

CATALOGUE OF THE MUSÉE HEUDE COLLECTION OF MAMMAL SKULLS*

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Abstract The enormous collection of mammal remains from eastern Asia, amassed over more than 30 years from about 1870, by P.-M. Heude, and formerly kept in his private museum (Musée Heude) in Shanghai, remained little known scientifically after his death in 1903, and was entirely lost to view after about 1940. In this publication, we report the “rediscovery” of the collection; the major part of the collection is now in the Institute of Zoology, Chinese Academy of Sciences, Beijing, although some important specimens are in the Shanghai Natural History Museum.

The collection contains over 2 000 specimens, including numerous type specimens. Heude lived during an era when taxonomic ideas were changing; because much more abundant material was becoming available, mammalian taxonomists were beginning to appreciate the scope of normal variation in natural populations. Heude failed to realise the importance of normal variation, and he divided his large series, even from restricted localities, into many different species. This is why the collection contains so much type material; today, most of Heude’s supposed “species” appear to be synonyms of previously described taxa. A few of Heude’s species, however, are valid; notable among these are *Bubalus mindorensis*, *Hyelaphus cala mianensis*, *Sus cebifrons* and *Sus bucculentus*, and type material of each of these is still extant in the collection.

Most of Heude’s labels have been lost, but some information was written on the skulls, and the collection was catalogued using this residual information together with the descriptions and lithographs in Heude’s publications. The lithographs, in particular, are of very high quality, and we could identify much of the material by comparing the specimens in hand with the lithographs.

The largest collections are from China, Japan and the Philippines, but there is also material from Korea, Siberia, Mongolia, Vietnam, Laos, Cambodia and Indonesia. The groups most abundantly represented are the families Cervidae, Bovidae and Suidae (both, Order Artiodactyla), but most orders of Mammalia are represented. Today, apart from the type specimens and general archival value, the main importance of the collection lies in the presence of very large samples of all ages and both sexes from restricted localities, many of them in regions where the species in question are now extinct or very rare.

Key words Musée Heude, mammal, skulls collection.

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Introduction (Heude collection)

Father Pierre Marie Heude (1836-1902) was a Jesuit missionary who lived most of his life (from 1867) in China. He was passionately interested in natural history and devoted most of his energies to amassing an enormous collection of eastern Asian fauna for which he founded a museum at Zi-ka-wei (now spelt Xujiahui), on the outskirts of Shanghai. Some of this he collected himself, on expeditions to the Philippines, Indonesia, Japan and the Indochinese territories, but most was sent to him by his contacts in these and other countries. He also kept live deer and made breeding experiments with them. He was supposed to be spreading the Catholic faith in these regions, and it seems that the depth of his enthusiasm for his collecting activities was not entirely to the taste of his colleagues and superiors, and that he himself felt occasional spasms of guilt about it. His biographer (Courtois, 1906:2) records how on one occasion, during prayers, he spied through the window a sounder of wild piglets foraging and grabbed his gun, but, as if in punishment, he got for his trouble "nothing but a bath of dew".

Heude founded the Zikawei Museum of Natural History (Xujiahui Bowuyuan) in 1868, the year after his arrival in China; it was next to the Catholic Church in Xujiahui. Here, all his accumulated material was stored. After Heude's death, the collection was studied by his successor, Father Courtois, and later by Arthur de Carle Sowerby, who published several papers on mammal material from 1917 until the 1940s. In 1933 it was taken over by Zhendan or Aurora University (now Fudan University), who constructed a new building for it and put part of it on display in an exhibition hall at 225 Chongqing Road (South). The new museum was called Zhendan Bowuyan, though the European community knew it as the Musée Heude. In 1952, the Shanghai Natural History Museum took charge of the Zhendan Museum, and in 1958 the collection in the Chongqing Road exhibition hall was taken to the museum at 260 Yanan Road (East). Meanwhile the main collection, in the Xujiahui storehouse, was sent to the Institute of Zoology, Beijing. We are indebted to Mr. TANG Qing-Wei, Dr. Geremie Barmé, and Dr. SANG Ye, for this history.

The collection in Beijing remained in storage at the Institute of Zoology until a new building, in the 1990s, at last afforded space for it to be laid out on shelves, and Professor WANG Sung invited one of us (C.P.G.) to study it when next in Beijing. This was possible in 1996, and C.P.G. spent two days, in company with Y.Q. and Professor FENG Zuo-Jian, examining and measuring some of the *Sus* material. The material was in great disorder, having only recently been unpacked, and it was clear that more time and personnel would have to be devoted to the task of making anything like a full listing.

