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XXXIX.—Contributions towards a Flora of Van Diemen's Land; from collections sent by R. W. Lawrence and Ronald Gunn, Esqrs., to Sir W. J. Hooker

M. J. Berkeley Rev. M.A., F.L.S.

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fusoria, chiefly *Fragilariæ* and *Meridion vernale*. I have observed sixteen different sorts of such siliceous infusoria, belonging to six genera; besides these I have found three sorts of infusoria with membranous shields, and dried specimens of *Anguillula fluviatilis*.

Thus the silica is quite explained, as well as a part of the iron, of which last another part, as also the manganese, may arise from a little dust which lies in irregular particles with the infusoria among the confervæ. I have treated more circumstantially, before the Academy of Sciences, of the meteoric paper of 1686, which I found to be similar to this in composition.

XXXIX.—*Contributions towards a Flora of Van Diemen's Land; from collections sent by R. W. Lawrence and Ronald Gunn, Esqrs., to Sir W. J. Hooker.* By the Rev. M. J. BERKELEY, M.A., F.L.S.

(A sequel to Sir W. J. Hooker's Paper; Journal of Botany, p. 258.)

[With a Plate.]

FUNGI.

1. *Lentinus villosus*, Kl. in Linn. Found also in Mauritius.
2. *Favolus pusillus*, Fr., Linn. vol. v. p. 511. tab. xi. fig. 2. *var. pallidus*, Nob. Minute, not $\frac{1}{4}$ an inch broad. Pileus horizontal, reniform, smooth, of a tough fleshy substance, brittle when dry, ochraceous, furnished with a short lateral cylindrical stem of the same colour as the pileus. Hymenium pale. Alveoli at length elongated, flexuous; gills vein-like; their edges pruinose.

On bark. This pretty fungus accords exactly with that brought by Beyrich from Brazil, except in being paler in every part. Montagne refers to the same species *Boletus papulatus*, Bertero, MSS. n. 1680, gathered in Juan Fernandez, May, 1830, but I am inclined to think that it is quite distinct and may therefore bear the name of *Favolus papulatus*, Kl., in Hook. Herb. The alveoli, as Montagne remarks, are rounder; they are besides 4—6-sided, and much more distinct. The whole plant when fresh is apparently white and of a softer texture. In the dry state it is minutely pruinose. It may be thus characterized:—

Gregarious, minute, dirty white, pruinose. Pileus membranaceous, reniform; stem distinct, lateral; alveoli roundish 4—6-sided.

3. *Polyporus (Favolus) vesparius*, n. s. Pileus 2—3½ inches across, 1—1½ broad, 1½ inch high, stemless, subungulate, sometimes imbricated, smooth or slightly scabrous, wood-coloured, slightly zoned towards the margin; flesh browner, corky but soft. Pores very large, $\frac{1}{8}$ — $\frac{1}{4}$ of an inch in diameter, 5—6-sided, of the same colour as the pileus.

On bark, Mr. Gunn.

β. corticosus. This variety appears at first sight very distinct, but amongst the specimens sent is one which unites the two forms. The pileus is grey, obliquely unguulate, rugose and cracked, and resembles the bark so much that it would scarcely be discerned did not the hymenium project beyond the margin.

4. *Polyporus (Mesopus) rudis*, n. s. Stem $\frac{1}{2}$ —2½ inches high, nearly central, rooting into the wood, even, brown, covered with coffee-coloured bloom, shining when rubbed. Pileus 3½—4½ inches broad, convex, not at all depressed in the centre, orbicular, brown like the stem, and covered with coffee-coloured bloom or very minutely velvety, rugged, wrinkled as if from the contraction of the flesh; margin obtuse. Pores brown, nearly orbicular, middle-sized. Substance light, pale, soft and spongy.

On rotten wood, Mr. Gunn. Its nearest ally is probably *P. rugosus*, which has however extremely minute pores.

5. *P. lucidus*, Fr.

6. *P. frondosus*, Fr. The specimens are not in a good state, but they are apparently referable to this species.

7. *P. sulphureus*, Fr. Mr. Gunn.

8. *P. velutinus*, Fr. Thicker than the usual state, but according with specimens from Mougeot.

