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A PALAEOBATRACHID ANURAN ILIUM FROM THE BRITISH EOCENE

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The extinct anuran family Palaeobatrachidae Cope extends from the Late Jurassic to the Plio-Pleistocene (Meszoely *et al.*, 1984). The most abundant genus, *Palaeobatrachus*, occupied a broad adaptive zone in space and in time, occurring in both the Old and New World, and existing from Cretaceous through Miocene times. The ecological niche of *Palaeobatrachus* is thought to have been similar to that of the modern highly aquatic pipid frog *Xenopus*. Palaeobatrachids have been reported from the British Isles only from a single Late Eocene locality at Headon Hill on the Isle of Wight (Rage & Ford, 1980; Meszoely *et al.*, 1984), and from another Late Eocene locality on the sea at the nearby Hordle Cliff, Hampshire, (Milner *et al.*, 1982). These fossil remains did not include ilia.

British palaeobatrachid material in Rage & Ford (1980) and Milner *et al.* (1982) was referred only to the family Palaeobatrachidae. Meszoely *et al.* (1984), however, described a new genus and species of palaeobatrachid, *Albionbatrachus wightensis*, from Isle of Wight material collected at Headon Hill (Totland Bay Member of the Headon Hill Formation, Upper Eocene) [Insole and Daley, 1985]. Their new taxon was based on an almost complete frontoparietal (holotype), an atlas, a synsacrum, a few presacral vertebrae, and an angular.

Albionbatrachus wightensis was diagnosed on the basis of the frontoparietal as a palaeobatrachid frog that closely resembles *Palaeobatrachus* sp. from Oligo-Miocene deposits at Laugnac, France, discussed by Vergnaud-Grazzini & Hoffstetter (1972). The Isle of Wight frontoparietal differs from the French specimen only in having spur-like prootic processes (Meszoely *et al.*, 1984, Figs. 1-3). The referred atlas, synsacrum, vertebrae, and angular were described anatomically, but they were not compared with similar elements in other *Palaeobatrachus*. This is apparently because many palaeobatrachid fossils consist of skeletons embedded in matrix in such a way that details of individual bones are difficult to see.

The British Ilium. Estes & Sanchiz (1982) showed that ilia of palaeobatrachids are diagnostic to the generic and the specific level, and compared their new North American species, *Palaeobatrachus occidentalis*, with various European fossils of *Palaeobatrachus* on the basis of iliac structures and their muscle attachments.

The British left ilium (Michigan State University Museum Vertebrate Paleontology Number 1360, Fig. 1A) was collected by David Harrison in 1991 at the Isle of Wight Totland Bay Locality, a stratigraphic equivalent of the Headon Hill Locality. The fossil is so well-preserved that specific iliac features and muscle origins may be easily discerned.

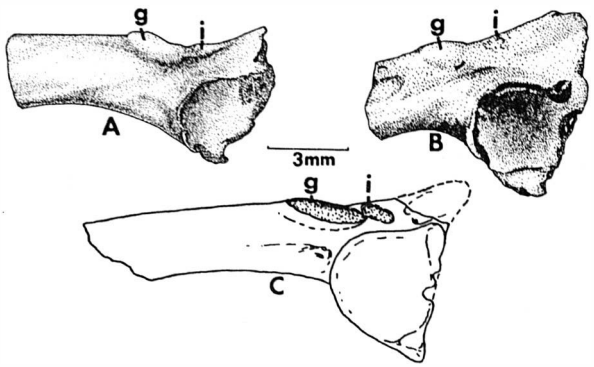

FIG. 1. *Palaeobatrachus* sp. ilia. A, left ilium (Michigan State University Museum Vertebrate Paleontology Number 1630) from the Totland Bay Locality, Totland Bay Member, Headon Hill Formation, Late Eocene, Isle of Wight, England. B, left ilium from the Late Paleocene of Cernay, France, drawn from a photograph in Vergnaud-Grazzini & Hoffstetter (1972). C, left ilium from the Rijksuniversiteit Utrecht Collection, Early Oligocene of Belgium, after Estes & Sanchiz (1982). Abbreviations are: g = glutaeus tubercle, i = iliofibularis-iliofemoralis attachment. The 3 mm line applies to all three drawings.

Based on these features, MSUVP 1360 represents the genus *Palaeobatrachus*. It most specifically resembles a specimen referred to as *Palaeobatrachus* sp. from the Rijksuniversiteit Utrecht collection Early Oligocene of Belgium (Fig. 1C) figured by Estes & Sanchiz (1982). Unfortunately, more specfic information is not available for this specimen. In the British and the Belgian specimens (Figs. 1A,C) the dorsal tubercle from which the glutaeus muscle arises is elongate and a smaller tubercle from which the iliofibularis and iliofemoralis muscles arise is adjacent to it posteriorly.

In other *Palaeobatrachus* species the glutaeus tubercle may be short and the iliofibularis and iliofemoralis attachment obscure (Fig. 1B) and/or the two tubercles may be separate (see iliac drawings in Estes & Sanchiz, 1982; Fig. 4).

There is a problem regarding the status of the Isle of Wight palaeobatrachid material. We have one genus, *Albionbatrachus*, described on the basis of a single frontoparietal bone that differs from *Paleobatrachus* in a character that could be specifically or even individually variable. Yet a well-preserved ilium appears to be almost identical to a lower Oligocene *Palaeobatrachus* sp. from Belgium. Both of these Isle of Wight bones were collected from stratigraphically equivalent horizons. Other British palaeobatrachid bones appear to be undiagnostic beyond the familial level. Obviously more complete palaeobatrachid skeletons are needed to clear up the taxonomic uncertainties.

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