

15. M A M M A L I A

BY

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INTRODUCTION.

In connection with the particular nature of the present subject not only those publications have been used, which deal with the original type specimens or which mention the discovery from another locality, but also every publication in which new remains of the species have been described ¹⁾.

In general no use has been made of preliminary notes. An exception had to be made for those notes which hitherto have not been followed by definite descriptions.

Nearly all discoveries of mammalian remains have been made in Java. The different localities are marked with Roman numerals and will be found on the accompanying sketch-map. It will be known that DUBOIS' specimens not only originated from Trinil and its nearest surroundings, but also from other localities some of which were already known to the natives. From DUBOIS' preliminary notes cannot be inferred the exact locality from whence each species was obtained. MARTIN, furthermore, described (Bibl. 19) a number of specimens, which were all said to be found in Soerakarta. MARTIN, however, doubted strongly the correctness of this assertion. These facts declare why in the below often occurs the mention „Java” without the affix of a Roman numeral, and also why the sketch-map — which has been made partly after DUBOIS — shows localities without a number.



Fig. 1.

¹⁾ If a publication is reprinted or translated, the numbers of pages, plates, etc. refer to the one, first mentioned in the bibliography.

Concerning the relative age of the beds in which the remains have been found generally insufficient data are available, or the opinion of various competent investigators widely diverges. In this connection only ought to be stated the fact, that MARTIN originally considered the Kendeng beds to be of pliocene age, whereas DUBOIS stood up for a quarternary age. And now DUBOIS and MARTIN have interchanged of opinion. I, therefore, thought it better to drop the addition of the age.

The present writer is occupied with the determination of a collection of fossil mammals, partly obtained from a new locality in Java, viz., Boemiajoe (III). Though this study is already far advanced, its results have in general not been used in the below, in consideration of the fact that hitherto nothing has been published. The mention of the occurrence of *Mastodon perimensis*, *Stegodon airâwana* and *Hippopotamus sp.* from Java III is not an exception to this rule, as these determinations of the writer will be found in Bibl. 1. One exception, however, has been made. See annot. 18. But the present publication being made in honour of Prof. MARTIN, I believe that I had every right to do so.

The classification here used is derived from the newest edition of Max Weber's „Die Säugetiere'', Bd. II (Jena 1928). Genera and species of each family, however, are placed in alphabetical order.

The arrangement of the publications concerning each species is chronological.

Finally be remarked that in the below finds from the holocene (e. g. human remains from caves in Java and Sumatra) are not mentioned.

LIST OF SPECIES.

Order PHOLIDOTA.

FAM. MANIDAE.

Manis palaejavanica Dubois. — Java II, Bibl. 9, p. 455; Java II, Bibl. 10, p. 1267; Java II, Bibl. 12, p. 949, one plate, text fig. 1—2.

Order RODENTIA.

FAM. HYSTRICIDAE¹⁾.

Hystrix sp. — Java I, Bibl. 28, p. 83, pl. XVI, fig. 5.

Order CARNIVORA.

FAM. FELIDAE²⁾.

*Feliopsis*³⁾ *palaeojavanica* Stremme. — Java I, Bbl. 28, p. 86, pl. XVI, fig. 3—4; pl. XVII, fig. 1.

Felis microgale Dubois. — Java, Bibl. 10, p. 1267.

„ *oxygnatha* Dubois. — Java, Bibl. 10, p. 1266.

„ *trinilensis* Dubois. — Java, Bibl. 10, p. 1266. ⁴⁾

FAM. HYAENIDAE.

Hyaena bathygnatha Dubois. — Java, Bibl. 10, p. 1265. ⁵⁾

FAM. CANIDAE.

Mececyon ⁶⁾ *trinilensis* Stremme. — Java I, Bibl. 28, p. 83, pl. XVI, fig. 1—2.

FAM. MUSTELIDAE.

Lutra palaeoptonyx Dubois. — Java, Bibl. 10, p. 1267. ⁷⁾

Order CETACEA.

FAM. DELPHINIDAE ⁸⁾.

Order SUBUNGULATA.

FAM. MASTODONTIDAE.

Mastodon latidens Clift. — British Borneo, Bibl. 16, p. 777, pl. XLVIII, fig. 1—2.

„ *perimensis* Falc. et Cautl. — Java III, Bibl. 1, p. 50.

„ sp. — Java V, Bibl. 20, p. 90 ⁹⁾, pl. XI, fig. 1—2a.

FAM. ELEPHANTIDAE ¹⁰⁾.

