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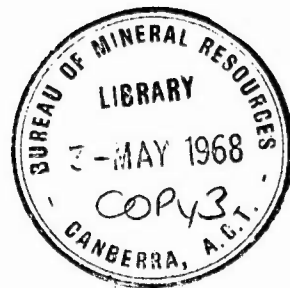
COMMONWEALTH OF AUSTRALIA

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DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS

RECORDS:

1967/161



REPORT ON PLANT FOSSILS IN SAMPLE RA115 FROM THE
SEPIK DISTRICT OF NEW GUINEA

by

Mary E. White

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Sample RA115 (Reg. 67.52.0317) was collected by J. Bain in the Sepik District of New Guinea during the 1967 field season. It contains a fragment of a plant frond and also two small Molluscan fossils which can probably be identified and closely dated.

Figure 1 of specimen F22877 illustrates the plant fossil (Magnification X 2) and Figure 2 of specimen F22878 shows the counterpart of the impression. In Figure 1 three pairs of leaflets are seen attached to the upper surface of the rachis. The pinnae are oval, symmetrically auriculate with entire margins and many veins entering the pinnae from the point of attachment to the rachis. The counterpart in Figure 2 shows the incurved margins of the pinnae, while the broad rachis obscures the points of attachment of pinnules. Recurving of the pinnule margins and the apparently substantial nature of the pinnule tissue are xeromorphic adaptations and presumably the plant lived under conditions where water loss by evaporation had to be counteracted.

Figure 1. Negative F/5139
Specimen F22877. X2.



Figure 2. Negative
F/5138
Specimen F22878. X2.



The frond is referable to Otozamites, a Bennetitalean genus with Jurassic and Lower Cretaceous distribution. With only one fragmentary specimen, specific determination can not be attempted. It is not possible to determine whether the fragment is part of a mature frond of average size or whether arrangement of pinnales is typical. Bennetitalean fronds show much modification according to their position on the plant, their stage of development and seasonal conditions.

Attempts to obtain cuticle preparations and peels from another part of the specimen containing two more pinnae met with little success. The fragmentary evidence seen confirms the generic determination.

AGE: The presence of Otozamites indicates a Jurassic or Lower
 Cretaceous age for the sample. /