9. *P. (Ap. Coriacei) radiato-rugosus*, n. s. Densely imbricated. Pilei 2½ inches across, horizontal, rather thin, at length smooth, radiato-rugose, dirty white or grey. Flesh white, fibroso-coriaceous, but rather brittle. Tubes longer than the flesh, middle-sized, white within, irregular; orifice often jagged. Resembling some states of *P. versicolor*, but certainly distinct.

10. *P. sanguineus*, Fr.

11. *P. cinnabarrinus*, Fr. Mr. Gunn.

12. *P. (Ap. Bienn.) lilacino-gilvus*, n. s. Subimbricated, suberoso-coriaceous, horizontal, thin. Pilei 3 inches broad, $1\frac{1}{2}$ inch long, rugged with raised subfibrous lines, more or less zoned towards the margin, reddish grey tinged with lilac especially towards the margin, which is thin and acute; older parts tinged with brown. Hymenium lilac-grey; pores of the same colour within, middle-sized, irregular, very shallow towards the margin, which is without pores. Flesh lilac-grey, spongy, about equal to the length of the tubes.

On charred wood, Mr. Gunn. Allied to *Pol. gilvus*.

13. *P. australis*, Fr. Mr. Gunn.

14. *P. igniarius*, Fr. Besides the more common form there is one frosted with a ferruginous bloom; and a very distinct variety sent by Mr. Lawrence, which occurs also in Mauritius. This may be distinguished as a variety under the name of *P. igniarius var. scaber*. Pileus $3\frac{1}{2}$ inches broad, $2\frac{1}{2}$ inches high, stemless, unguulate, dark brown, here and there tinged with red, cracking in age into coarse scale-like scabrous plates. Hymenium hollowed out or convex; pores minute, round. Heavy; flesh not very hard.

15. *P. (Ap. Bienn.) rubiginosus*, n. s. Horizontal, hard, stemless, rather thin, zoned, rugose, minutely velvety, especially when young, ferruginous. The older parts acquire a brown tinge, and the margin is occasionally reddish-grey. Substance ferruginous. Hymenium uneven, ferruginous; pores minute, round.

On charred wood. Nearly allied to *Pol. Ribis*.

16. *P. (Resup.) orbicularis*, n. s. Exactly orbicular, 3 inches in diameter; $\frac{1}{8}$ of an inch thick in the centre, dark brown, margin barren, membranaceous, covered with strigose pubescence. Hymenium confined to the centre, very much cracked when dry; pores shallow, with three or four partitions minute sinuated, orifice toothed, dissepiments very thin.

On living bark, Mr. Gunn. A very remarkable species with the habit of a lichen representing in the resupinate division *Polypori* allied to *P. vulpinus*. On examination of the hymenium under a high magnifier, the pores are found to be stra-

tose, indicating the growth is interrupted, though probably the fungus is annual.

17. *P. (Resup.) latus*, n. s. Resupinate but with the margin here and there free; 8 inches across, following all the inequalities of the matrix. Above obscurely zoned dingy-brown pruinoso-velvety; flesh of the same colour as the pileus, with a slight ferruginous tinge, suberoso-coriaceous. Hymenium wood-coloured, even; pores round, regular; dissepiments thin.

On branches, Mr. Gunn. A very distinct species, perhaps better placed near *P. sanguineus*, amongst *Api Biennes*. The colour is peculiar, like that of the flocci of *Lycoperdon pyriforme*.

18. *P. (Resupinati) dædaleoides*, n. s. Altogether resupinate, 3—4 inches across; suborbicular, flesh very thin tan-coloured of a close cottony texture. Hymenium wood-coloured, pores large, rather deep, round, angular, $\frac{1}{30}$ th of an inch broad, pale within; dissepiments thin, at length splitting, in consequence of which some portions of the hymenium put on the appearance of a *Dædalea*.

On charred wood. The pores are large, otherwise it might be supposed to be a resupinate state of *P. velutinus*.

19. *Thelephora rubiginosa*, Fr.

20. *Thelephora hirsuta*, Fr.

21. *Thelephora lobata*, Kze. in Linn.

22. *Exidia Auricula Judæ*, Fr.

23. *Sphæria concentrica*, Bolt.

24. *Mitremyces fuscus*, n. s. Deep brown. Simple or cæspitose. Calyptra hemispherical, pale red-brown within, margin denticulate. Peridium thick, horny, granulato-squamose above, supported below by the anastomosing, subcylindric cartilaginous processes of the stem-like mycelium; teeth 4—6, lined and bordered with bright vermillion, sometimes partially frosted with yellow meal. Internal peridium white. Spordia forming a solid ball, broadly oval, dirty white.