Stegodon ¹¹⁾ *airâwana* ¹²⁾ Martin. — Java I, Bibl. 21, p. 4, pl. I, fig. 1—2; pl. II, fig. 1—6; Java I, Bibl. 13, p. 151, pl. XXI, fig. 1—2; pl. XXII, fig. 1—4; pl. XXIII, fig. 1—4; pl. XXIV, fig. 1—2; pl. XXV, fig. 1—3 ¹³⁾; text fig. 1—6, 9—16; Java, Bibl. 19 ¹⁴⁾, p. 49, pl. VI, fig. 1; Java I, Bibl. 23, p. 196, pl. XXVI, fig. 1—28a; pl. XXVII, fig. 1—13b; text fig. 1—6; Java II ¹⁵⁾, Bibl. 25, p. 5, 6, 8, pl. I, fig. 2a, 2b, 4; Java III, Bibl. 26, p. 5, pl. I, fig. 1 ¹⁶⁾; Java III, Bibl. 1, p. 50.

Stegodon cf. *airâwana* Martin. — Java I, Bibl. 13, p. 192; Java VI, Bibl. 25, p. 4, 8, 10, pl. I, fig. 1; pl. II, fig. 3; Java II ¹⁵⁾, Bibl. 25, p. 11, pl. II, fig. 1; Java VII, Bibl. 3, p. 118.

„ *bombifrons* Falc. et Cautl. — Java, Bibl. 19, p. 50 ¹⁷⁾, pl. V, fig. 2.

„ *bombifrons* Falc. et Cautl., var. — Java V, Bibl. 20, p. 103 ¹⁷⁾, pl. XII, fig. 1—1a; Java V, Bibl. 21, p. 12, pl. III, fig. 7.

„ *clifti* Falc. et Cautl. — Java, Bibl. 19, p. 51 ¹⁸⁾, pl. III, fig. 2—2a.

„ *ganesa* Falc. et Cautl., var. *javanicus* Dubois. — Java, Bibl. 10, p. 1257. ¹⁹⁾

„ *trigonocephalus* ¹⁹⁾ Martin. — Java V, Bibl. 18, p. 3 ²⁰⁾, pl. I, fig. 1—1a; Java, Bibl. 19, p. 36, pl. II, fig. 1—2 ²¹⁾; pl. III, fig. 1; pl. IV, fig. 1—2; pl. V, fig. 1; Java V, Bibl. 20, p. 92, pl. XI, fig. 3—4; Java V, Bibl. 21, p. 10, pl. III, fig. 5—6.

„ cf. *trigonocephalus* Martin. — Java I, Bibl. 13, p. 192, pl. XXV, fig. 4; Java II ¹⁵⁾, Bibl. 25, p. 16, pl. I, fig. 3; pl. II, fig. 2a—2b ²²⁾.

- Stegodon* sp. — Java V, Bibl. 18, p. 3, pl. I, fig. 2—2*a*; Java, Bibl. 19, p. 50²³), pl. IV, fig. 3; Sumatra (Deli), Bibl. 22, p. 10; Java V, Bibl. 20, p. 106; Java²⁴), Bibl. 13, p. 161, 188 (N^o. 1660), text fig. 7—8; Java II¹⁵), Bibl. 25, p. 15, 16, 19²⁵), pl. I, fig. 5, Java III, Bibl. 26, p. 5²⁶), pl. I, fig. 2; Java VII, Bibl. 3, p. 119; Java VII, Bibl. 24, p. 111.
- Elephas*²⁷) *hysudricus*²⁸) Falc. et Cautl. — Java, Bibl. 19, p. 57²⁹), pl. VI, fig. 2—2*a*³³); Java V, Bibl. 20³⁰), p. 112, pl. XII, fig. 3—3*a*.
- „ *hysudrindicus* Dubois. — Java, Bibl. 10, p. 1258.²⁸)
- „ *maximus* L. — Sumatra (Padang), Bibl. 17, p. 5³¹); Banka, Bibl. 18, p. 13.
- „ *namadicus*²⁸) Falc. et Cautl. — Java, Bibl. 19, p. 53, pl. VI, fig. 3—3*a*; Java V, Bibl. 20, p. 106, pl. XII, fig. 2—2*a*.
- „ sp. — Java V, Bibl. 14, p. 216; Java, Bibl. 17, p. 6; Java V, Bibl. 20, p. 113; Java I³²), Bibl. 13, p. 194, pl. XXIII, fig. 5; text fig. 17; Java III, Bibl. 26, p. 6³³), pl. I, fig. 3—4*b*; pl. II, fig. 1*a*—2*c*; Java VII, Bibl. 3, p. 119.

Order ARTIODACTYLA.

FAM. ANTHRACOTHERIIDAE.

