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I. Notes on some African Lichens and Fungi

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Fraser of Colvend, regarding a tour which he had made in the island of Arran during last summer. Mr Fraser noticed the principal plants he had met with, and presented specimens of them to the Society's Herbarium.

Dr Greville noticed the occurrence of a rare fungus (*Sparassis crispa*) at Didlington Park, Norfolk, the seat of A. T. Amhurst, Esq., and showed a drawing of the plant of the natural size, made by Admiral Mitford of Hunmanby, Yorkshire. It is of a cream-white colour, and as large as a full-grown cabbage.

Professor Balfour exhibited several varieties of *Plantago maritima* collected on the mountains of Scotland, which seemed at first sight to resemble *Plantago alpina* of the continent. He stated that the characters of *P. maritima* and *P. alpina*, as given by De Candolle and Koch, seemed to be very imperfect, and it was not easy to determine the species by their descriptions.

11th January 1866.—Dr GREVILLE, President, in the Chair.

The following Gentlemen were duly elected resident Fellows of the Society :—

CHARLES GAINER, M.A., M.D.
ANDREW PATERSON.
SAMUEL CHAMPERNOWNE SADLER.

The following Donations to the Library were laid on the table :—

Annual Report of the Government Botanist and Director of the Botanic Garden, Melbourne.—From Dr Mueller.

Verhandlungen des Naturforschenden Vereines in Brünn, Band III.—From the Society.

The following Donations to the Herbarium were announced :—

From D. A. Watt, Esq., Montreal—Parcel of American Ferns.

From Dr Dickie, Aberdeen—Specimens of *Evernia prunastir* in fruit.

The following Donations to the Museum at the Botanic Garden were noticed :—

From Miss Wallace—*Banksia* Fruit from Madeira.

From G. B. Weston—Indian-corn, rice, and cotton, ripened in Canada.

From Mr Archibald Gorrie, wood-manager, Holkham Park, per Mr William Gorrie, Bangholm—Cones of *Picea Webbiana*, *Pinus excelsa*, and *Cedrus Libani*, fruit of *Pyrus Sorbus* and *Quercus Ilex*, ripened in Norfolk. Mr Gorrie writes as follows :—

“ I subjoin more detailed particulars in regard to the cones, &c., which I lately sent you. They are all from Mr Archibald Gorrie, wood-manager to the Earl of Leicester at Holkham Hall, Norfolk. The *Ilex* acorns were grown there, as were also some fruit of the true service, *Pyrus Sorbus*, which, he states, ‘should they arrive undecayed, you will find them very good indeed for eating.’ They, however, arrived too much decayed for eating; but perhaps their seeds may be of use to you. The cones of *Picea Webbiana* are from a tree on the Earl of Leicester’s neighbouring property of Fulmodeston, which has produced cones for several years, but not so large in size as those of the past season. It was planted in 1857, is now 27 feet high and 20 yards round the points of the bottom branches: a splendid object. At first it suffered much from late spring frosts, but not since it attained to about a third of its present height.

“ The *Pinus excelsa* and *Cedrus Libani* cones are from Fornham Park, near Bury St Edmunds. The cedar from which they were gathered is a splendid tree, and more silvery in appearance than is usual in the Cedar of Lebanon.”

The following Communications were read :—

- I. *Notes on some African Lichens and Fungi.* By W. LAUDER LINDSAY, M.D., F.R.S.E., F.L.S. (Plate V. figs. 1 to 6.)