Epping forest, Van Diemen's Land, in gravelly shady places, Mr. Lawrence. Greatly resembling *Mitremyces lutescens*, but the colour, which reminds us of *Peziza melastoma*; is altogether different, and the peridium thicker and more horny.

Mitremyces coccineus, has the processes of the root coarser and much less distinct; and the sporidia*, instead of being broadly oval, are oblong. I have had no opportunity of examining those of *M. lutescens*. I do not find any flocci amongst the sporidia in *M. fuscus*, but in *M. coccineus* they are abundant. In an authentic specimen of *M. lutescens* before me the inner peridium is inverted as in *Sphaerobolus* and hangs out at the orifice. The inner peridium, the upper border of which is scolloped, in an early stage clearly lines the outer, and the void space arises from its ceasing to grow sooner than the outer. The teeth leave within the calyptra a bright vermilion impression. The stem, which must be regarded as a highly developed mycelium, is sometimes obconic, but more frequently there is a large knob of gravel at the base. The mycelium is composed of extremely minute filaments, which are much curled, so that in a fresh state it is probably highly elastic. Plate VII. fig. 1.

25. *Æthalium septicum*, Fr.

26. *Stemonitis fusca*, Roth.

27. *Mylitta australis*, n. s. Globose, $3\frac{1}{2}$ inches in diameter, solid covered with a rugged black bark, beneath which is a white mealy vesiculososo-floccose substance, which traverses the central yellowish nucleus, dividing it into sinuous veins, which consist of a dense mass of extremely minute flexuous filaments, portions of which are swollen and distorted. When dry the veins are extremely hard and horny, and so transparent that the white substance is seen through them. When moistened it becomes rather gelatinous. I can find nothing like sporidia.

This is the species of *Tuber* mentioned by Mr. Backhouse in his account of the esculent plants of Van Diemen's Land, 'Comp. Bot. Mag.' vol. ii. p. 40. It is called native bread, and is said to grow on rotten trees. To the specimen before me one or two root-like extraneous fibres are attached. I have no doubt that it is congeneric with *Mylitta Pseudacaciæ*, as it agrees with the description of that species in everything

* The sporidia of *M. coccineus* are minutely wrinkled in the direction of their larger axis as those of *Ascobolus furfuraceus*. Possibly this may be the case in less advanced individuals of *M. fuscus*.

except size and colour. The structure is very different from that of *Pachyma Cocos*, Schwein, Plate VII. fig. 2.

ALGÆ.

1. *Scytonema arenarium*, n. s. Forming a thin uniform yellow brown stratum for some inches over sand, which it binds together by means of numerous transparent colourless rooting filaments. Threads obtuse, flexuous, here and there slightly branched at the base, and rooting; border thick transparent gelatinous; sporangia obscure, seldom visible, occupying only about a half of the central tube. Plate VII. fig. 3.

The specimens described above are in the rich collection of Sir W. J. Hooker, who has kindly lent me all the fungi he possesses. Out of the twenty-seven species sent by Messrs. Lawrence and Gunn it will be observed that twelve are common European fungi. Amongst them is a specimen of *Parmelia parietina* on an apple twig, on which perhaps it had been introduced from England.

REFERENCES TO PLATE VII.

Fig. 1. *Mitremyces fuscus*, with its calyptra; one of the individuals is cut open to show the inner peridium; a. sporidia; b. a horizontal section of one of the processes of the mycelium very highly magnified; c. sporidia and flocci of *M. coccineus*.

Fig. 2. Flocci of *Mylitta australis* from the transparent veins, very highly magnified.

Fig. 3. *Scytonema arenarium*; a. filaments and rootlets; b. a filament more highly magnified; c. a portion of a filament with sporangia.

XL.—Information respecting Botanical Travellers.

Mr. Gardner's Journeys in Brazil.

Villa do Crato, Sertão of the Province of Ceará,
December 5, 1838.

WHEN I had the pleasure of writing to you from the Villa do Icó I expressed myself doubtful as to the success which might attend my visit to this neighbourhood. After a residence, however, of nearly three months in this town, I am happy to inform you that my fears have been agreeably disappointed, and before proceeding to give an account of the nature of the country or its vegetation, I hasten to inform you that yesterday I despatched six cases of plants for Eng-