

NOTE ON *ENDOTHYRA ORNATA*.

By C. A. WHITE.

Among the fossils obtained by Prof. O. St. John from the Carboniferous strata of the region of the Téton Mountains, southward from the Yellowstone National Park, are some fragments of a dark silicious limestone, adhering to the weathered surfaces of which are some small globular foraminifera. None of them are in an entirely satisfactory condition of preservation, but their internal structure is very well shown in some cases. Samples of these objects have been submitted to Mr. Henry B. Brady, F. R. S., whose labors with the foraminifera are so well known. He mentions in reply the difficulty of being absolutely sure in the determination of weathered specimens, but still thinks, without any doubt, they are samples of *Endothyra ornata* Brady. (See Brady's Monog. Carb. and Perm. Foram. p. 99, pl. vi, figs. 1-4.) The discovery of this form in that far-western region is interesting since it has hitherto been found only in England, Ireland, and Scotland. Another form of *Endothyra*, however, *E. baileyi* (= *Rotalia baileyi* Hall) is found in the lower Carboniferous strata of Indiana.

NOTE ON *CRIOCARDIUM* AND *ETHIOCARDIUM*.

By C. A. WHITE.

The subgenus *Criocardium* was proposed by Conrad to receive the shells of that section of the genus *Cardium* which bear spines upon the interspaces between the ribs. Besides the type indicated by him (*C. dumosum*) which has "long slender spines between the ribs," there are several European forms which are plainly referable to this section, among which are *C. productum* Sowerby; *C. moutonianum* d'Orb., and *C. carolinum* d'Orb. All these shells have distinct spines or tubercles, or both, occupying *all* the interspaces between the ribs; those upon the anterior and posterior portions of the valves being longer and more conspicuous than those upon the middle portion.

In adopting this subgenus Mr. Meek (U. S. Geol. Sur. Terr. vol. ix, 4to ser., p. 169) referred to *Criocardium* the *Cardium speciosum* of Meek & Hayden, supposing it to bear spines or tubercles upon its intercostal spaces. In the An. Rep. U. S. Geol. Sur. Terr. for 1877, p. 183, I took occasion to state that among numerous examples of this shell which I had examined, no trace of either spines or nodes was detected, but that in place of them the test was perforated with minute holes. Subsequent examination of portions of the shell of authentic examples, having the natural surface in a better state of preservation than any before examined, shows that these small perforations are perfect apertures through the whole substance of the test, the border of each one being distinctly

defined upon both the inner and outer surface; the margin of the apertures not being even everted or raised upon the outer surface. Moreover, these perforations exist upon the middle portion of the valve only, the greater part of the rows extending from the umbo to the basal border. In the young state, as shown on the umbo of adult shells, a lesser part of the median interspaces were thus perforated, but as the shell grew perforations were introduced into the next outer adjoining interspaces, so that fully one-half of the surface of the adult shell was occupied by them. Both the anterior and posterior portions of the surface, comprising a considerable proportion of the ribs which mark the surface, are entirely without either holes or spines, and besides the ribs, the surface is marked only by the ordinary lines and imbrications of growth.

This shell therefore differs from the typical forms of *Criocardium* in having perforations only instead of spines or nodes upon the intercostal interspaces; and in having neither spines nor perforations upon either the anterior or posterior portions of the valves, upon which portions in *Criocardium* the spines are more conspicuous than upon the median portion. These differences from *Criocardium* are certainly as great as those which separate any of the other recognized subgenera of *Cardium*, and this shell is therefore as worthy as they of subgeneric designation. I therefore propose for a section of the genus *Cardium*, of which *C. speciosum* Meek & Hayden is the type, the subgeneric name of *Ethmocardium*.

WASHINGTON, December 2, 1879.

DESCRIPTIONS OF NEW CRETACEOUS INVERTEBRATE FOSSILS FROM KANSAS AND TEXAS.

By C. A. WHITE.

Of the fossils described in this paper the two Aviculids were discovered by Prof. B. F. Mudge,* in strata of the Dakota Group, in Saline County, Kansas, and sent by him to the National Museum. The locality of these fossils is only about three miles distant from that at which he obtained a series of fossils which were described and figured in vol. ix, U. S. Geol. Surv. Terr. (4to ser.). They are all from the Dakota Group, and all evidently from the same local horizon, because at least two of the associated species are identical with two which were among those described by Mr. Meek, and just referred to.

All the remainder are from Texas, having been sent respectively by Mr. G. W. Marnoch, from Bexar County; Mr. D. H. Walker from Bell County, and Mr. S. W. Black, from Collin County. The types of all these species are now in the collections of the National Museum.

* While these pages are passing through the press the sad intelligence comes that Professor Mudge is dead. He was a sincere devotee and an intelligent interpreter of nature, and, better still, an honest man. Peace to his ashes.—C. A. W.