- Anthracotheriide* gen. et spec. indet. — Eocene, W. Borneo, Bibl. 28*a*, p. 11, pl. I, fig. 7*a*, 7*b*.

FAM. HIPPOPOTAMIDAE.

- Hexaprotodon sivajavanicus* Dubois. — Java, Bibl. 10, p. 1265³⁴); Java II¹⁵), Bibl. 25, p. 2.
- Hippopotamus* sp.³⁵) — Java I, Bibl. 28, p. 104, pl. XVI, fig. 6—7; pl. XX, fig. 6³⁶); Java II, Bibl. 28, p. 104, pl. XIX, fig. 6; Java III, Bibl. 26, p. 3; Java III, Bibl. 1, p. 50; Java III, Bibl. 3, p. 119.

FAM. SUIDAE.

- Sus brachygnathus*³⁷) Dubois. — Java, Bibl. 10, p. 1264³⁸); Java I, Bibl. 28, p. 96, pl. XVI, fig. 8—11; pl. XVII, fig. 2—7; text fig. 1(B); Java IX, Bibl. 27, p. 306³⁹), pl. IV, fig. 4—5.
- „ *hysudricus*³⁷) Falc. et Cautl. — Java, Bibl. 19, p. 59, pl. VII, fig. 3—3*a*.
- „ *macrognathus* Dubois. — Java, Bibl. 10, p. 1264³⁸); Java I, Bibl. 28, p. 103, pl. XVI, fig. 12—13; Java II¹⁵), Bibl. 25, p. 2.
- „ cf. *macrognathus* Dubois. — Java VII, Bibl. 3, p. 119.
- „ sp. — Java IV, Bibl. 17, p. 8⁴⁰), pl. I, fig. 1—1*b*; Java VII, Bibl. 3, p. 119.
- „ cf. *choeromorus*. — Eocene, W. Borneo, Bibl. 28*a*, p. 11, pl. I, fig. 6*a*—6*b*.

FAM. CERVIDAE.⁴¹⁾

- Cervus kendengensis* Dubois. — Java, Bibl. 10, p. 1259.
 „ *lydekkeri*⁴²⁾ Martin. — Java, Bibl. 19, p. 63⁴³⁾, pl. VII, fig. 1—1a; Java, Bibl. 6, p. 94; Java, Bibl. 10, p. 1259; Java, Bibl. 9, p. 454; Java I, Bibl. 28, p. 108, pl. XVII, fig. 15—17; pl. XVIII, fig. 3—4; pl. XIX, fig. 1—2; pl. XX, fig. 3—5; text fig. 2, 5 (B); Java II¹⁵⁾, Bibl. 25, p. 2; Java III, Bibl. 26, p. 5.
 „ cf. *lydekkeri* Martin. — Java VII, Bibl. 3, p. 118.
 „ *palaeomendjangan* Dubois. — Java, Bibl. 10, p. 1260.
 „ sp.⁴⁴⁾. — Borneo (Serawak), Bibl. 2, p. 416⁴⁵⁾; Java II, Bibl. 28, p. 115; Java II¹⁵⁾, Bibl. 25, p. 2; Java III, Bibl. 26, p. 5⁴⁶⁾; Java IX, Bibl. 27, p. 307, pl. IV, fig. 1—3; Java VII, Bibl. 3, p. 119⁴⁷⁾.
Cervulus kendengensis Stremme. — Java I, Bibl. 28, p. 106, pl. XX, fig. 2.
 „ sp. — Java, Bibl. 10, p. 1260.

