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The echinoderm name *Calveria hystrix*

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PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

January 10th, 1906.—J. E. Marr, Sc.D., F.R.S.,
President, in the Chair.

The following communication was read:—

‘On Footprints from the Permian of Mansfield (Nottinghamshire).’

By George Hickling, B.Sc.

These fossils were discovered in 1897 by Mr. Francis Holmes in the Rock-Valley Quarry, Mansfield, in a local, lenticular, mass of sandstone intercalated in the Magnesian Limestone. The impressions formed two double rows, approximately parallel, and 7 and 2 feet long respectively. Nearly the whole of the longer series is in the Nottingham Museum, and part of the shorter series in the Manchester Museum. Both sets were made by the same species of animal, the stride in one case being 8, and in the other $8\frac{3}{4}$ inches. The prints show a well-marked heel and comparatively-slender digits, and there is evidence of a membrane between the toes. There is wide separation between the right and left sides, this separation being more marked in the fore than in the hinder footprints. The prints present some resemblance to those named *Ichnuum acrodactylum*, from the Upper Permian of Thuringia. Recently the Author has found other prints in the same quarry.

MISCELLANEOUS.

The Echinoderm Name Calveria hystrix. By F. A. BATHER.

IN their “Preliminary Report of the Scientific Exploration of the Deep-Sea in H.M.S. ‘Porcupine,’ during the Summer of 1869” (Proc. Roy. Soc. xviii. pp. 397–492; 1870, ? June), W. B. Carpenter, J. Gwyn Jeffreys, and Wyville Thomson, describing the echinoderm fauna of the Cold area, wrote as follows (p. 445):—“In the Shetland channel we procured a full-sized specimen of the remarkable Clypeastroid *Pourtalesia*, of which young examples had been obtained in the First cruise, and a very singular Asterid allied to *Pteraster*, which is covered with a regular brush of long paxillæ. Since, for the reason formerly mentioned, we have found ourselves precluded from dedicating the former of these types (as we had intended) to our friend Capt. Calver, we propose to give the generic name *Calveria* to the latter, with the specific designation *hystrix*.” “The reason formerly mentioned” was that the same Echinoid had shortly before been discovered by Pourtales in the Gulf of Mexico and had been described by Prof. A. Agassiz under the name *Pourtalesia miranda* (see same Report, p. 421).

The next occurrence of the name *Calveria hystrix* is in “Report on Deep-sea Researches . . . during . . . 1870 in H.M.S. ‘Porcupine,’” by W. B. Carpenter and J. Gwyn Jeffreys (Proc. Roy. Soc. xix. pp. 146–221; 1871 [probably February or March]). On p. 154 the authors write:—“Thursday, July 14, passed Cape Finisterre and dredged in 81 fathoms (Station 10), about nine miles from the coast of Spain. . . . We then steamed out, and dredged in 332 fathoms (Station 11). . . . On the tangles were

two specimens (one adult and the other young) of that singular Echinoderm, or soft sea-urchin, belonging to the *Diadema* family, which was procured last year [1869] in nearly 60 degrees of North Latitude. It will soon be described by Professor Wyville Thomson under the name of *Calveria hystrix*." Thus was the name *Calveria hystrix* transferred from an Asteroid to an Echinoid. The Report for 1869 mentions the "large Echinid allied to *Astropyga*" on p. 450; from this passage and from p. 155 of Wyville Thomson's 'Depths of the Sea' (London, 1873), it appears that the original specimen of the Echinoid *Calveria hystrix* was dredged on Sunday, 5 September, at Station 89, 59° 38' N., 7° 46' W.

