

SOME ADDITIONAL NOTES ON MALE GYMNOSPERM FRUCTIFICATIONS FROM THE JURASSIC FLORA OF YORKSHIRE

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1. INTRODUCTION

This paper is an addendum to the author's (1971) paper. At the time that the latter paper was finished, there were difficulties in taking photographs of the newly described male fructifications. Subsequently those difficulties have been solved, and the present paper contains the photographs of the male fructifications of the type specimens of *Hastystrobus muirii* v. Kon., *Masculostrobus harrisii* v. Kon., and *Pityanthus scalbiensis* v. Kon., and the photographs of the male fructifications, as described in the above-mentioned paper, of *Ginkgo huttoni* (Heer) Sternberg and *Brachyphyllum crucis* Kendall. All specimens are preserved in the Division of Palaeobotany and Palynology, Botanical Museum and Herbarium, State University, Utrecht, The Netherlands.

Most of the photographs were taken with the specimens illuminated obliquely in air, but some were taken with the specimens flooded with oil. This procedure is generally applied when the specimen requires enhancement of contrast, so that details are more evident than if the specimen was photographed dry.

2. DESCRIPTIVE PART

The page-references after the names are to the 1971 paper.

Hastystrobus muirii v. Kon. (p. 30).

Pl. I figs. 1, 2.

Pl. I fig. 1 shows the holotype (no. 1496), and *Pl. I* fig. 2 its partly destroyed counterpart. The somewhat protruding microsporophylls are clearly visible, but the microsporangia are indistinct.

Ginkgo huttoni (Heer) Sternberg (p. 45).

Pl. II figs. 1, 2.

Pl. II figs. 1, 2 show the only, rather fragmentary, specimen of the male fructification of *Ginkgo huttoni* (no. 2967). The central axis with the microsporophylls is clearly visible, the pollen sacs are only visible as faint imprints at the ends of the microsporophylls (see especially *Pl. II* fig. 2).