FAM. BOVIDAE.⁴⁸⁾

- Bibos palaeosondaicus* Dubois. — Java, Bibl. 10, p. 1262⁴⁹⁾; Java I, Bibl. 28, p. 136, pl. XVIII, fig. 7—8⁵⁰⁾; pl. XIX, fig. 9—11⁵¹⁾; pl. XX, fig. 10, 11, 15; text fig. 10; Java II¹⁵⁾, Bibl. 25, p. 2⁵²⁾.
 „ cf. *palaeosondaicus* Dubois. — Java VII, Bibl. 3, p. 119.
 „ *protocavifrons* Dubois. — Java, Bibl. 10, p. 1262⁴⁹⁾; Java II¹⁵⁾, Bibl. 25, p. 2⁵³⁾.
Bison sivalensis Falc. et Cautl. — Java, Bibl. 19, p. 61⁵⁴⁾, pl. VII, fig. 2.
Bos s. lat. sp.⁵⁵⁾. — Java V, Bibl. 14, p. 216; S. W. Celebes, Bibl. 15, p. 385⁵⁶⁾; Java, Bibl. 19, p. 63, pl. VI, fig. 4—4a; Java V, Bibl. 20, p. 114, pl. XII, fig. 4—4a; Java, Bibl. 6, p. 94.
*Buffelus*⁵⁷⁾ *palaeokerabau* Dubois. — Java, Bibl. 10, p. 1263⁵⁸⁾; Java I, Bibl. 28, p. 124, pl. XVIII, fig. 5—6; pl. XIX, fig. 8; pl. XX, fig. 7—9, 14; text fig. 6, 7 (A), 8 (A), 9 (A); Java II¹⁵⁾, Bibl. 25, p. 2⁵⁸⁾.
 „ sp. — Java VII, Bibl. 3, p. 119⁵⁹⁾; Java IV, Bibl. 17, p. 12³⁵⁾, pl. I, fig. 2—2b; Java IX, Bibl. 27, p. 306⁶⁰⁾, pl. IV, fig. 6—7.
*Duboisia*⁶¹⁾ *kroesonii* Dubois. — Java, Bibl. 10, p. 1260⁶²⁾; Java I, Bibl. 28, p. 115, pl. XVII, fig. 12—14; pl. XIX, fig. 3—5; pl. XX, fig. 1; text fig. 3 (A), 4 (A, B), 5 (A); Java II¹⁵⁾, Bibl. 25, p. 2.
Leptobos dependicornus Dubois. — Java, Bibl. 10, p. 1261⁶³⁾.
 „ *groeneveldtii* Dubois. — Java, Bibl. 10, p. 1261.

Order MESAXONIA.

FAM. TAPIRIDAE.

- Tapirus pandanicus* Dubois. — Java, Bibl. 10, p. 1265.

FAM. RHINOCEROTIDAE.

- Rhinoceros kendengindicus* Dubois. — Java, Bibl. 10, p. 1259.
 „ *sivasondaicus* Dubois. — Java, Bibl. 10, p. 1258⁶⁴⁾; Java I, Bibl. 28, p. 89⁶⁵⁾, pl. XVII, fig. 8; pl. XVIII, fig. 1—2; Java II¹⁵⁾, Bibl. 25, p. 2.

- Rhinoceros sondaicus Desm. fossilis. — Borneo (Serawak), Bibl. 2, p. 409⁶⁶),
text fig. 1—4.
„ sp. — Java III, Bibl. 26, p. 2.

Order PRIMATES.

FAM. CERCOPITHECIDAE.

- Macacus nemestrinus L., mut. saradana Deninger. — Java II, Bibl. 4,
p. 1⁶⁷); text figs. on p. 2.
„ sp. — Java, Bibl. 9, p. 455⁶⁸); Java I, Bibl. 28, p. 140, pl. XVII,
fig. 9—11.
Semnopithecus sp. — Java, Bibl. 9, p. 455⁶⁸).

FAM. HOMINIDAE.

- Pithecanthropus erectus⁷⁰) Dubois. — Java I, Bibl. 6, p. 95⁶⁹); Java I,
Bibl. 8, p. 1; pl. I, fig. 1—1a; pl. II, fig. 1—6a; text
fig. 1 (P), 3 (P); Java II, Bibl. 11a⁷²), p. 145 and Bibl.
11b⁷²), pl. VIII, fig. 13—15, pl. IX, fig. 16—20, text fig.
on p. 462; Java I, Bibl. 11a, p. 147 and Bibl. 11b, pl. X,
fig. 21—26.
Homo wadjakensis Dubois. — Java VIII, Bibl. 11, p. 88, 866; pl. I, fig.
1—3; pl. II, fig. 4—7.
„ sp. — Java I, Bibl. 29, p. 214⁷¹), pl. XXVIII, fig. 1—10; Java I,
Bibl. 5, p. 222⁷¹), pl. XXIX, fig. 1—8.

ANNOTATIONS TO THE LIST OF SPECIES.

1. In Bibl. 9, p. 454 DUBOIS mentions the occurrence of „porcupines” in the old fauna of Java.
2. Specifically undeterminable remains of Felidae are mentioned by:
DUBOIS, Java, Bibl. 6, p. 94 and
STEHLIN, Java III, Bibl. 26, p. 2.
Furthermore, in Bibl. 9, p. 454 DUBOIS states the discovery in the Kendeng hills of three different species of Felidae, one of which is named *Felis Groeneveldtii*. In Bibl. 10, p. 1267 DUBOIS changed this name into *Felis trinilensis*.
3. Nov. gen. STREMMER 1911.
4. See annot. 2, second paragraph.
5. Firstly (Bibl. 6, p. 94) determined by DUBOIS as *Hyaena felina*; later on (Bibl. 9, p. 454) mentioned as *Hyaena sp.*
6. Nov. gen. STREMMER 1911.
7. In Bibl. 9, p. 454 mentioned without specific name by DUBOIS as a species, only distinguished by its dimensions from the recent *Lutra leptonyx*.