It is a curious thing that three such men as Carpenter, Gwyn Jeffreys, and Wyville Thomson should, both collectively and individually, have calmly jettisoned the name *Calveria hystrix*, which they originally proposed for an Asteroid, and should in the very next year have accepted it, not for anything allied to *Pourtalesia*, as we are given to understand was their first intention, but for an entirely different form of Echinoid, with which the name was in no way associated in their first Report. Perhaps it may be thus explained:—When Wyville Thomson lifted the panting Echinothurid from the deck of the 'Porcupine,' he probably at once announced his intention of calling it *Calveria hystrix*. The Report on the cruises of the 'Porcupine' in 1869 was prepared in a great hurry, chiefly by Carpenter and Jeffreys. They remembered the name *Calveria hystrix*, but confused the Echinothurid with the *Pourtalesia*. Then, learning at the last minute from Thomson that the *Pourtalesia* had previously been named by Agassiz, they, wishing to preserve the name *Calveria hystrix*, transferred it to an Asteroid. After the Report was published, Wyville Thomson saw that his colleagues had made a mistake, and explained to them that the Echinoid for which he had proposed the name *Calveria hystrix* was not the *Pourtalesia*. Consequently, in their next Report, Carpenter and Jeffreys tacitly admitted their error by restoring the name *Calveria* to the Echinothurid.

Later in the year 1871 [not before April], Professor A. Agassiz (Bull. Mus. Comp. Zool. ii. p. 457) described a minute sea-urchin collected by Pourtales, and ended his account with these words:—"A specimen of a genus closely allied to *Asthenosoma*, Grube, has been dredged by the 'Porcupine' Expedition off Cape Wrath and south of Cape Finistère, off Vigo; I presume this [young sea-urchin] will prove to be the young of it. Professor Wyville Thomson will soon describe this species as *Calveria hystrix*." Although a description of the young is given by Agassiz, it can hardly give validity to the name *C. hystrix*. The actual description by Thomson appeared in his paper "On the Echinidea of the 'Porcupine' Deep-sea Dredging Expedition" (Proc. Roy. Soc. xx. No. 137, pp. 491-497; 1872, not before July). He there (p. 494) established and diagnosed the Echinothurid genus *Calveria*, and briefly diagnosed two species—*C. hystrix*, "one specimen in deep water off the Butt of the Lewis," and *C. fenestrata*, "two specimens from the coast of Portugal, and fragments in deep water off the

south and west of Ireland." At the close of this paper he accepted Agassiz's reference of Pourtales's small specimens to *C. hystrix*.

The reason for raking up all this ancient history is that, in 1903, Dr. Mortensen ('Ingolf' Echinoidea, p. 51) considered that the species till then usually known as *Asthenosoma hystrix* belonged to a different genus from *Asthenosoma varium*, which is the genotype of *Asthenosoma*; "accordingly," says he, "it must form a separate genus keeping the name of *Calveria*, which was originally given to it by Wyv. Thomson and which it has unjustly been deprived of." Dr. Mortensen further separated *Asthenosoma fenestratum* as the genotype of yet another genus which he called *Araeosoma* (*op. cit.* p. 53). Professor A. Agassiz in 1904 (on p. 84 of "Panamic Deep-sea Echini," Mem. Mus. Harvard, xxxi.), while rejecting these new genera of Mortensen's, drew attention to the prior use of *Calveria hystrix* for an Asteroid. In the same year Delage and Hérouard ('Traité de Zoologie concrète,' iii. p. 100) reinstated *Calveria*, Carp., Jeffr., & Thoms., as a genus of their family Pterasterinæ. But, since the name had been "accepté universellement pour un Oursin régulier remarquable," they proposed for the Asteroid the new name *Calveriaster*.

One ought to assume that Professors Delage and Hérouard have examined the species on which they base *Calveriaster*, and that they have satisfied themselves of its generic independence. None the less, it appears that their action was long ago anticipated by Wyville Thomson himself, and that he proposed for the starfish in question the name *Korethraster hispidus*, which is placed by the two French authors in a different family.