Attached to specimens of “Angola Orchella Weed,” imported into London for the orchill and cudbear manufacture, and sent to me at various times by importers and manufacturers, I have frequently found fragments of the trees or shrubs on which the said weed—a species of *Roccella*—grows. These twigs are not such as to enable me to determine the

species of the tree or shrub to which they belong. Nor is this of much importance, so far as concerns the lichens, other than the *Roccella*, which grow thereon. But it is of some interest, if not importance, that we should know to a greater extent, and more precisely than we do at present, the species of trees that nourish the valuable *Roccellæ* (*R. Montagnei*, Bél. and *R. fuciformis*, Ach.), which constitute in great measure the "Orchella weeds" of commerce: which are imported largely from—the coasts especially of—Central Africa, and which generally occur (especially *R. Montagnei*) on trees near the sea. These *Roccellæ*, which appear now to have completely superseded all other lichens in the home manufacture of orchill and cudbear, are as common on the east as on the west coast of Africa. Dr Kirk has favoured me with specimens of a large Everniiform state of *Roccella fuciformis* (with which I am disposed to associate *R. Montagnei* as a variety) growing on *Dalbergia Melanoxylon*, on the Rovuma river, about eight miles from the coast, in eastern tropical Africa (Zambesi Expedition); which resembles what now enters the London market as "Mozambique Weed."

On the same twigs affected by the *Roccellæ*, I find abundance of minute *Verrucariæ* and *Graphideæ*, with occasional *Parmeliæ*. Of the *Verrucariæ*, the commonest I find is a form of *V. epidermidis*, Ach., of medium size, closely resembling externally various states of the British and European plant (fig. 1). The perithecia are black and dimidiate, the upper half papillar, and seated on the bark; the lower immersed in the wood (fig. 3). In age, the upper half, or papilla, frequently or generally falls away, leaving a black saucer-like cavity, surrounded by an irregular black raised margin (figs. 2 b, 3 d). The paraphyses are filiform, sub-discrete, and agglutinated at their tips, which are brown, and sub-tuberculated (fig. 4 a). The thecæ are broadly and irregularly saccate: 8-spored: .0024" to .0030" long, and .0012" to .0015" broad (fig. 4 b). Neither the thecæ, paraphyses, nor hymenial Lichenine give any reaction with iodine. The spores, which are numerous and distinct, are irregularly oblong, or oblong-ellipsoid: normally 1-3-septate: and colourless, or (the loculi) of a very pale yellow tint (fig. 5). In the young state of the spore only one septum is seen (fig.

5 a), more or less central, frequently dividing it into two halves of unequal size—a superior one broader and larger, and an inferior, narrower and smaller. Occasionally this 1-septate solæform condition remains till age, the spore then sometimes acquiring a brownish colour, with granularity of contents, and resembling the spore of *Abrothallus Smithii*, Tul. (fig. 5 d). There is generally a constriction at or opposite to the central septum. As the spores approach maturity, each of the two contained loculi or cellules—from which the spore wall or general envelope is very distinct, separated by a very considerable margin—divides into two, giving rise to the production of 4 cellules or loculi, and the appearance of 3 septa (fig. 5 b c). There is, however, seldom any constriction of the cell-wall opposite the secondary septa. Mature spores are usually from '0015" to '0012" long, and '00045" to '0006" broad.

Associated with this *Verrucaria*, Mr Currey has detected among my specimens a new species of *Sphæria*, whereof he has favoured me with the following specific diagnosis. I am glad of the opportunity of attaching to it the name of my old friend, the distinguished African explorer, Dr Kirk.

Sphæria Kirkiana.

Division—Obtectæ or Subtectæ. Perithecia embedded in the bark; subglobose; flattened at the apex; without any manifest ostiolum. Sporidia biseriate, brown (rather pale): mostly 7-septate; sometimes (I think) with longitudinal septa; usually 3 nuclei in a row in each partition: '0014 to '0016 inch (fig. 6).

REFERENCES TO PLATE V. figs. 1-6.

Figs 1 to 5. *Verrucaria epidermidis*, Ach. var.

1. Natural size of twig and *Verrucaria*.
2. Latter—magnified.
3. Section of Perithecia and bark.
4. „ Hymenium.
 - (a) Paraphyses.
 - (b) Theca.
 - (c) Hypothecial tissue.
5. Spores :—
 - (a) Young.
 - (b) Approaching maturity.
 - (c) Mature.
 - (d) Old.

Fig. 6. *Sphæria Kirkiana*. Spores (after Currey).

