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NIAH CAVE BONE IX: FIRST PLEISTOCENE RECORD OF HOSE'S PIGMY SHREW *SUNCUS HOSEI*

Philip J. Piper and Earl of Cranbrook

ABSTRACT

In the course of the 2000-2004 Niah Cave Project (Barker et al., 2002), the team re-investigated a small upstanding baulk of original deposit, deliberately left during earlier excavations by the Sarawak Museum under the late Tom Harrisson (Harrisson, 1958; 1959). Radio-carbon (C_{14}) assessments have established that this deposit dates between $21,360 \pm 90$ years before present (BP) (OxA-V-2077-8) and $17,770 \pm 65$ BP (OxA-V-2077-7). Using modern techniques of palaeobiological recovery, the work was highly successful at extracting the bones of small vertebrates from sediment matrices. From this assemblage, PJP recovered a partial left lower jaw of a very small shrew, field context ref. NCP 01 (2171).

The specimen is stained mid-brown in colour. The jaw bone lacks the posterior directed angular process, and is broken at the level of the second unicuspid (premolar), although a small part of the root of the first unicuspid appears to be retained, as is the internal tip of the root cavity of the incisor. Because of its delicacy and very small size, measurements were not taken directly from the specimen, but from a scaled photograph (Plate IX). Comparative measurements of museum specimens were also taken from scaled photographs, but checked by hand-held calipers. All measurements are given to the nearest 0.1 mm.

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First Pleistocene record of Hose's pigmy shrew
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Of the six species of shrew (Soricomorpha, Soricidae) known in Borneo (Medway, 1977; Payne & Francis, 2005; Ruedi, 1995; 1996), only two potentially match the size range of this single

specimen: the Sunda shrew *Crocidura monticola* and Hose's pigmy shrew *Suncus hosei*. The latter was originally described from a single specimen obtained at Bakong by the famous Dr. Charles Hose, after whom it was named *Crocidura (Pachyura) Hosei* by Thomas (1893). Hose's pigmy shrew has been recognised as "a distinct forest species" and Borneo endemic by Hutterer (2005). It is related to Savi's pigmy shrew *Suncus etruscus* and, following prevailing opinion, the two were treated by Medway (1977), Corbet & Hill (1992) and Payne & Francis (2005) as conspecific. As now defined, Savi's pigmy shrew occurs over a very wide range from Mediterranean Africa, southern Europe and the Middle East through South and Southeast Asia to Thailand (Hutterer, 2005, p. 258).

Of these two possible identifications the Sunda shrew is slightly larger in bodily dimensions and overall skull length (Davison, 1984). The dentition of the upper jaw also definitively separates the species, Hose's pigmy shrew possessing the minute third unicuspid premolar distinctive of the genus *Suncus*, which is lacking in all *Crocidura* species including the Sunda shrew. There is, however, unfortunately no comparable distinguishing feature of the toothrow of the lower jaw serving to separate the two genera.

Appropriate trapping methods, such as pitfalls, or even a domestic cat (Davison, 1979; Davison *et al.*, 1982; Jenkins, 1982) have shown that these tiny mammals are widespread and not uncommon in the litter of the Malaysian tropical rainforest floor. Yet both are rare in museum collections and the Natural History Museum, London (BMNH), holds only one skull of each from Borneo. Measurements of the jawbone and lower toothrow of these examples, and others from the South and Southeast Asia, are given in Table 1, together with comparative measurements of the archaeological specimen.

There is size overlap between museum specimens of the two species in the depth of the jawbone below the first molar and in the height of the ascending ramus of the jaw, two features expected to reflect overall body size. The archaeological specimen has a deeper jawbone below the first molar than any of the small sample of *S. hosei*, thereby greatly exceeding the equally small sample of