

FURTHER OBSERVATIONS ON THE CAUDEX OF
GLOSSOPTERIS.

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(Fig. 3.)

In 1894 I described a specimen of a *Glossopteris*, found by Mr. C. J. Horsley, in the Upper Coal Measures on the Woller Road, about seventeen miles from Mudgee, "showing the attachment of the fronds to the caudex."¹ This is now supplemented by the equally fortunate discovery by Mr. John Mitchell, Resident Teacher, Technical College, Newcastle, of part of a much larger caudex, with large leaf-scars, associated in the same bed of shale with, although not actually attached to, immense leaves of *Glossopteris*. The shale in question is above the Victoria Tunnel Coal Seam of the Upper Coal Measures at Shepherd's Hill, Newcastle.

The specimen approximately represents half the caudex split longitudinally, and is three and a half inches long, by two inches wide in its present more or less compressed condition; it is a matrix cast with adherent fragments of a black carbonaceous pellicle. This stem fragment is covered with transversely oval leaf scars, which have a longitudinal diameter of from three-eighths of an inch to half an inch, and a transverse measurement varying from half to one inch. The scars are placed alternately or in oblique rows forming a spiral arrangement; thirteen scars are visible, more or less perfect. They are separated from one another above and below by narrow interstitial spaces, with the upper and lower margins raised above the general level of the specimen. The leaf-scar surface is vertically wrinkled, and slightly concave, but there are no traces of vascular bundle openings. The opposite surface of the stem is hidden by matrix, except at one spot of limited extent, from which the latter has been removed.

The leaves associated with this stem, are of very large size, but as the remains are matted together in layers in the shale, it is impossible to obtain an absolutely perfect frond, and in consequence difficult to estimate the size to which they attained. One leaf, however, has been exposed over a very considerable portion of its surface, and even in this imperfect state, measures eleven inches in length by eight inches in breadth. By continuing the outlines I estimate this leaf to

¹ Etheridge—Proc. Linn. Soc. N.S.W., (2), ix., 1894, p. 228.