

Dr. Wheelton Hind believes that the "genus" *Naiadites* contains three distinct genera, for one of which the name must be retained. He proposes to retain the name for the forms called *Anthracomya*, affirming as this word does an altogether wrong affinity for the genus. (The name *Naiadites* was proposed in 1860; *Anthracomya* in 1861.)

Dr. Hind is not able to state that any of the species submitted to him by Sir J. W. Dawson are the same as British forms. The shell originally described as *Naiadites carbonaria* is, he has no doubt, an *Anthracoptera*. He gives notes on *N. arenaria*, *N. angulata*, and *N. laevis*.

CORRESPONDENCE.

PRESERVATION OF FOSSIL PLANTS.

SIR,—In answer to certain questions of a Correspondent in the December Number of this MAGAZINE, I should like to offer the following suggestions:—

(i.) Mr. Wilmore asks why the "Carbonaceous covering" of such Coal-measure fossils as *Calamites*, etc., is confined to the outside of the cast. In such a plant as *Calamites* the sandstone or shale cast, which usually represents the genus in a fossil state, has frequently a layer of carbonaceous matter moulded on its surface. The sandstone or shale is simply the hardened sand or mud which fill up the hollow pith of the Calamitean stem, and the layer of coal represents the carbonized remnant of the woody and cortical tissues of the plant stem. The thickness of this coaly covering varies in different species; and it has been suggested that we may, in some cases, calculate the original thickness of the stem tissues by multiplying the thickness of the carbonaceous layer by 26. It is doubtful whether such a method should be looked to as likely to afford accurate results; but no doubt the coaly residue will vary considerably in thickness according to the diameter of the stem from which it has been formed.

In impressions of fern fronds, in which the pinnules are coated with a thin film of carbon, it is occasionally possible to trace the outlines of the original cells of the leaf.

(ii.) As to whether the carbonaceous layer on the surface of a cast represents the whole of the carbon of the plant tissues, it is difficult to say how much has escaped in a gaseous form during the gradual disorganization of the tissues; certainly the amount of carbon contained in a very thin layer must usually be regarded as the product of a much greater thickness of plant substance.

(iii.) The third question is:—"Why, in comparatively soft and little altered freestones, should the carbonaceous layer exhibit such a baked or charred appearance"? This baked or charred appearance should not merely be referred to the action of heat, but is in all probability the result of various weathering agencies and not necessarily the expression of actual charring.

CAMBRIDGE, Feb. 12, 1894.

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