil drops.

The importance of the observation lies in the fact that slides of Discomycetes in herbarium collections are usually mounted in glycerine, and hence this must be taken into account in critical examinations. In no case have guttulae been observed in the collection of Discomycete slides preserved in the National Herbarium.