From mid-April to mid-May, 2000, we catalogued and labelled all of the mammal skulls of the Heude collection in both locations (Beijing and Shanghai). The task was formidable and challenging, both because of the sheer size of the collection and because of its condition. Only a few specimens had labels, and even then some of the labels were torn in half or illegible. Many of the specimens had the locality and/or the donor's name written on the frontal or parietal region or on the ascending ramus of the mandible, fortunately in some indelible material such as Indian ink or paint, but it was often necessary to wash off thick dust and dirt before the writing became visible. Much of the writing was nearly illegible, but could be worked out by comparison with other, more clearly inscribed, specimens. Many of the *Sus* skulls had IS, AS, VS etc. painted on them, which the reader of Heude's papers would recognise as the names of the genera (*Indosus*, *Annamisus*, *Verrusus* and so on) into which he divided what are nowadays regarded as a single genus, *Sus*; the deer skulls were likewise sometimes painted with generic acronyms. Many of the

Beijing specimens had been inscribed by a later hand with numbers beginning with "H"; this may have been done when they arrived in Beijing, or when they were finally placed on the shelves. Eventually, the vast majority of the skulls could be referred to at least the general area of their geographic provenances, and in most cases to restricted localities; and we wrote new labels for them all. This huge collection, from all over eastern Asia, is now usable for taxonomic and other study.

We should add that other material, apart from mammal skulls, formed part of the Heude collection. There are some hundred or more skins (estimates of AB and XL), which were described as poorly preserved even in Sowerby's time but need to be examined and perhaps catalogued in the future; and there is a residue of unsorted, and probably unassignable, deer, goral and serow mandibles. There are likewise collections of small mammals, birds, reptiles and molluscs, but these are not our concern.

Assessment of Heude as taxonomist

Heude was perhaps history's most extreme "splitter" of species. For Ellerman *et al.* (1953), his taxonomic work could serve as a dreadful warning to later generations: of the South African zoologist Austin Roberts they wrote, rather unfairly, that "his systematics to the last were little advanced from those of Père Heude who, in the 1880s, had five specimens of Sika Deer from the Island of Formosa, and described five species" (Ellerman *et al.*, 1953:1-2). This would be a rather modest example. From Poyang (Lake), on the lower Yangtse, he described 12 species of sika; from Ha Long Bay, Vietnam, he described 6 species of serow, and from Moupin (Baoping), in Sichuan, 12; from Chenkouting, in Sichuan, he named 8 species of goral. From such restricted regions as the Bataan peninsula, on Luzon in the Philippines, the numbers of species of pigs and deer that he described was simply astonishing.

Before we join in the near-universal condemnation of this prolixity, it should be remembered that Heude stood at the threshold of a new era in mammalian taxonomy, when for the very first time large samples were becoming available. Used to samples of one or two specimens per region, from which one or two species would be described, the sudden embarrassment of riches proved overwhelming for many taxonomists. Heude was not the only one to suffer bemusement. Undoubtedly the all-time splitting record for a single publication is held by C. Hart Merriam, who as late as 1918 divided the brown bears of western North America into nearly a hundred species (Merriam, 1918). Yet Merriam is regarded, with much justification, as one of the founders of modern mammalogy. Given this context, Heude's taxonomic judgements become more understandable.

About the type specimens in the collection

It also means that a fair proportion of the specimens in the Heude collection are types. Where he indicated that he had only a single specimen of a given species, that specimen is of course a holotype; where there were several specimens, we have selected one (and usually only one was illustrated) as lectotype, and the rest as paralectotypes. We placed a red dot on holotype and lectotype skulls, and wrote the appropriate name thereon. The fact that most of the names are synonyms only somewhat reduces their significance; but some species still deemed valid, such as *Bubalus mindorensis* and *Sus cebifrons*, were described by Heude, and we identified and duly labelled the types.

Heude's publications in the journal which he founded, *Mémoires Concernant l'Histoire*

Naturelle de l'Empire Chinois, were accompanied by excellent lithographs executed by his Chinese associates. From these, it was almost invariably easy to recognise a given specimen, and assisted us in, for example, deciding on suitable lectotypes. Perhaps unexpectedly, Heude also amassed a great deal of material which he never got around to describing, though often names for apparent future use were written on them, and what is presumably comparative material, of marsupials for example.

