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A NOTE ON THE POLLEN OF WHITEODENDRON AND KJELLBERGIODENDRON (MYRTACEAE)

by

KATHLEEN M. MCWHAE * (née Pike)

SUMMARY

A description has been given of the pollen grains of *Whiteodendron moultonianum* and *Kjellbergiodendron celebicum.* After this the relationships of both are discussed.

INTRODUCTION

The pollen grains of many of the genera of the Myrtaceae were investigated and described by the present author (Pike 1956), but during this investigation material of the genera *Whiteodendron* and *Kjellbergiodendron* was not available. Since the publication of this work Dr C.G.G.J. van Steenis of Leyden has very kindly supplied mature flower buds of *Whiteodendron moultonianum* (W. W. Sm.) Steen. and *Kjellbergiodendron celebicum,* (Koord.) Merr. and the purpose of this account is to record the results of the pollen examination of these additional genera.

DESCRIPTION OF POLLEN GRAINS

The pollen of both species studied conforms with that typical of the Myrtaceae. The grains are free, isopolar to slightly anisopolar, tricolporate, angulaperturate and have a triangular amb.

Whiteodendron moultonianum (W. W. Sm.) Steen. Sarawak, Beecari P.B. 879.

Polar diameter range 5-7 *µ*, average 6 µ, equatorial diameter range 12-15 µ,, average 13 µ. Parasyncolpate, with conspicuous polar islands, Which are sometimes smaller at one pole than the other. Sides of amb straight to convex. Exine thin less than 1µ., pattern extremely faint, especially in the mesocolpia.

Kjellbergiodendron celebicum (Koord.) Merr. Misool Isl., West New Guinea, Pleyte 1050.

Polar diameter range 8-12µ, average 9 µ ; equatorial diameter range 19-21µ, average 20 µ. Coipi shallow, not syncolpate and often torn around

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the apertures. Sides of amb straight. Exine about 1 *y.*; LO pattern present but pale.

DISCUSSION

Van Steenis (1952) placed both *Whiteodendron* and *Kjellbergiodendron,* together with *Basisperma,* material of which is still unobtainable, in the *Tristania* complex of the Leptospermoideae.

The pollen grains of *Whiteodendron moultonianum* agree with this classification, in that they are ± similar to those of *Choriearpia, Eucalyptopsis* and *Tristania,* although they are not in exact agreement with those of any other genus. They are of particular interest, however, in that they closely resemble fossil grains described by Cookson & Pike (1954) from Oligoeene brown coal deposits in Victoria (Austr.). In their description of the sporomorph *Myrtaeeidites mesonesos* Cookson & Pike, the authors classified the fossils as belonging to the Myrtaceae but could not suggest an affinity with any living genus at that time. I would now have little hesitation in suggesting that the sporomorph *Myrtaeeidites mesonesos* bears a very close relationship to the living genus *Whiteodendron.*

This discovery parallels another in which the fossil pollen grains were seen and described before the living equivalents had been identified, that of the New Guinea species of *Nothofagus.* Cookson (1946) described the pollen of a number fossil species of *Nothofagus* from Tertiary deposits in Australia before similar pollen grains from living species, recently found in New Guinea, had been seen. (Cookson & Pike 1956).

The pollen grains of *Kjellbergiodendron,* however, do not support its placing in the Leptospermoideae. The possession of a fleshy fruit would suggest its proper classification in the Myrtoideae bat certain other macroscopic features have led Van Steenis to place it more correctly in the Leptospermoideae — Leptospermeae — Metrosiderinae. Burret (1936) has also noted its affinity with *Tristania* in this group and its aberrant position in the Myrtoideae.

It would appear that a classification on palynological characters supports that based on the characters of the fruit, as the pollen grains of *Kjellbergiodendron* indicate its placing in the Myrtoideae — Myrteae — Myrtineae.

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