

ON THE CLAVARIOID RAMARIA STRICTA (FR.) QUÉL.
IN BORNEO

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I recorded this species from Mt Kinabalu, North Borneo, in typical form and as var. *concolor* (Corner, 1970: 259). One copious collection of var. *stricta*, namely *RSNB 5742*, I distributed to several herbaria. The fruit-bodies in this case had grown in large numbers, in places almost caespitose, along a fallen rotten trunk in *Trigonobalanus*-forest at 1600 m; they were old, but not effete and in many the branches, with thickened hymenium, had sagged and become divaricate (Corner, 1970: pl. 3). The interest of the collection was clear at the time. The second collection, *RSNB 8475*, consisted of younger fruit-bodies with the characteristic fastigate branching. Now two duplicates of the first collection, *RSNB 5742*, have been studied by Petersen (1975), who refers that at the Bureau of Plant Industry (Maryland) to *Ramaria africana* Petersen (l.c.: 110) and that at Leiden to *R. polypus* Corner (l.c.: 120). In both cases he overlooks the field-notes which I had published in 1970, and they show that, with yellow tips to the branches, vinescent tissue, and fragrance of aniseed, the collection does not belong with either of those species. When I run down the collection in Petersen's key (1975: 104), it comes to *R. stricta* var. *alba* (which it is not) or *R. stricta* var. *stricta*. It may be supposed that I had confused two or three species at the time of collection, but I clearly recall the occasion and am certain that this was not the case. In fact I do not recall any instance where two or more species of clavarioid fungi had grown intermixed. Hence I conclude that the fruit-bodies of *RSNB 5742* bore the two kinds of spore by which Petersen seeks to distinguish *R. africana* (1975: 137, fig. 10) and *R. polypus* (1975: 139, fig. 15), though he is not definite on this point, and that fruit-bodies macroscopically identical with *R. stricta* produce spores which differ from those that Petersen regards as typical (Petersen, 1967: figs. 3d, e). To me this indicates the slight variations in spore that may occur in a species of such wide distribution.

In distinguishing *R. africana*, *R. kisantuensis*, *R. molleriana*, and *R. polypus*, Petersen introduces a character which seems to me very dubious. He separates the first two because they have the slender skeletal hyphae of the mycelial subiculum or rhizomorphs also in the tissue at the base of the stem of the fruit-body, and they are absent from the base in the other two species. The state in *R. stricta* is not described by Petersen (1975) but it agrees with that of *R. molleriana* (Corner, 1950). Now the base of the stem is a transitional region from rhizomorph or subiculum to the fruit-body and it is generally impossible to decide exactly where one begins and the other stops. In the transition skeletal hyphae of the rhizomorph variously intrude into the beginning of the stem, as the carry-over of one construction to another; in old fruit-bodies the mycelial hyphae, with skeletals, may extend up, over, and into the

stem. Hence I have avoided this region for a diagnostic purpose; many collections, indeed, do not have the feature because the fruit-bodies had been torn off the wood. I note that this dimitic state is not that of *Ramaria* subgen. *Lentoramaria* ser. *Dimiticae* in which the skeletal hyphae occur throughout the fruit-body.

With regard to *R. molleriana*, which I have called *R. moelleriana* for some reason that I cannot now trace in deference to his German origin (Exell, 1944), this is a common and very variable tropical and subtropical species. The fruit-bodies vary in height and density of branching from 1–2 cm high in some collections to 11 cm in others, but they never have the yellow tips to the branches, the vinescence (or but slightly), and the odour of *R. stricta*, which I have never seen in the lowland tropics. Of *R. molleriana* I have seen hundreds of living specimens. There is certainly variation in all points, including the size and markings of the spores, but I have never satisfactorily correlated them. Hence I regard *R. africana*, *R. kisantuensis*, and *R. polyplus* as, at most, states of *R. molleriana* distinguishable as given in the Supplement to my monograph (Corner, 1970). I would point out that in his copy of my description of *R. polyplus*, Petersen (1975: 118) has transposed the measurements of the stem, transposed my remarks on smell and taste, omitted the colour of the spores, and referred to them as guttulate (? when dried).

With regard to the size and markings of spores, these properties are connected with the expansion of the hypha into the basidium the size of which is critical, and the extension of the basidium into the spore-circles (Corner, 1972). One result is the relation between the length and width of spores and those of the basidium, as I have illustrated in the form of sporographs and basidiographs; and in spite of the remark by Petersen (1975: 146) that 'species did not evolve to fit sporographs' I re-affirm the facts. Another result is the surmise that smooth spores are derived from the ornamented, possibly as endospores, and that, of these ornamented spores, possibly the reticulate may have been the ancestral. Thus I distinguished *Ramaria* subgen. *Lentoramaria* ser. *Retisporae* for the one species with reticulate ornamentation (Corner, 1970: 239, 256). In disregarding this, Petersen (1975: 151) fails to realise that the spore-markings of *Ramaria* in general may be the result of degeneration of the reticulum in a manner that can vary within a species, e.g. *R. zippelii* var. *cristatospora* (Corner, 1967).

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