

## THE BACULA IN GENUS *MUS* OF CENTRAL PUNJAB (PAKISTAN)

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Thirty-eight bacula of the males of *Mus musculus bactrianus* and *Mus booduga/dunni* complex were examined. The *M.m. bactrianus* baculum has a round base gradually extending into a shaft tipped by a cartilaginous cap which is bifurcated at the distal end. In the *M. booduga/dunni* complex, the bacular base is squarish or triangular in shape and clearly marked off from the shaft. The cartilaginous cap at the distal end of the shaft is deeply cleft. The baculum of the mice of *M. booduga/dunni* complex is longer than that of *M.m. bactrianus*.

### INTRODUCTION

The importance of os penis or baculum in the taxonomy of rodents has been discussed by a number of workers (Lidcker, 1960; Simpson, 1961; Genoways and Jones, 1971; Paterson and Thaler, 1982; Lidicker and Yang, 1986). The present study compares the bacula of the Percian mouse (*Mus musculus bactrianus*) and the pygmy mice complex of the central Punjab. While examining the specimens of pygmy mice from the Punjab, Marshall (1977) noted that these resembled *Mus booduga* in certain aspects and *Mus dunni* in some other respects and hence he tentatively assigned them to *Mus booduga/dunni* complex.

### MATERIALS AND METHODS

Thirty-eight bacula (28 of *M.m. bactrianus* and 10 of *M. booduga/dunni* complex) were examined and measured. The phalli of the males were severed from the base and treated with dilute KOH (0.02%) solution for 2-3 days. The bacula were stained in alizaring red. The stained bacula were thoroughly washed in water before being transferred to glycerine. The soft tissue was carefully removed from the bacula with the

help of a pair of needles. The total length of bacula and the width of their base were measured to 0.05 mm with an eyepiece micrometer.

### RESULTS AND DISCUSSION

Figure 1 shows the bacula of *M.m. bactrianus* and the *M. booduga/dunni* complex. The baculum of *bactrianus* has a rounded base. The shaft is tapered from the proximal to the distal end and is indistinctly separated from the base. The tip of the shaft is somewhat pointed and carries a distally bifurcate cartilaginous cap. The total length (base + shaft) of the baculum of *bactrianus* is  $4.18 \pm 0.25$  mm (range: 3.05 - 4.45 mm; n = 27) whereas the width of the bacular base is  $1.39 \pm 0.04$  mm (range: 0.95 - 1.80 mm; n = 28).

The baculum of the mice *booduga/dunni* complex is somewhat longer than that of the *bactrianus*. The shaft in these mice do not taper at the distal end. Rather, they slightly widen at the tip. The bacular base is somewhat variable in shape. In some specimens, it is squarish and markedly separated from the shaft whereas in others, it is triangular and not distinctly separated from the shaft. The cartilaginous

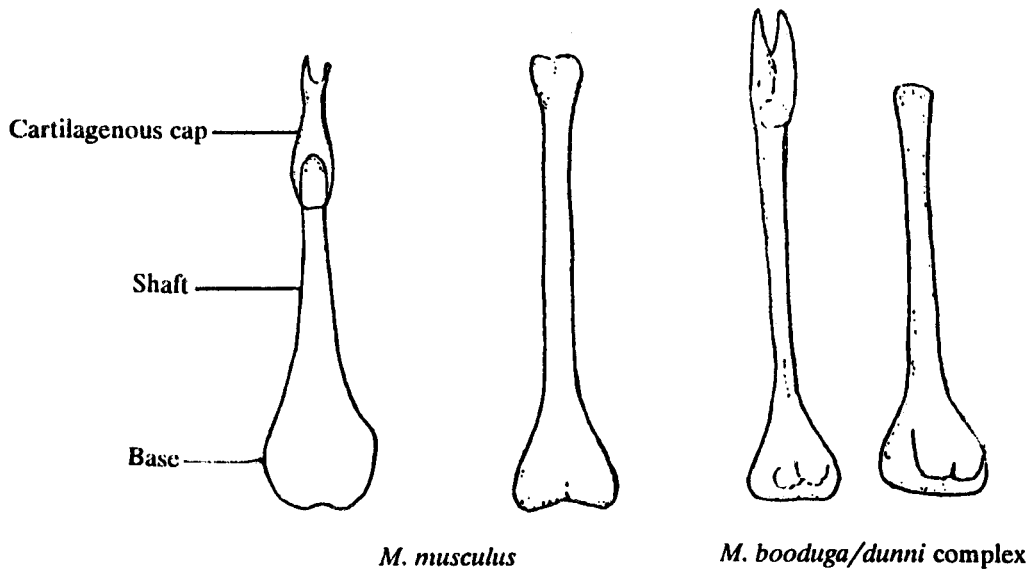


Figure 1. Bacula of *Mus musculus bactrianus* and *Mus booduga/dunni* complex.

cap at the tip of the shaft is deeply cleft. The average total length of the baculum of the *booduga/dunni* complex is  $4.62 \pm 0.27$  mm (range: 3.15 - 5.30 mm; n = 9) and the width of the base is  $1.29 \pm 0.04$  mm (range: 0.70 - 1.50 mm; n = 10).

Thus, the bacula of *M.m. bactrianus* and the *booduga/dunni* complex are sufficiently different both with respect to their shape and size. The cartilagenous caps too are different in the two species. The variability in the shape of the base of the bacula of the mice of the *booduga/dunni* complex is, however, notable. This variability may be taken as an indication of taxonomic heterogeneity in the complex of these pygmy mice.

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