ATAVISTIC CHARACTERS OF PALAEONTOLOGICAL INTEREST IN *ELEPHAS MAXIMUS* LINNÉ

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Abstract—Atavistic characters appearing in *Elephas maximus* suggest affinities with various Elephantidae and intensive study should yield knowledge that will assist in reconstructing extinct species more accurately than hitherto.

Apart from the wide range of individual variation displayed by the Asian elephant *Elephas maximus maximus* Linné a certain percentage of its individuals possesses atavistic characters of considerable palaeontological interest. Excluding the well known infantile shape of the mandible and skull there are six such characters, but only a few of them occur in any one individual. They are now described as follows:

1. **Trunk.** This can be abnormally short, ending well above the wrist level of the fore limb. The short trunk is thinner than most of the more elongate ones.

2. **Ear lobe.** The bottom of the ear lobe which is usually elongate and triangular, is sometimes short and rounded.

3. **The fronto-parietal ridge or crest of the Palaeoloxodonts sometimes exists as a vestige.**

4. The **Tusks** which often display fluting only along the basal portion that is enclosed within the tusk socket and gum are sometimes more or less completely ridged in this manner as far as the apex.

5. **Molar.** Teeth display a loxodont sinus as they become abraded. This is more noticeable in the lower molars than in the upper ones. (Plate 37).

6. **Ribs.** The first pair at times expand into spatulate tips at their sternal ends.

7. **The pelvis width** of males at times exceeds the length of the femur, whereas usually the two measurements are equal or the pelvis width is less than the femur length.

Discussion

1. An elongate trunk is more highly evolved than a short one and

2. The above is true of the ear lobe as well.

3. A vestige of the palaeoloxodont fronto-parietal crest is sometimes visible especially in living specimens, and Sinhala mahouts term it the ‘Otuwa marlava’=crown necklace, since it partially encircles the vertex.

4. The tusks of several extinct proboscideans are usually more or less completely fluted e.g., *Stegodon magnidens* Deraniyagala, (Deraniyagala 1955, Colbert 1943).

5. The loxodont sinus in the molar teeth has been frequently utilized as a distinguishing character in several extinct genera and species e.g., *Archidiskodon*.

6. First ribs with spatulate ends are also somewhat more common in various extinct elephants than in the living species.

7. In animals that are derived from palustrine ancestors the original condition would appear to have been a wide pelvis and short limbs. The narrower pelvis and more elongate limbs suggest subsequent adaptation to a drier and firmer environment.
Fig. 1—Fluted tusks in Steppelephas magnificus Deraniyagala.

Fig. 2—Third upper molars. Teeth of an old wild female Elephas maximus L. n. from Vilpattu game sanctuary, Ceylon. (For upper molars see fig. 3 next page.)
Fig. 3—Third lower molars. Note the large loxodont sinuses that make the lower teeth differ from the upper ones of the same animal and resemble those of the African elephant *Loxodonta africana* (Blumenbach).

**REFERENCES**


DERANIYAGALA, P. E. P., 1955, Some Extinct Elephants, their Relatives and the Two Living Species. (Colombo Museum Publication) p. 23; pl. IX.