SKULL AND TOOTH VARIATION IN THE GENUS *PERAMELES*

Part 2: Metrical Features of *P. nasuta*

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Plates 28-31. Fig. 1. Manuscript received, 10th January, 1966.

This paper deals with an analysis of the sex and locality differences in the metrical features of the skull and teeth of the species *P. nasuta*. It is the second part of an overall study dealing with the variation in the skull and teeth of bandicoots of the marsupial genus *Perameles*. Part 1 (Freedman, 1967) included an anatomical description of the skull and teeth of *P. nasuta*, followed by a discussion of the anatomical variations in certain of these features in the different species of the genus.

MATERIALS AND METHODS

For the present study, a total of 111 specimens of *P. nasuta* were examined, 54 males and 57 females. The localities of these specimens were given in Part 1 and the material was described there as coming from 3 regions east of the Great Dividing Range (Queensland, New South Wales and Victoria) along the east coast of Australia. For the present analysis, the Queensland group was initially further subdivided into a northern and a southern sub-group. This was done partly to make 4 approximately equal geographical areas but also because the most northern Queensland specimens (from Ravenshoe, Cairns district) have been described (e.g., Iredale and Troughton, 1934) as representing a separate sub-species (*P. nasuta pallescens*). However, it can be seen from Table 1, in which the various groups studied are listed by sex and locality, that the numbers of specimens, especially of the females, are very small in the North and South Queensland groups. Because of this, after being used in the tests for the assessment of sexual dimorphism, these two groups had to be combined again for the multivariate analysis tests used to investigate possible locality differences.

A number of features of the skull and teeth were assessed non-metrically for use in the ageing and sexing of the material and also for the description of skull and tooth anatomy. These include: the degree of development of the temporal, sagittal and lambdoid crests; whether the posterior palatine vacuities were single or double; the presence and size of additional vacuities (i.e., additional to the usual anterior and posterior pairs); the degree of synostosis between (i) the 4 parts of the occipital bone, (ii) the 2 frontal bones and (iii) the basi-occipital and basi-sphenoid bones; and finally, the state of eruption and the amount of attrition of the teeth, especially of the canines, last premolar teeth and all of the molars. Relevant data on these features are given in various parts of the whole study.

Specimens in which the full dentition was not yet present (i.e. juvenile or "immature" specimens) were only used for measurements of those teeth which were fully erupted. No skull dimensions or tooth row measurements of these specimens were included in the main metrical studies. Specimens with all teeth fully erupted were termed "mature" and, on tooth wear (of the molars, mainly M3), were classed as young adult, adult or old adult. Although analysis of the point was not practical in the present study, it is clear from work by other authors (discussed in Part I) that some relatively small size increase does occur after the last tooth has fully erupted.