Format of the catalogue

In what follows, we list the specimens in taxonomic order; where a taxon is represented in both Beijing and Shanghai collections, we list these separately for ease of reference. We list them with accepted modern species names; we have not gone down to subspecies level, because this is sometimes a matter of dispute, and even recent revisions, such as Groves's (1997) survey of Philippine pigs tend to be incomplete. Opposite each species heading, we list the number of skulls: adult males, adult females, subadults, plus specimens of unknown sex. Thus, 3.4.7 + 5 would mean three adult males, four adult females, seven subadults, plus five whose sex is unknown. Indented under each species, we have placed the name under which Heude placed each set of specimens, followed by the author of the name and, if the author is Heude, the date of description. In each case, Types are listed first, and other material is listed more briefly afterwards. Localities are given more or less as written on the skulls by Heude, and listed in the glossary at the end with their modern equivalents, if different, and coordinates if we could trace them. Names which are written on the labels or the specimens themselves, presumably by Heude, but were never published, are not placed in italics, to indicate that they are not available in nomenclature.

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Specimens in the Museum of Institute of Zoology, Chinese Academic of Sciences

DIPROTODONTIA*

Genus *Phalanger*

Phalanger orientalis (Grey cuscus)

(2.2.13 + 2)

- H. 1794 adult, NSW, Australia
- H. 1791 sub adult, female
- H. 1793 juvenile male
- H. 1388, 1391 adult males
- H. 1394, 1395 adult females
- H. 1389 adult
- H. 1397, 1398, 1404, 1405, 1408 juvenile males
- H. 1399, 1401, 1402 juvenile females
- H. 1400, 1403 juveniles
- H. 1406 juvenile, Bourou, "blanche" (i.e. white in colour)

Genus *Ailurops*

Ailurops ursinus (Sulawesi bear cuscus)

(1.0.0 + 3)

- H. 1392 (20), 1390 (21), 1792 (23) male, 1393 (24)

Genus *Strigoscus*

* Means the specimens have never been described nor mentioned by Heude in his publications, same fellow.

Strigocuscus celebensis (Sulawesi striped cuscus) (0.0.0+1)
 · H. 1396 adult, Macassar, 1899, don. Fother

Strigocuscus ornatus (0.0.0+1)
 · H. 1407 adult, "Java", 1900

Genus *Macropus*

Macropus robustus (Wallaroo) (0.0.0+1)
 · H. 1413 NSW, Australia

Genus *Petrogale*

Petrogale sp. (Rock Wallaby) (0.0.0+3)
 · H. 1409-1411, Australia

Genus *Phascolarctos*

Phascolarctos cinereus (0.0.0+1)
 · H. 1414 NSW, Australia

DIDELPHIMORPHA*

Genus *Didelphis*

Didelphis virginiana (Virginian opossum) (0.0.0+1)
 · H. 1412 N, America

INSECTIVORA

Family Erinaceidae

Genus *Echinosorex* (0.0.0+1)
Echinosorex sp.
 · H1826 adult female

Genus *Erinaceus* (0.0.0+3)

Erinaceus europaeus
 · H1835 adult · H1838
 · H1836 adult

Erinaceidae indet. (0.0.0+1)
 · H1855 adult

Family Talpidae

Genus *Scaptochirus* (0.0.0+4)
Scaptochirus moschatus
 · H1839, H1847, H1848, H1850 adult

Family Soricidae

(0.0.0+16)
 · H1840~H1846, H1849(8 small skulls) · H1833(159) adult, Java
 · H1827~1832(6 large skulls) · ? from Hien-hien, 1896

Identified specimens (Insectivora) (0.0.0+2)
 · H1838 · 158, adult

CHIROPTERA*

Family Pteropodidae

Genus *Pteropus*

Pteropus hypomelanus (2.7.1+2)

· 3A, Cotabato, 1893, labeled "*Pteropus macassaricus*"
 · 5A(H1652), adult female, Macassar, 1891, labeled "*Pteropus macassaricus*".

