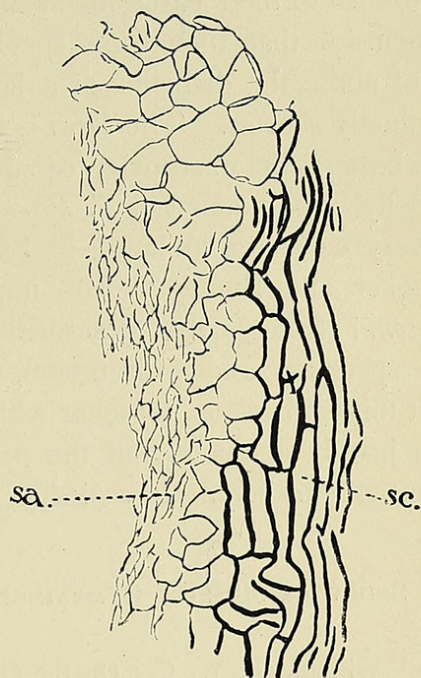


NOTE.

A NOTE ON TRIGONOCARPUS.—The object of the present note is to draw attention to one or two points in the structure of a specimen of *Trigonocarpus*, which has been lately brought to light on cutting sections of one of the blocks in the Binney Collection, Sedgwick Museum, Cambridge. This block formed part of a 'coal-ball', but the locality from which it came is unknown. It is not improbable that it was derived from the same source as the seeds of *Trigonocarpus* described by Hooker and Binney,¹ which were 'found imbedded in nodules of limestone, enclosed in a thin seam of bituminous coal not above 6 inches thick, in the lower part of the Lancashire coal-field'.

Three longitudinal sections² of the new specimen of *Trigonocarpus* have been cut, one of which³ is practically median (Pl. VI,⁴ Fig. 6). The chief interest of the specimen lies in the fact that the sclerenchyma of the micropylar beak is preserved as far as its extreme apex, this region being shown more completely than in any other longitudinal section at present known. The text-figure represents one side of the micropyle; the sarcotesta (*sa.*) is not complete, though it is prolonged for a little distance beyond the sclerotesta (*sc.*).



TEXT-FIG. *Trigonocarpus* sp. Top of left-hand side of the micropyle shown in longitudinal section in Pl. VI,⁴ Fig. 6. $\times 47$. *sa.* = sarcotesta; *sc.* = sclerotesta.

Another point on which the present specimen throws some light is the question of the connexion of nucellus and integument. The appearance of the tissues, at the level at which the nucellus leaves the integument, distinctly suggests that, in life, the nucellus was actually free from the integument almost to the base of the seed, as Scott and Maslen⁵ are inclined to believe. Pl. VI,⁴ Fig. 7, represents the junction of nucellar wall and seed coat. Even if an 'inner flesh' was present, there is no reason to suppose that it filled the entire space between nucellus and sclerotesta. An analogy may be found in the seed of *Phyllocladus*.⁶ Here the seed-coat consists of a sclerotesta which is both clothed

¹ Hooker, J. D., and Binney, E. W.: On the Structure of certain Limestone Nodules enclosed in Seams of Bituminous Coal, with a description of some *Trigonocarpons* contained in them. Phil. Trans. Roy. Soc., London, vol. 145, 1855, p. 149.

² A.B., 10, 11, 12. Binney Collection.

³ A.B. 11.

⁴ This plate accompanies the paper by Dr. E. A. N. Arber, 'A Revision of the Seed Impressions of the British Coal Measures,' p. 81.

⁵ Scott, D. H., and Maslen, A. J.: The Structure of the Palaeozoic Seeds, *Trigonocarpus Parkinsoni*, Brongniart, and *Trigonocarpus Oliveri*, sp. nov. Part I. Ann. Bot., vol. xxi, 1907, p. 89.

⁶ Robertson, A.: Some Points in the Morphology of *Phyllocladus alpinus*, Hook. Ann. Bot., vol. xx, 1906, p. 261, Pl. XVII, Fig. 11.

externally and lined internally with soft tissue, while the nucellus stands freely up into the seed cavity.

Scott and Maslen ascribe most of the British petrifications of this genus to *Trigonocarpus Parkinsoni*, Brongniart. They include under this species the seeds described by Hooker and Binney without a specific name, and by Williamson¹ under the name of *Trigonocarpon olivaeforme*, L. and H. A comparison of the seed, which is the subject of the present note, with typical examples of *T. Parkinsoni*, with especial reference to the measurements and figures in Scott and Maslen's paper, leads to the conclusion that, though our specimen shows a general similarity to *T. Parkinsoni*, and is of about the diameter of a large specimen of this species, yet its seed body is distinctly shorter. The form is thus more rounded and less oval. The sclerotesta at the base of the micropylar canal shows, also, a greater increase in thickness than is usually to be noticed in *T. Parkinsoni*. The new specimen, on the other hand, bears a very close resemblance in its dimensions to one of the petrifications figured by Hooker and Binney.² An 'impression' of *Carpolithes alata* (*Trigonocarpus Parkinsoni*?) from Jarrow, described by Scott and Maslen,³ though somewhat larger than the specimen under discussion, resembles it closely in proportions. It is probable that this impression, together with Hooker and Binney's section to which reference has just been made, and the petrification described in the present note, may prove eventually to belong to a distinct species.

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¹ Williamson, W. C.: On the Organization of the Fossil Plants of the Coal-measures. Part VIII. Phil. Trans. Roy. Soc. London, vol. 167, 1877, pp. 248, &c.

² Hooker, J. D., and Binney, E. W.: loc. cit., Pl. IV, Fig. 7. The figured slide is preserved in the British Museum, Nat. Hist. Gen. Coll., S. 3529.

³ Scott, D. H., and Maslen, A. J.: loc. cit., p. 130, and Pl. XIII, Fig. 18.



Arber, Agnes Robertson. 1914. "A note on Trigonocarpus." *Annals of botany* 28, 195–196. <https://doi.org/10.1093/oxfordjournals.aob.a089496>.

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