Since 1919, I have made periodical examinations of the large spreads of flint, exposed at low tide, along the shore from Sheringham to Mundesley, and it is beyond dispute that it is only at Cromer that the ochreous specimens are, or rather were, present in any quantity. They are exceedingly rare at Sheringham, West and East Runton, while to the south-east of Cromer, though stone beds are present upon the foreshore, no ochreous artefacts, so far as I have been able to observe, occur at these sites. These facts are of considerable significance when the question of the origin of the flaking of the ochreous specimens comes up for consideration. For example, they make it very difficult to believe that wave-action has been responsible for this flaking, as, apart from the lack of evidence that such action could produce the required effect, it is incredible that it would be confined, to all intents and purposes, to only one spot on the north-east coast of Norfolk. Moreover, the ochreous artefacts are not made from the flint which is being eroded from the chalk on the foreshore, but from another variety; while the everlessening number of the ochreous specimens on the Cromer site—a reduction brought about by their removal by archæologists and others—indicates that these flints are not being produced at the present time.

As is known, the ochreous artefacts generally exhibit a thick and ancient patination, while the flakes very often show flat striking platforms, prominent cones and bulbs of percussion and the usual characteristics of human workmanship.

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Reduction of the Ctenidia in the Lamellibranchia

THE ctenidia of a typical lamellibranch are each composed of two demibranchs arranged one on each side of the ctenidial axis. In three families, however, the Lucinidæ, the Montacutidæ and the Teredinidæ, the ctenidium is composed of one demibranch only. A list of such lamellibranchs found in British waters is given by Atkins[1], type *G*. It is reproduced below.

Lucinidæ.
Myrtea (Lucina) spinifera.
Phacoides (Lucina) borealis.
Montacutidæ.
Montacuta ferruginosa.
Montacuta substriata.
Mysella (Montacuta) bidentata
Teredinidæ.
Teredo norvegica.
Teredo navalis.
Teredo megotara.
**Xylophaga dorsalis.*

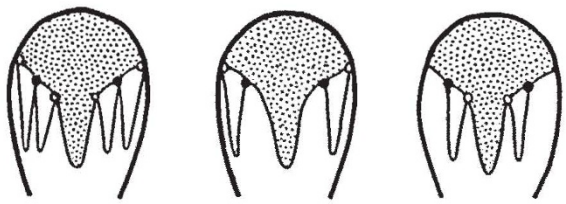
A similar condition obtains in the American genus *Bankia*, as shown by Sigerfoos[2] who examined *B.* (*Xylotrya*) *gouldi*.

It has generally been assumed, on little definite evidence, that in all these cases it is the outer demibranch which has been lost[1,2,3,4]. The question can only be definitely decided by determining the positions of the afferent and efferent branchial veins. The afferent vein invariably runs in the ctenidial axis. It receives blood from the kidney and passes it down the descending lamellæ of the ctenidium. The typical lamellibranch possesses two pairs of efferent veins which run along the dorsal margins of the ascending lamellæ of each ctenidium. They convey blood from the ctenidia to the auricles. This normal arrangement is indicated in *A*.

* Evidence has been produced which justifies placing *Xylophaga* in the Teredinidæ. This will be published elsewhere in due course.

Where one demibranch has been lost, the relative positions of the afferent and efferent branchial veins remain unchanged (*B*, *C*). By the examination of serial sections it is possible to trace the connexion between the afferent vein and the kidney, or between the efferent vein and the auricle, and thus (by identifying the veins) to determine the position of the ctenidial axis.

Menegaux[3] discusses the position of the afferent and efferent veins in *Lucina*, and his description leaves no doubt that in the Lucinidæ the single demibranch is the *outer* one (*B*).



DIAGRAMMATIC TRANSVERSE SECTIONS TO SHOW REDUCTION OF THE CTENIDIA IN CERTAIN LAMELLIBRANCHS. A, TYPICAL LAMELLIBRANCH. B, LUCINIDÆ AND TEREDINIDÆ. C, MONTACUTIDÆ. The afferent branchial vein at the ctenidial axis is figured black, and the efferent branchial veins at the dorsal borders of the ascending lamellæ are figured white.

In the Montacutidæ, I have been able to examine one species only, *Montacuta ferruginosa*, in which it is clear that it is the *inner* demibranch which is retained (*C*). This is in accordance with the views of Miss M. L. Popham, who has sectioned all the species of the Montacutidæ found in British waters.

Examination of the illustrations of *Teredo* and *Bankia* given by Ridewood[4] and Sigerfoos[2] respectively make it abundantly clear that in these genera it is the *outer* demibranch which is retained. My own investigations on *Xylophaga dorsalis* establish that a similar condition obtains in this species.

In the Lucinidæ and Teredinidæ, therefore, the ctenidium is composed of the *outer* demibranch only, whereas in the Montacutidæ the single demibranch is the *inner* one.

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May 27.

[1] Atkins, D., *Quart. J. Micr. Sci.*, 79, 375 (1937).
[2] Sigerfoos, C. P., *Bull. U.S. Bur. Fish.*, 27, 191 (1908).
[3] Menegaux, A., Academic Thesis, Besançon (1890).
[4] Ridewood, W. G., *Phil. Trans.*, B, 195, 147 (1903).

Cranidial Muscle Scars of '*Illænus*' *proles* var. *shelvensis* Whittard

FROM the core of the Walsall boring[1] which was put down in 1935, Dr. and Mrs. A. J. Butler collected a large number of Silurian fossils. Among those from the Purple Shales of the Upper Llandovery there are internal casts of two trilobite middle-shields referable respectively to *Phacops* (*Portlockia*) *elegans* Sars and Boeck, obtained at a depth of 1,050–1,055 feet, and to '*Illænus*' *proles* var. *shelvensis* Whittard, from 982–987 feet down. The illænid, as shown in the accompanying figure, though rather larger than the individuals upon which Prof. Whittard founded the variety[2], differs from these only in the remarkable preservation of the impressions of what seem to be