

INSTITUT ROYAL DES SCIENCES NATURELLES
DE BELGIQUE

MÉMOIRES

MÉMOIRE N° 135

KONINKLIJK BELGISCH INSTITUUT
VOOR NATUURWETENSCHAPPEN

VERHANDELINGEN

VERHANDELING N° 135



ON THE TWO CONES

PSEUDOARAUCARIA HEERI (Coemans) Nov. Comb.

AND

PITYOSTROBUS VILLEROTENSIS Nov. Sp.

FROM THE WEALDEN OF BELGIUM

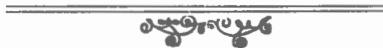
BY

KENNETH LEONARD ALVIN

Ph. D. (London).

P 4085

(WITH 3 PLATES.)



BRUXELLES

INSTITUT ROYAL DES SCIENCES NATURELLES DE BELGIQUE
RUE VAUTIER, 31

1957

BRUSSEL

KONINKLIJK BELGISCH INSTITUUT VOOR NATUURWETENSCHAPPEN
VAUTIERSTRAAT, 31

1957





INTRODUCTION

This paper is the third in a series dealing with a collection of fossil plants from the Wealden of Belgium which the late Professor C. BOMMER was describing earlier in the century. The first (ALVIN, 1953) contained descriptions of three species of Abietaceous cones, and the second, by Professor T. M. HARRIS (1953), dealt with two Taxodiaceous species.

Two further species of Abietaceous cones are described here. One of these is fairly clearly related to the recent *Pinus*, although it differs in a number of respects from the living species of that genus. As in the case of the previously described species (ALVIN, 1953) I have provisionally placed it in NATHORST's (1897) form-genus *Pityostrobus* until such time as more species become well-known and a more natural system of classification may be applied. The second species however, although clearly Abietaceous, is of a highly distinctive form differing from the cone of any living member of the family. It bears a strong resemblance to some cones described by FLICHE (1896) under the name *Pseudoaraucaria*, and there seems little doubt that there is generic identity. I am therefore employing this designation.

The cones, like the rest of the material in the collection, are preserved as lignite. The rock matrix is a soft clay or fine-grained sand. By softening in alcoholic solutions of potassium hydroxide or similar alkali, and embedding in a cellulose acetate, thin sections may be obtained which reveal, often in great detail, the well preserved anatomical structure. The degree of compression varies to some extent from one specimen to another, but is usually slight, being of the order of 10-20%.

I should like to express my appreciation of the valuable help given to me by Professor T. M. HARRIS during the course of the work. I am grateful also to Mr. W. N. EDWARDS and the late Mr. W. N. CROFT for their help in showing me material in the British Museum (Natural History), London, and for the provision of the photograph appearing as figure 7 on plate II.

A visit to the Institut Royal des Sciences Naturelles de Belgique made during the summer of 1953 enabled me to examine the whole collection of cones belonging to these two species. I acknowledge financial assistance towards this visit from the Central Research Fund, London University; and I wish to express my gratitude to Dr. F. STOCKMANS of the Belgian Institute for his kind co-operation in showing me material.

Considerable use has been made of BOMMER's photographs and drawings in illustrating the structure of *Pseudoaraucaria heeri*. Figures 5, 7 and 8 on plate I and figures 1-6 on plate II are from this source.