8. Under the heading "Delphinidae confr." (Bibl. 17, p. 13) MARTIN describes two teeth from Java IV. The specimen drawn in pl. I, fig. 3 „... lässt kaum eine andere Deutung zu, als dass es einem Thiere aus der Familie der Delphiniden angehört habe..." (p. 14). The specimen drawn in pl. I, fig. 4—4a „... darf nur unter grosser Reserve als der Zahn eines delphinartigen Thieres... angesehen werden." (p. 16).
9. The specimens in question are the hinder portion of a molar, and the distal end of an incisor. In DUBOIS' opinion the resemblance between the former specimen and the posterior part of some molars of *Stegodon* is so close that the correctness of the determination must be doubted. The character, furthermore, on which MARTIN identified the second specimen as belonging to *Mastodon* should — according to DUBOIS — also be present in the incisors of other elephants (Bibl. 6, p. 95).
10. STEHLIN (Bibl. 26, p. 8) shortly mentioned a number of bones which belonged either to *Stegodon* or to *Elephas*.
11. JUNGHUHN (Bibl. 14, p. 216) identified remains of *Stegodon* from Java V as *Mastodon elephantoides* CLIFT. FALCONER and CAUTLEY showed, however, that by CLIFT under that name two distinct forms had been united (*Stegodon insignis* FALC. et CAUTL. and *Stegodon clifti* FALC. et CAUTL.). See also annot. 20.
12. a. See annot. 17 and 18.
b. According to DUBOIS (Bibl. 10, p. 1256) the *Stegodon* from Trinil should be a variety (var. *javanicus*) of the Siwalik species *St. ganesa*. In JANENSCH' opinion (Bibl. 13, p. 191) this identification is not correct and subsequent investigators have considered *Stegodon airâwana* as a distinct species.
13. In the explanation of pl. XXV a lapsus calami occurs viz., in fig. 2 is not figured an upper, but a lower M 3, and in fig. 3 not a lower, but an upper M 3. These errors will also be found on p. 175 and p. 182 (Bibl. 21).
14. Originally determined as *Stegodon trigonocephalus* (?). After the discovery of *Stegodon airâwana*, MARTIN thought it more probable that the specimen under consideration belonged to the latter species (Bibl. 21, p. 10). In the opinion of JANENSCH (Bibl. 13, p. 189) MARTIN's conception is wholly justified.
15. SOERGEL described molars of *Stegodon* obtained by ELBERT from „Kedung bumbu, Kebon madoch, Pandean, Kedung Klumpit, Ngrawoh nördl. Ngawi, Kedung brubus" (Bibl. 25, p. 1). With the exception of Ngrawoh, apparently it was thought superfluous to mention in which part of the island these localities are situated. Fortunately, the name „Kedung Brubus" occurs in the sketch map of the surroundings of Trinil, given by DUBOIS (Bibl. 10, pl. XXXIX, fig. a). On the topographical map 1:25000 and 1:50000 we could find Kedoengmadoh (apparently synonymous with Kebon madoch). This hamlet is situated 2.8 km to the S.W. of Kedoengbroeboes.

It appeared, furthermore, that in Java at least three places occur with the name Pandean, viz., in the residences Madioen, Semarang and Soerabaja. Therefore, we do not know which Pandean Elbert meant.

Notwithstanding long-lasting seeking, I did not succeed in finding „Kedung bumbu” and „Kedung Klumpit”. SOERGEL, however, quotes two publications of ELBERT, one of which¹⁾ contains on p. 518 the mention „..... Kedung-lumbu bei Kedung-brubus.....”. Apparently „Kedung-lumbu” and „Kedung-bumbu” are synonymous.

