

MINISTERIE VAN ONDERWIJS, KUNSTEN EN WETENSCHAPPEN

# ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN

DEEL XXXIV, No. 14

28 Februari 1956

## THE VALID NAME OF THE BANTENG: BIBOS JAVANICUS (D'ALTON)

by

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While studying the collection of recent oxen of the Museum my attention was drawn to the problem of the nomenclature of the Java banteng. I believe to have been able to clear up the confusion that still exists today, as will be set forth in the present note.

The wild ox of Java, the banteng, is known variously as *Bos sondaicus* or *Bos banteng*, but neither of these is the earliest available valid name. The species should have been called:

### ***Bibos javanicus*** (d'Alton)

*B[os] Javanicus* d'Alton, Skelete der Wiederkäuere, Bonn, 1823, p. (7), pl. VIII fig. c.

The earliest reference to the banteng of Java I have been able to find is in Pennant (1800, p. 35): "Mr. Loten told me that wild oxen, of a reddish brown color, with vast horns, and of a great size, are found in Java".

Raffles, in his oft quoted "History of Java" refers to the wild Javan ox as "bánteng" (Raffles, 1817, p. 49; 1830, p. 56) or "bánténg" (Raffles, 1817, p. 111; 1830, p. 123), but these are vernacularisms, as are "Bentinger" as used by Boie and Macklot (1827, p. 316) and "Bantinger" (Fischer, 1829, p. 500).

In February, 1821, two adult banteng skeletons from Java were sent to Leiden by Reinwardt, one male, and the other female. In the handwritten list of specimens of Reinwardt's consignment preserved in the archives of the Rijksmuseum van Natuurlijke Historie at Leiden these skeletons are marked as of the wild Javan ox or Bantinger, *Bos javanicus*. The skulls of these specimens were figured for the first time by d'Alton (1823, pl. VIII figs. c and d), who, in the explanation of the plate, indicates the male (his fig. c)

as "Schädel des Javanischen zahmen Ochsen (*B. Javanicus*, Reinwardt)", thereby validating the name *Bos javanicus*, while the female (his fig. d) is indicated as "Schädel eines auf Java befindlichen wilden Ochsen". Schlegel and Müller (1845, p. 197) corrected this statement, pointing out that the male as well as the female are of wild oxen, but they omitted a reference to the printed name *Bos javanicus* in d'Alton's work, giving the name *Bos sondaicus* instead. The latter name occurs as a nomen nudum in Müller (1840, p. 45), and was first validated by Blyth in 1842, as we shall see below.

The skulls of the banteng skeletons collected in Java by Reinwardt have been refigured by Schlegel and Müller (1845), the male (l.c., p. 208, pl. 37 fig. 2, pl. 38 fig. 2, pl. 39 fig. 2) as well as the female, which latter they erroneously state to represent a young male (l.c., p. 208, pl. 38 fig. 5). It is a surprising fact that Rüttimeyer (1867, pp. 86 and 101) did not detect this error, and followed Schlegel and Müller in regarding the female skeleton as that of a young male individual. The specimen in question is quite adult as appears from its worn last molars and the fused epiphyses of the bones, while the pelvis clearly shows that it belonged to a female individual. The horns, moreover, are short and directed backward rather than outward, and in all its measurements and indices the skull is very close to that of the adult female subsequently received from Boie and Macklot likewise figured by Schlegel and Müller (1845, p. 208, pl. 38 fig. 3, pl. 39 fig. 3) as well as by Rüttimeyer (1867, p. 81 fig. 10). Hence, Rüttimeyer (l.c., p. 86) could not but remark: "Die grosse Aehnlichkeit des erwachsenen weiblichen Schädels mit dem jungen männlichen tritt deutlich zu Tage...".

In the catalogue of the osteological specimens of the Leiden Museum (Jentink, 1887, p. 128) we find the same mistake perpetuated: the adult female skeleton sent by Reinwardt (cat. ost. c) is entered as "mâle semi-adulte". Further, two skeletons are incorrectly labelled as to sex; the adult male skeleton sent by Reinwardt, type of *Bos javanicus* d'Alton (cat. ost. a) is entered in the catalogue as "femelle adulte", while the adult female of Boie and Macklot (cat. ost. b) is referred to as "mâle à-peu-près adulte", but the added references to the plates of Schlegel and Müller (1845) are correct.

A number of synonyms of *Bos javanicus* d'Alton will now be dealt with in the chronological order of their first appearance in the literature.

1. *Bos leucoprymnus* Quoy et Gaimard (1830, p. 140). This name is usually rejected because it is said by Schlegel (in Blyth, 1842, p. 446; Schlegel and Müller, 1845, p. 198; Schlegel, 1868, p. 180) to have been based on a hybrid between the banteng and the domestic species. This, in

itself, would not invalidate the name *Bos leucoprymnus* for the banteng in zoological nomenclature, however, and added to that I can find nothing in Quoy and Gaimard's description that suggests a hybrid. On the contrary, the description of the horns "s'écartant et se rapprochant sur le haut de la tête, et dont les pointes se regardent" is in accord with the wild banteng; in the domestic banteng the horns are not curved inward at the tip (Gans, 1915, p. 25). However, the name *Bos javanicus* d'Alton has seven years' priority over *Bos leucoprymnus* Quoy et Gaimard.

2. *Bos sondaicus*, introduced as a nomen nudum by Müller (1840, p. 45), first validated by Blyth (1842 (April), p. 445), who under this name describes and figures (l.c., p. 446, plate facing p. 470, fig. 5) a frontlet with horns in the Museum of the Asiatic Society of Bengal, presented by Prince William Henry of the Netherlands. *Bos sondaicus* was subsequently validated by Schlegel and Müller in November of the same year, as the date of publication of pl. 35 belonging to Schlegel and Müller (1845), representing an adult male and bearing the name *Bos sondaicus*, is November 11, 1842 (Husson and Holthuis, 1955, p. 22).

3. *Bos banteng*, a nomen nudum in Temminck (1836, p. VIII), validated by Wagner (in Schreber's Säugethiere, Suppl., vol. 4, 1844, p. 517). This is the name now currently in use for the banteng, attributed either to Raffles or to Wagner.

4. *Bos bantinger* Schlegel et Müller (1845, p. 198), after the original Leiden Museum label (l.c.).

Variants of the names mentioned under 3 and 4 have crept into the literature, as noted by Harper (1940, p. 325).

As follows from what has been said above, the earliest available valid name of the banteng is *Bibos javanicus* (d'Alton), or *Bos (Bibos) javanicus* d'Alton if the genus *Bibos* Hodgson is not accorded full generic rank but is regarded as of subgeneric value only (Ellerman and Morrison-Scott, 1951, p. 380). The holotype of the species is hereby fixed as the adult male skeleton from Java now in the Leiden Museum recorded as *Bibos banteng* Raffles, a, in Jentink (1887, p. 128). The skull has been figured by d'Alton (1823, pl. VIII fig. c), by Schlegel and Müller (1845, pl. 37 fig. 2, pl. 38 fig. 2, pl. 39 fig. 2), and by Rüttimeyer (1867, p. 82 fig. 11, p. 83 fig. 12).

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