Korethraster hispidus was introduced on p. 120 of the 'Depths of the Sea' in the following words:—"A curious little group of cushion stars, hitherto supposed to be confined to high latitudes, were represented by *Pteraster militaris*, M. & T., and *P. pulvillus*, Sars, and by two forms new to science,—one, *Korethraster hispidus*, sp. n., with the whole of the upper surface covered with long free paxillæ like sable brushes. Ranges of delicate spatulate spines border the ambulacral grooves. As in *Pteraster*, there is a double row of conical water feet." In short, Thomson here described "a very singular Asteroid allied to *Pteraster*, which is covered with a regular brush of long paxillæ," those words being, however, the original description of *Calveria hystrix*.

The type specimen of *Korethraster hispidus*, preserved in the British Museum, where my colleague Prof. Jeffrey Bell has kindly assisted me to examine it, was obtained by the 'Porcupine' in 1869, on the same cruise as that which produced the Asteroid *Calveria hystrix*. Among the Asteroids obtained in that year the only other which could possibly be described as "a very singular Asteroid allied to *Pteraster*" is now known as *Hymenaster pellucidus*, Wyv. Thomson; but the paxillæ of this, as is well known, are short and support a membrane. The absence from the bottle of any MS. label bearing the name *Calveria hystrix* was only to be expected if the history here suggested were correct.

The identity of *Korethraster hispidus* and *Calveria hystrix* would not be doubted if it could be shown that both were obtained at the

same Station. Unfortunately the Station of the Asteroid *Calveria hystrix* was never given; the only locality mentioned by the authors was the "Shetland Channel." Now Station No. 57, which is that of the type-specimen of *Korethraster hispidus*, is always quoted as in the "Færoe Channel," and these are the words on the British Museum label. It appears, however, from internal evidence that these two names were applied indifferently by Carpenter, Jeffreys, and Thomson to what the last mentioned ('Depths of the Sea,' p. 108) called the "deep channel between Færoe and Shetland." Mr. W. Garstang tells me that this channel might well be termed either the Shetland Channel or the Færoe Channel. Therefore, the statement that the type-specimen of the Asteroid *Calveria hystrix* came from the Cold area and from the Shetland Channel applied equally to the type-specimen of *Korethraster hispidus*; so that on these grounds there is no objection to considering the two specimens identical.

Having now traced the history of certain names, it remains for us to apply to them the usual rules of nomenclature.

Calveria obviously disappears,

"Cut off even in the blossoms of [its] sin,
Unhousel'd, disappointed, unaneled."

Should *Korethraster hispidus* follow it, as being a synonym of *Calveria hystrix*? Although by a lengthy argument it has been possible to prove this identity, still it is sincerely to be hoped that all zoologists will agree as to the inadequacy of the original description of *Calveria* by Carpenter, Jeffreys, and Thomson. Only by such agreement can we avoid resuscitating that name for the Asteroid, now that the question has once been raised by the action of Professors Agassiz, Delage, and Hérourard. But, even though the name *Calveria hystrix* be not accepted in place of *Korethraster hispidus*, its prior use for an Asteroid allied to *Pteraster* must, by the rules of nomenclature, bar its application to any other animal: *Calveria hystrix* cannot be used to denote the Echinothurid, as Professor Agassiz has most justly pointed out. So long as systematists follow that eminent authority in considering the species in question congeneric with *Asthenosoma varium*, they will be under no difficulty regarding the generic name. But the rule "Once a homonym, always a homonym" affects the specific component of the name no less than the generic. Therefore the combination *Asthenosoma hystrix* is invalid. For those who, with Jeffrey Bell (B.M. Catal. Brit. Echinoderms, p. 143), consider *Calveria fenestrata*, Thomson, as identical with *Calveria hystrix*, Thomson, there is no difficulty here either, since they will simply adopt the name *Asthenosoma fenestratum*. On the other hand, those who, with Mortensen, make *Calveria fenestrata* the type of a distinct genus, and who attempt to make *Calveria hystrix*, Thomson, the type of another genus, are bound to find a new name for both genus and species. Being myself quite unqualified to pronounce an opinion upon the validity of these proposed genera, I shall refrain from giving a name to a conception about which I know nothing.

British Museum (Nat. Hist.), Jan. 1903.