16. The explanation of fig. 1 runs: „Fragment einer linken Mandibel hälft mit M 1 und Spuren von M 3.” This of course is a slip of the pen. Meant is ... Spuren von M 2, as already appears from the text.
17. JANENSCH as well as SOERGEL (Bibl. 25, p. 22) have raised objections against these determinations of MARTIN: „Zu erwägen scheint mir übrigens, ob die von MARTIN als *St. bombifrons* bezeichneten Zähne nicht doch vielleicht zu *St. trigonocephalus* oder *St. Airawana* zu rechnen sind”. (Bibl. 13, p. 190). „Nach meiner Meinung sind auf Java nur zwei Stegodontenarten sicher nachgewiesen, *St. Airawana* MART. und *St. trigonocephalus* MART.” (Bibl. 25, p. 22). See furthermore annot. 18.
18. JANENSCH (Bibl. 13, p. 189) states as his opinion that the specimen in question with certainty must be reckoned to *St. airawana*. SOERGEL (Bibl. 25, p. 22) also doubts the correctness of MARTIN’s determination. In connection with the above said and with the contents of annot. 17 I think it desirable to draw attention to the following.
For the greater part all objections are based upon the fact that MARTIN’s specimens of *St. bombifrons* and *St. clifti* are fragments of molars, either much worn down or with the ridges covered by cement, whereas at the time of Martin’s determination these two Siwalik species were unknown from the Dutch East Indies.
In the collection of the present writer, however, two finely preserved lower jaws of *Stegodon* occur, certainly belonging to different species. The M. 3. of both specimens shows so many primitive characters, that hitherto they could not be distinguished from resp. *St. clifti* and *St. bombifrons*, so that the discovery of these specimens throws an entirely different light on MARTIN’s determinations.
19. As already mentioned in annot. 12 (b) DUBOIS (Bibl. 10, p. 1256) unites under this name all *Stegodons* from Trinil. But in his opinion not only *St. airawana* should not exist, but also *St. trigonocephalus* MARTIN should be identic with his variety. Subsequent investigators, however, again described specimens as *St. trigonocephalus*, from which appears that they are of a different opinion.

¹⁾ ELBERT, J. DUBOIS’ Alterbestimmung der Këndengeschichten. Centralbl. f. Min. etc. 1909, p. 513.

20. This specimen was originally described by MARTIN as *Stegodon* sp. (*confr. insignis* et *ganesa*). Subsequently (Bibl. 19, p. 48), however, MARTIN redetermined it as *St. trigonocephalus*. In NAUMANN's opinion (Bibl. 22, p. 8) this specimen does not belong to *St. trigonocephalus*, but to a new species. MARTIN (Bibl. 20, p. 101) confuted this. According to MARTIN (Bibl. 18, p. 16) it is very well possible that the above specimen, together with another fragment of a molar of *Stegodon* sp., (Bibl. 18, pl. I, fig. 2 and 2a) represent the same specimens in which JUNGHUHN (Bibl. 14, p. 216) thought to recognize *Mastodon elephantoides* CLIFT. See further annot. 11.
21. Fig. 2 (explanation of plate) = fig. 1a of the plate.
22. The specimen of fig. 2a and 2b is a M 3 of a dwarf race.
23. MARTIN (Bibl. 19, p. 49) thinks it not impossible that this specimen should belong to *St. trigonocephalus*.
24. Locality unknown.
25. Two of these specimens are considered as perhaps belonging to *St. airâwana*.
26. STEHLIN (Bibl. 26, p. 6) „Ob dieses Fundstück eine besondere Species repräsentiert oder von einem besonders schwachen *St. airawana* herührt, lasse ich dahingestellt sein.”
27. JUNGHUHN (Bibl. 14, p. 216) mentioned the existence of *Elephas primigenius* BLUMENB. from Java V. MARTIN (Bibl. 18, p. 16) pointed out that the correctness of this determination must strongly be doubted because. „..... JUNGHUHN bei dem Mangel literarischer Hilfsmittel... vielfache Fehler in der Bestimmung von Fossilien gemacht hat...”. From the fact, furthermore, that subsequent investigators never recognized *E. primigenius* among the elephant's molars of their collections we may be sure that this species is unknown from the Dutch East Indies.
28. In 1892 DUBOIS (Bibl. 6, p. 94) stated as his opinion that the fragmentary molars from Java, described by MARTIN under the names *E. hysudricus* and *E. namadicus* probably belonged to *E. indicus*, which species he supposed to be present in his own collection. In 1908 (Bibl. 10, p. 1257) he revised his opinion in so far as to found on his „indicus” specimens a new species viz., *E. hysudrindicus*.
29. NAUMANN (Bibl. 22, p. 9) regards MARTIN's determination as questionable, but does not mention on what grounds.
30. The two specimens of Bibl. 20 on the one side, and that of Bibl. 19 on the other side seem to represent two varieties. (MARTIN)
31. Described as *Elephas sumatranus* TEMM. The Sumatra-form of *E. maximus* is namely regarded by some investigators as a distinct species.
32. Locality not known with certainty (Gendinjan?).

