

Mr. Davies to compare it with the homologous structure in the teeth of the *Pachyrhizodus basalis* of Agassiz, which is described by Sir Philip Egerton, F.R.S., in Mr. F. Dixon's 'Geology of Sussex.' The specimen figured in that work was obtained from the Lower Chalk at Steyning. The characters, which are given, are—"apex very brittle, slightly curved inwardly, and solid; the base is hollow, and extends into the substance of the jaw." It is further stated that in Sir Philip Egerton's cabinet there is a specimen of this fish, exhibiting an unusually thick and strong humerus, as well as large and circular scales, covered with asperities so minute as to be indistinguishable without the aid of a glass.

There are many points of distinction, however, between the *Pachyrhizodus basalis* of Agassiz, and Mr. Mackie's specimen. Apart from the absolute size of Mr. Dixon's specimen, which is at least double that of the one before me, I am wholly unable to detect in the former any trace of that curious sculptured channelling which is so prominent in the latter specimen. This comparison failing, Mr. Davies showed me some most interesting specimens, also from the Folkestone gault, which exhibited equally perfect evidences of this sculpturing. I would therefore suggest that some temporary or provisional name should be given to this form, which differs from the *Pachyrhizodus basalis* of Agassiz, both in its stratigraphical habitat and its odontological conformation.

The genus *Pachyrhizodus*, of which comparatively so little is known, has been included in the family Sphyrænoidea, of the great division of Acanthopterygian (Cycloid) fishes, in close proximity to such singular aberrant forms as *Saurodon* and *Saurocephalus*. We hope that the day is not far distant when some practical ichthyologist may be induced to examine the whole series of sauroid fishes, with a view to their ultimate division into precisely determined families.

PACHYRHIZODUS GLYPHODUS, Blake and Mackie.

*Spec. Char.*—Teeth with longitudinal rows of deep sculpturing, parallel with the dental axis.

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### CORRESPONDENCE.

*Glyptolepis, Dura Den (Keuper Breccia).*

DEAR SIR,—In claiming precedence for Mr. Robert Walker as the first to make public the fact that *Holoptychius Flemingi* belonged to the genus *Glyptolepis*, I ought to explain that this only applies to making it known in this country. Professor Pander, in his monograph on the Saurodipteri, stated his belief that the scales supposed to belong to *Platygnathus Jamesoni* and *H. Flemingi* of Agassiz, were in reality the scales of *Glyptolepis leptopterus*. The Professor's only mistake in this being that those scales belonged, not to *G. leptopterus*, but to a distinct species of *Glyptolepis*, which may be called *G. Flemingi*.

It may also be of interest to some of your readers to be informed that

I lately observed the "bone breccia" or "osseous conglomerate" of the Upper Keuper Sandstone, which I described some years since in a paper read before the Geological Society of London.

It is exposed in a railway cutting at the village of Ripple, between Upton-on-Severn and Tewkesbury, and contains the remains of spines of *Lophodus (Acroodus) minimus* in great abundance. I also recognized portions of *Ceratodus cloasinus*, of Quenstedt, with scutes and other fragments of the bones of *Labyrinthodon*. It is the richest Keuper-bed I know of in England, and well worthy the attention of all collectors of fossils. Henry Brooks, of Ledbury, would be a good guide to the place, and knows the bed which is so fossiliferous.

I am, Sir, yours obediently, W. S. SYMONDS.

Pendock Rectory, near Tewkesbury, Feb. 26, 1863.

### *Holoptychius* v. *Glyptolepis*.

SIR,—Mr. Powrie, in his communication in the last number of the 'Geologist,' says:—"The only species of *Holoptychius* on which I have never yet been able to detect scales showing the crescent of points is *H. Andersoni*." It may interest Mr. Powrie and others also, concerned in the question of *Holoptychius* v. *Glyptolepis*, to learn that the typical specimen of *H. Andersoni* described by Agassiz, and figured in his 'Vieux Grès Rouge,' pl. 22, f. 3, now in the British Museum collection, has the sculpturing of points, which Mr. Powrie has failed to detect in other examples of this species.

In confirmation of Mr. Powrie's statement that he has detected them on scales of all the other species which he has examined, I can state that they are present, and well developed, on the posterior scales of the fine typical example of *H. nobilissimus* from Clashbennie, and also on scales of most of the specimens in the national collection, referred to this genus, from Dura Den, Nairn, etc.; and they are discernible on one or two of the scales of the fragment of *Platygnathus* in the same collection.

So far as my own observation goes, the "crescent of points" is entirely absent on the scales of the anterior portion of the body, but becomes more and more developed as the scales recede backwardly—dorsal, lateral, and ventral—towards the posterior portion. But this particular sculpturing is by no means a new discovery; it was observed by the earlier describers of the genus; and among others Hugh Miller, in his 'Old Red Sandstone,' describes them as "an inner border of detached tubercles." And M'Coy, in his description of *H. Andersoni*, says that in all cases, the anterior part "of the scale" "is occupied by a patch of rather coarse radiatingly disposed granules, from whence the ridges arise that go to the free edge." He intimates, also, that they are present in his *H. Sedgwickii*.

Without offering any opinion as to the distinctive generic value of this sculpturing, there is one noticeable character, which is mentioned by Mr. Mitchell,—the much less degree of imbrication of the scales of *Holoptychius* compared with those of *Glyptolepis*; the scales of the former consequently exhibit a greater exposed surface, and are not so numerous as in the latter genus. And whilst the scales of *Glyptolepis* are so very variable in form and sculpturing, according to their position on the body, "whence," says Professor Huxley, "arises such an amount of unlikeness, that different species might readily be founded on scales from different regions," the scales of *Holoptychius*, on the contrary,—with the exception of the presence or absence of the lines of points, and minor differences of sculptur-