

XXI.—*Observations on Mr. M'Coy's Paper on some Fossil Fish of the Carboniferous Period.* By SIR PHILIP DE MALPAS GREY EGERTON, Bart.

*To the Editors of the Annals of Natural History.*

GENTLEMEN,

I HAVE just perused a paper in the Number of your Journal for July last by Mr. M'Coy, in which he proposes a very important alteration of Agassiz's arrangement of the Ganoid Fishes from the Palæozoic formations. The passage I allude to is the following:—

“I provisionally propose to establish a distinct family under the above name (*Placodermi*), to include those Ganoid fish of the palæozoic rocks having the head and body encased in a series of odd or central, and of subsymmetrical or lateral, bony, variously tuberculated plates of large size. It might probably include all the genera described by Agassiz in his ‘*Monog. du Syst. Dévon.*’ &c., under the title *Cephalaspides*, except *Cephalaspis*, to which that family-name might be retained, the other genera having no obvious affinity with it; in addition to these, the present group will conveniently embrace the genera *Bothriolepis*, *Asterolepis* and *Psammosteus*, which, although widely separated from the former by Agassiz and placed by him in his family of *Cœlacanth*s, are so obviously and closely allied to some of them (e. g. *Chelyophorus*, *Coccosteus*, &c.), that they cannot be separated either by general appearance or any points of structure with which we are acquainted; while they differ, on the other hand, from the other *Cœlacanthi* by the body not being covered by imbricating scales.”

Not having seen the specimens which have induced Mr. M'Coy to propose this new classification, I am unable to form any opinion as to whether he is justified or not in making the change; I cannot however allow a charge to be brought against my friend Professor Agassiz, in his absence, of having grouped together genera under the title *Cephalaspides*, *having no obvious affinity with the genus Cephalaspis*, and having *widely separated genera so obviously and closely allied to some of them, that they cannot be separated either by general appearance or any points of structure*, without claiming that in justice to Agassiz, his opinions on this subject may be accorded in your pages the same publicity which Mr. M'Coy's observations have already received. The following passage must surely have escaped Mr. M'Coy's memory when he claims to have discovered affinities (supposed to have been overlooked or disregarded by Agassiz) of sufficient value to justify a re-classification of the Palæozoic Ganoids:—“*Il y a un rapprochement évident entre les Coccostées et les genres large-*

ment cuirassés de la famille des Célocanthes, tels que les Asterolépiss et les Bothriolépiss. \* \* \* Les Coccostées étaient évidemment déjà des poissons voraces, comme le montre leur dents coniques, aiguës, et leur longue queue plate et flexible. Il y a sans doute loin de là à cette armure formidable des Bothriolépiss, à ces dents acérées des Dendrodes (Asterolépiss) ; mais on en conviendra, il y a dans la famille des Céphalaspides un acheminement vers ce caractère rapace, et si l'on y joint la structure des plaques, la ressemblance que présentent les granules épars des Coccostées avec les astérisques des plaques des Asterolépiss, l'on se convaincra facilement, qu'il n'y a pas un si grand pas à faire pour arriver des Coccostées aux Célocanthes cuirassés. Cette ressemblance serait encore bien plus grande, si des recherches ultérieures prouvaient que les Célocanthes cuirassés, n'avaient point de véritable écailles imbriquées sur le corps, mais seulement de larges plaques recouvrant la tête et la nuque. Rien ne prouve, il est vrai, jusqu'ici cette supposition, mais ce qui est pourtant curieux, c'est le fait qu'à côté de la grande quantité de larges plaques d'Asterolépiss et de Bothriolépiss, qui caractérisent certains terrains, on n'ait pas encore trouvé de véritables écailles, que l'on puisse leur attribuer. Je signale ici ce fait à l'attention des géologues, car rien n'est souvent plus instructif que le mode d'association des fossiles, surtout quand les débris appartiennent à des animaux dont la grandeur et la mollesse du squelette ont empêché leur conservation en entier. Mais il est nécessaire d'apporter la plus grande circonspection dans ce genre de rapprochement, avant d'en tirer des conclusions ; car, trop souvent ces résultats se transmettent d'auteur en auteur, sans que l'on rapporte en même temps les faits sur lesquels ils sont basés, et passent quelquefois encore pour des vérités, lorsque l'état des faits a été modifié\*." I need only recommend to your readers an impartial comparison of the above passages,

And subscribe myself your obedient servant,

PHILIP DE MALPAS GREY EGERTON.

Oulton Park, Tarporley, August 24, 1848.

XXII.—*Descriptions of Aphides*. By FRANCIS WALKER, F.L.S.

[Continued from p. 109.]

NINETEENTH GROUP.

THIS group contains a greater number of species than all the other groups of the genus, and comprises most of the blight in-

\* Mon. des Poiss. Foss. du Syst. Dévon., Introduction, p. xxxi.



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