33. STEHLIN distinguished three different species of *Elephas* among his material: *Elephas* sp. I, II and III. The fragmentary molar, figured by MARTIN (Bibl. 19) on pl. VI, fig. 2—2a under the name of *E. hysudricus* belongs in STEHLIN's opinion to his *Elephas* sp. I. „Die Entscheidung der Frage, ob dieser javanische Elefant mit der Siwalikform spezifisch übereinstimmt, ist cura posterior...” (Bibl. 26, p. 7).
34. This new form was already mentioned by DUBOIS in Bibl. 6, p. 95 and in Bibl. 9, p. 454, but without its specific name.
35. MARTIN (Bibl. 17, p. 12, pl. I, fig. 2, 2a and 2b) described and figured a fragment of a molar from Java IV under the name of *Hippopotamus* sp. According to DUBOIS (Bibl. 10, p. 1265) this specimen is in reality „..... die vordere Zahnhälfte des rechten letzten Unterkiefermolares eines Bubalus.” As far as can be judged from the figures I am inclined to believe that DUBOIS is right.
36. Possibly an I of *Hippopotamus*.
37. DUBOIS (Bibl. 10, p. 1264) reckons also to *Sus brachygnathus* the lower jaw described by MARTIN (Bibl. 19, p. 59) under the name of *Sus hysudricus* FALC. et CAUTL. . STREMMER (Bibl. 28) seems to adopt this view.
38. Originally (Bibl. 6, p. 94) DUBOIS determined the various species of *Sus* as: *Sus celebensis* MÜLL. var., *Sus verrucosus* MÜLL. ? and *Sus vittatus* MÜLL. ? Later on (Bibl. 9, p. 454) he stated that two species are represented: *Sus brachygnathus* and *Sus macrognathus*, the former allied to *Sus celebensis*, the latter to *Sus verrucosus*. In Bibl. 10, p. 1265 DUBOIS mentions, furthermore, that *Sus vittatus* is not represented in the Kendeng fauna.
39. Either identical or closely allied to the species in question.
40. Later on (Bibl. 19, p. 60) MARTIN could state that this specimen, though still specifically undeterminable, did not belong to the javanese species which he had identified with *Sus hysudricus*.
41. Of this family MARTIN (Bibl. 20, p. 114) mentioned fragments of molars and of antlers from Java V. These specimens proved the existence of a second javanese species because they appeared not to belong to *Cervus lydekkeri* MARTIN.
42. Originally (Bibl. 6, p. 94) DUBOIS determined one of the species of *Cervus* of his collection as *Axis axis* ERXL, to which species he reckoned also *Cervus lydekkeri* MARTIN. Later on (Bibl. 9, p. 454) he apparently redetermined his form as *Cervus liriocerus* DUBOIS. In Bibl. 10, p. 1259 we read that the specimen on which MARTIN founded *Cervus lydekkeri* is in DUBOIS' opinion an immature antler of *Cervus liriocerus*. STREMMER (Bibl. 28) adopted this view, but rightly maintained the name *Cervus lydekkeri* MARTIN, in stead of *Cervus liriocerus* DUBOIS.
43. The species is founded on the half of an antler, supposed by MARTIN to be the right half, by STREMMER (Bibl. 28, p. 114) to be in all probability the left one.

44. Under this heading are united both *Cervus (Rusa) sp.* and *Cervus (Axis) sp.*
45. The specimens are fragments of teeth, which appeared to BUSK as belonging to a distinct species. They were found together with two rhinoceros molars which could not be distinguished from the corresponding ones of *Rh. sondaicus*. The exact locality in which these specimens have been found is not known. They may be from pleistocene or prehistoric deposits (see LYDEKKER, R. Catalogue Foss. Mamm. Br. Mus. Part. III, 1886, p. 129).
46. One of the specimens is perhaps identic with either *Cervus kendengensis* DUBOIS or with *Cervus palaeomendjangan* DUBOIS.
47. Fragments of horns. Determination of the genus partly not certain.
48. STEHLIN (Bibl. 26, p. 3—4) mentioned a number of remains of this family obtained from Java III. The determination of the genus, however, was either totally impossible or could not be done with a sufficient degree of certainty. Furthermore, JANENSCH (Bibl. 28, pl. XIX, fig. 7) figured an „Astragalus eines Boviden (*Bibos?*)” and on pl. XX, fig. 12—13 „Epistropheus-wirbel von zwei verschiedenen Boviden”.
49. Originally (Bibl. 6, p. 94) determined by DUBOIS as identic with *Bibos banteng* RAFFL. (*sondaicus* SCHLEG. u. MÜLL.). In Bibl. 9, p. 454 DUBOIS states that the fossil species of *Bibos* is closely allied to both *Bibos banteng* RAFFL. and *Bibos gaurus* H. SM. Still later on (Bibl. 10, p. 1262) he distinguished between a form allied to the former: *Bibos palaeosondaicus*, and a form allied to the latter: *Bibos protocavifrons*.
50. The tooth of fig. 8 probably belongs to the species in question.
51. The teeth of fig. 11 presumably of *B. palaeosondaicus*.
52. Determination of the species from some localities based on limb bones and in those cases not wholly certain.
53. Determination of the species of one locality is based on detached teeth and therefore not wholly certain.
54. The belonging of this specimen to the species in question could not be proved with absolute certainty (Bibl. 19, p. 63).
55. Under this heading are united all those specimens which were reckoned to the genus *Bos* in its wider sense or from which we may infer that the describer of the specimen, though not stating so, meant them to belong to *Bos*. s. lat.
56. JUNGHUHN (Bibl. 15, p. 385) stated that he should not venture to say that the specimens (teeth) are really fossils and that they do not belong to a living species of *Bos*.
57. DUBOIS named the species *Bubalus palaeokerabau*, but — as STREMMER already pointed out — according to the law of priority (see TROUËSSART, Cat. Mamm. Suppl. 1904, p. 743) the name of the genus must be changed in *Buffelus*.

