

a short diagnosis. I would only mention in addition that the affinities of *Stalice Perezii* and *Stalice Preauxii* lie evidently with *Stalice arborea*, with which the former at least shares the beautiful blue of its large and dense panicles. They can, however, be easily distinguished by the peculiar shape of their leaves. This is already seen in the remarkably glaucous seedling plants which were raised at Kew from seed communicated by Dr. Perez.

Stalice Perezii (sp. nov.), habitu *Stalicae Preauxii* simillima, praesertim ob folia longe petiolata late triangulari-vel rhomboideo-ovata basi saepe truncata, sed petiolis basi utrinque in auriculum brevem triangularem productis, inflorescentiae ramulis pubescentibus, bracteis ad ramulorum bases sitis subulato-caudatis ciliatis et calyce pubescente distincta.

OTTO STAFF.

A PRELIMINARY NOTE ON SCLEROCYSTIS COREMIOIDES, B. re Br.—*Sclerocystis* is one of the new genera instituted by Berkeley and Broome from Ceylon specimens. The characters of the genus are 'Capitulum globosum, tomentosum; stipes cylindricus: flocci compositi: cysti elliptici;' and the species 'looks at first like a *Coremium*; head globose, hard, and compact; flocci rigid, compound; cysts elliptic, slightly rugose, sometimes giving out in every direction soft hairs.' The authors add, 'a very singular plant, of which unfortunately the real nature of the fruit is not apparent.' The genus does not seem to have been rediscovered: indeed, it is scarcely probable that anything concerning the real nature of the fungus would ever be deduced from the description. Saccardo follows Berkeley and Broome's arrangement and includes it among the Mucorineae: Schröter (Engler-Prantl, Pflanzenfamilien) does not mention it.

Fortunately there is a specimen in the Peradeniya herbarium, and it is fairly abundant in wet weather at Peradeniya. From these it can be deduced that Berkeley's unnamed figures (Jour. Linn. Soc. Bot. 14 (1875), tab. 10, f. 56) are intended to represent these species, and are not a continuation of the so-called *Eurotium diplocystis* (fig. 55): *a* shows how Berkeley thought the 'cyst' grew at the top of a stalk, *c* shows the 'cyst' covered with radiating hairs, and *b* shows the 'cyst' in a far more natural position, resting on strands of mycelium.

These cysts are small sclerotia, about a millimetre in diameter. They are produced on a white mycelium which spreads more or less in coarse strands over decaying leaves, &c. They are at first white, and then brown, looking when massed together exactly like a sessile *Chondrioderma*. The sclerotia are produced anywhere along the course of a strand, and are at first widely scattered, but ultimately by the copious growth of others they are densely crowded. The mycelium then disappears, leaving the sclerotia free. This species is parasitic, and kills out *Caladium*, *Colocasia*, and artichoke.

Berkeley and Broome's specimen is immature: the developing sclerotia are white, and there is some mycelium present. Evidently when they saw a sclerotium connected with its mycelial strand, they imagined that the latter was a stalk which had been pressed flat in drying; the soft hairs radiating from a 'cyst' are the broken ends of the hyphae which have gone to form the sclerotium. Thwaites 1014, which

they did not venture to name, consists of ripe sclerotia of the same species, and Thwaites 1013, *Tuber zeylanicum*, is another sclerotium. The latter is much larger, about one centimetre in diameter; it is quite common on rubbish heaps, and when planted in damp sand, it produces a white mycelium which runs along the top of the sand and forms sclerotia of the same size as those of *Sclerocystis coremioides*. It may, however, be a different species.

Up to the present it has not been possible to develop a fructification from these sclerotia: in pure sand, the larger develop a mycelium which produces the sclerotium stage again, while the smaller have not yet produced anything. It seems, however, worthy of record that the description of *Sclerocystis coremioides* was based on a complete misapprehension of the nature of the specimen sent from Ceylon by Thwaites, and that the genus *Sclerocystis*, as described, has no real existence.

Cesati established a new genus *Xenomycetes*, on a similar production collected by Beccari in Sarawak. He states that it is 'Genus affine *Sclerocystidi* B. & Br., nec minus enigmaticum.' The description suggests that it is another sclerotium, if not the same species as Berkeley and Broome's.

PERADENIYA.

T. PETCH.

THE CYTOLOGY OF RHOEO DISCOLOR.—At the suggestion of my teacher, Prof. Marcus Hartog, I made a preliminary study of the cytology of *Rhoeo discolor*, Hance (*Tradescantia discolor*, Hortt.), in 1905. Its inflorescence is a compact double scorpioid cyme, which facilitates the assemblage of sets of consecutive stages. Many fixatives were tried; but Tellyesniczky's mixture (potassium bichromate, 3 grms.; glacial acetic acid, 5 cc.; water to 100 cc.) proved most satisfactory.

Much preliminary work was done; but other duties make it probable that my complete results may long await publication. The two essential points of interest are (a) the small number of chromosomes (4–8); (b) the small size of the cells, which enables a considerable number in various stages to be seen in a single field under a magnification of 500 diameters. This may make the plant a very useful object to the cytologist—all the more as it is usually in flower all the year round, in hothouses.

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A PHOTOELECTRIC THEORY OF PHOTOSYNTHESIS.—The following is a preliminary abstract of an investigation into the nature and mode of formation of the primary products in photosynthesis which has been carried out in my laboratory at intervals during the past three years. Although the general hypothesis underlying this research was formulated some twelve years ago, various circumstances interfered with all but preliminary experiments until 1905, when the investigation was resumed.