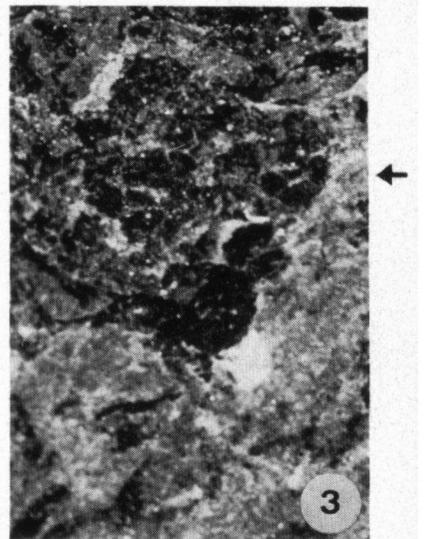
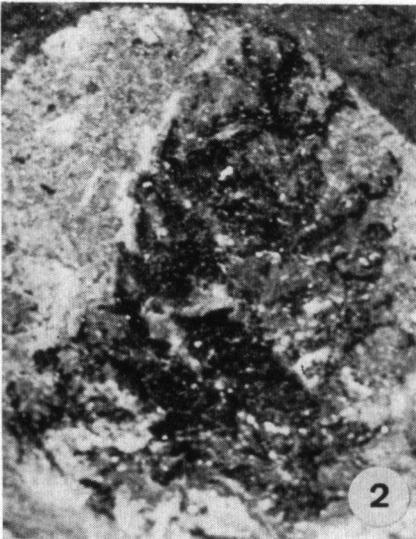
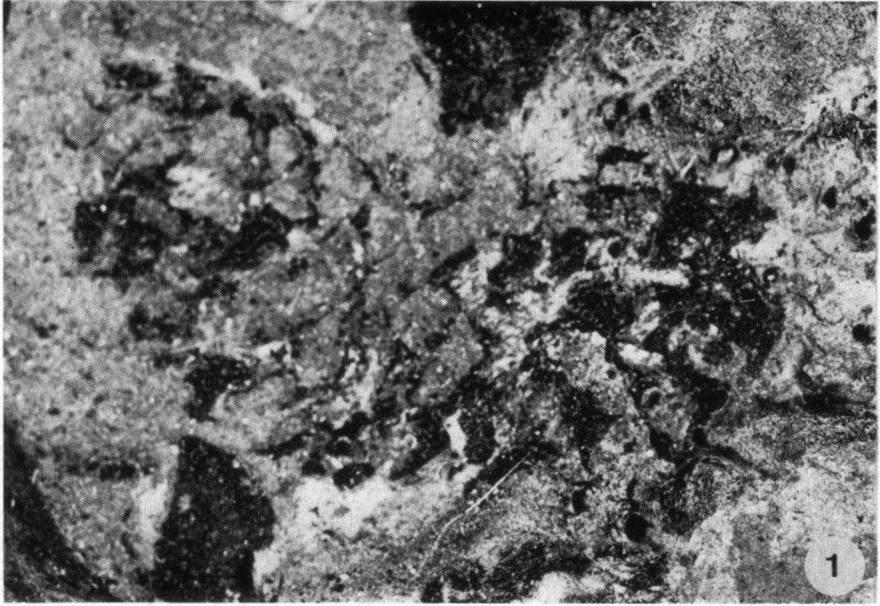
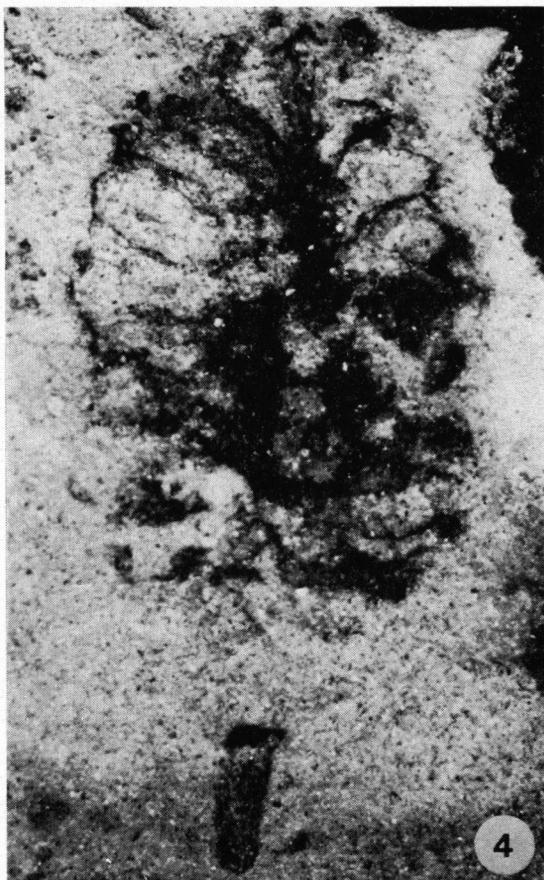
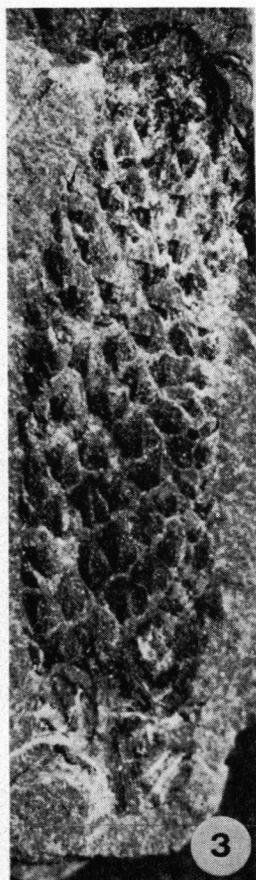
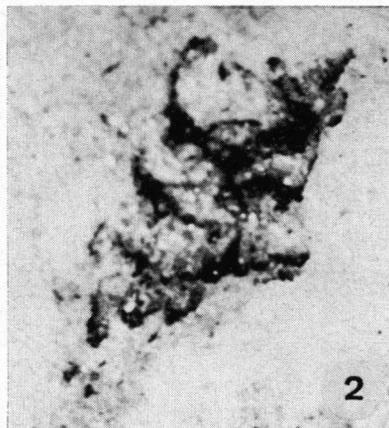
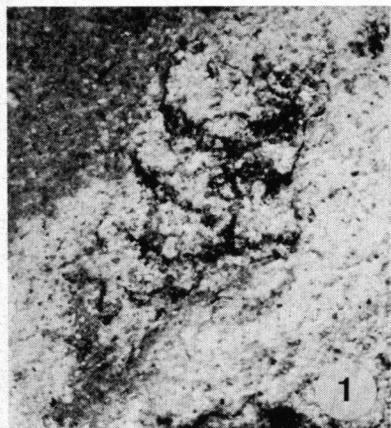


Plate I.

fig. 1. *Hastystrobus muirii* v. Kon., holotype, mag. 6 ×

fig. 2. *Hastystrobus muirii* v. Kon., counterpart of the apex of the holotype, mag. 6 ×

fig. 3. *Brachyphyllum crucis* Kendall, male cone; note the microsporophyll with its two adherent pollen sacs near the arrow, mag. 4 ×



Brachyphyllum crucis Kendall (p. 59).

Pl. I fig. 3.

Pl. I fig. 3 shows one of the male cones of *Brachyphyllum crucis* (no. 3958). Near the arrow one of the microsporophylls with its two adherent pollen sacs is clearly visible.

Masculostrobus harrisii v. Kon. (p. 66).

Pl. II fig. 3.

Pl. II fig. 3 shows the holotype (no. 1354). The keel on the microsporophylls and the slightly striated central axis are very distinct.

Pityanthus scalbiensis v. Kon. (p. 67).

Pl. II fig. 4.

The holotype (no. 2966) is figured in *Pl. II fig. 4*. The central axis and the microsporophylls are distinct, but pollen sacs are visible only at the base of the cone.

ACKNOWLEDGEMENTS

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REFERENCE

KONIJNENBURG-VAN CITTERT, J. H. A. VAN (1971): In situ gymnosperm pollen from the Middle Jurassic of Yorkshire. *Acta Bot. Neerl.* 20 (1): 1-97.

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Plate II.

- fig. 1. *Ginkgo huttoni* (Heer) Sternberg, male fructification; photograph taken dry, mag. 7 ×
 fig. 2. *Ginkgo huttoni* (Heer) Sternberg, male fructification; photograph taken under oil, mag. 7 ×
 fig. 3. *Masculostrobus harrisii* v. Kon., holotype, mag. 5 ×
 fig. 4. *Pityanthus scalbiensis* v. Kon., holotype, mag. 10 ×