58. Originally DUBOIS (Bibl. 6, p. 94) considered the present form identic with *B. palaeindicus* FALC. et CAUTL. and the latter identic with the recent *B. bubalus* L. (*B. buffelus* BLUM). In 1907 (Bibl. 9, p. 454) he had apparently changed his opinion, though not until 1908 he gave the fossil Javanese form its present name.
59. Determination of the genus not certain.
60. Either identic with *Bibos sondaicus* or closely allied to this species.
61. nov. gen. STREMMER 1921.
62. Originally (Bibl. 6, p. 94) DUBOIS considered this form as closely allied to the recent Anoa of Celebes; accordingly it was mentioned as *Anoa spec. nov.* It was also mentioned by DUBOIS in Bibl. 9, p. 454, but already under the name of *Tetracerus kroesenii*. STREMMER (Bibl. 28) showed that it does not belong to the genus *Tetracerus*, but to a new genus for which he proposed the name *Duboisia*.
63. Possibly ♀ of *Leptobos groeneveldii*.
64. In Bibl. 6 (p. 94) DUBOIS mentions the presence of *Rh. javanicus* CUV. (*sondaicus* DESM.) in his collection. He apparently redetermined this form as *Rh. sivasondaicus* (Bibl. 9, p. 454 and Bibl. 10, p. 1258).
65. Concerning STREMMER's determination of *Rh. sivasondaicus* we state the strange fact that STREMMER came to the conclusion of the identity of the form of his collection with *Rh. sivasondaicus* DUBOIS without using the only character which DUBOIS mentioned! Furthermore STREMMER compared his form a. o. with „*Rh. namadicus* FALC.” and „*Rh. iravadicus* LYD.”. Unfortunately for him, however, teeth of the former species are unknown¹⁾, whereas LYDEKKER showed in 1881 that *Rh. iravadicus* had no right on specific distinctness and that all specimens in reality belong to *Acer. perimense*.
66. See annot. 45.
67. Described by DENINGER under the generic name of *Inuus*. According to TROUËSSART (Cat. Mamm. Suppl. 1904, p. 17) the generic name is *Nemestrinus* and according to WEBER (Die Säugetiere, Bd. II, 1928, p. 803) *Macacus*.
68. According to STREMMER (Bibl. 28, p. 142) DUBOIS should have mentioned: *Macacus* or *Semnopithecus*. This is, however, an error, DUBOIS mentioning: *Macacus* and *Semnopithecus*.
69. Here is only mentioned that a lower jaw of *Homo sp.* has been found. After the discovery of the remains of *Pithecanthropus erectus*, DUBOIS (Bibl. 8, p. 11 note) stated as his opinion that the specimen above mentioned should also belong to the present species.

¹⁾ *Rh. namadicus* was founded by FALCONER and CAUTLEY on — as LYDEKKER believes — limb bones from the Narbada Valley. LYDEKKER described in 1876 two *M* from that locality under the same specific name, but a subsequent re-examination (1880) convinced him of the specific identity of these specimens with the corresponding molars of the recent *Rh. unicornis* L.

70. This form was originally (Bibl. 7) named by DUBOIS: *Anthropopithecus erectus*.
71. See also DUBOIS, E., Tijdschr. Kon. Aardr. Gen., Ser. 2, XXV, 1908 and SELENKA, M. L., Tijdschr. Kon. Aardr. Gen., Ser. 2, XXVI, 1909.
72. Of Bibl. 11a and 11b only those specimens are mentioned which had been neither described nor figured in DUBOIS' first publication on Pithecanthropus.

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