- 5B(H1622), adult male, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5C, Macassar, 1895, labeled "*Pteropus macassaricus*", without skull
- 5D(H1588), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5E(H1577), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5E(H1561), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5F(H1554), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5G(H1559), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 5H(H1560), adult female, Macassar, 1895, labeled "*Pteropus macassaricus*"
- 10B(H1619), adult male, Zamboanga, 1893, labeled "*S. hypomelanus*"
- 10C(H1632), juv female, Zamboanga, 1893, labeled "*S. hypomelanus*"

Pteropus vampyrus

(0.0.0+2)

- 10F, Lubock, 1894, labeled "*S. edulis*"
- 10I(H1606), adult, *Pteropus edulis*, Mon Bautaus the ?, Java

Pteropus sp.

(0.5.1+5)

- 6A(H1628), adult female, C. n. Macassar, 1895, labeled "*S. nigridens*"
- 6B(H1616), adult female, Macassar, 1895, labeled "*S. nigridens*"
- 6C(H1621), adult, Macassar, 1895, labeled "*S. nigridens*"
- 6D(H1593), adult female, Macassar, 1895, labeled "*S. nigridens*"
- 6E(H1607), adult, Macassar, 1895, labeled "*S. nigridens*"
- 6F(H1505), adult female, Macassar, 1895, labeled "*S. nigridens*"
- 6G(H1625), juv. male, Macassar, 1895, labeled "*S. nigridens*"
- 6H(H1623), adult female, Macassar, 1895, labeled "*S. nigridens*"
- 6K(H1626), adult, Macassar, 1895, labeled "*S. nigridens*"
- 13A, Flores, labeled "*R. stramineus*" (*Pteropus* sp.), 1896
- 13B(H1600), adult, Flores, 1896, labeled "*Pteropus stramineus*"

Genus *Dobsonia**Dobsonia viridis*

(2.5.0+0)

- 2A(H1573), adult female, Petit Key, April 1895
- 2B(H1572), adult female, Petit Key, April 1895
- 2C(H1574), adult female, Petit Key, April 1895
- 2D(H1570), adult male, Petit Key, April 1895
- 2E(H1576), adult female, Petit Key, April 1895
- 2F(H1571), adult male, Petit Key, April 1895
- 2G(H1574), adult female, Petit Key, April 1895

Genus *Cynopterus**Cynopterus* sp.

(0.0.0+6)

- 7B, C, E, F, G, H, Flores, Larautuka, 1896, without skull

Genus *Nyctimene**Nyctimene* sp.

(0.0.1+0)

- 3A(H1610), juv. female, Flores, 1895, labeled "*Cephalotes floresianus*"

Genus *Acerodon**Acerodon jubatus*

(2.1.1+4)

- 14B(H1702), adult female, Davao, 1893
- 14C(H1699), adult male, Davao, 1893
- 14G(H1700), adult male, Davao, 1893
- 14I, Cottabato, 1893
- 14J(H1703), juv. female, Cota Bato
- 14K, Davao, 1893, without skull
- 14L, Davao, 1893, without skull
- 14N, Cottabato, 1893, without skull

Genus indet.

(14.8.5+13)

- 1A(H1604), adult male, Flores, without skin
- 1D(H1566), adult male, z. b., 1893, without skin
- 4A(H1590), adult male, without skin
- 4B(H1589), adult male, without skin
- 4C(H1603), adult male, Kè., without skin
- 4D(H1589), adult female, Seanperdus?, without skin
- 5? (H1565), baby, without skin
- 5? (H1564), baby, without skin
- 6J(H1708), juv., without skin

- 6L(H1594), adult, without skin
- 8A(H1592), adult male, Cota Bato, without skin
- 9A(H1609), adult male, Flores, without skin
- 10A(H1620), adult female, Zo-ga, 1893, without skin
- 10D(H1615), adult, Tourane, 1899, without skin
- 10E(H1634), adult, Tourane, 1899, without skin
- 10E(H1627), adult male, Bowsane, 1895, without skin
- 10G(H1618), adult male, Basaria (Baria?)
- 10H(H1617), adult, Samarang (Sara gato)
- 10J(H1617) juv. Java, without skin
- 11A(H1569), adult female, Zamboanga, 1893, without skin
- 11B(?), adult female, jaw only, without skin
- 11C(H1597), adult, Saigon, without skin
- 11C'(H1567), adult male, without skin
- 12A(H1588), adult male, Saigon, S. without skin
- 12B(H1602), adult female, Saigon, S, without skin
- 12C(H1596), adult female, Saigon, S, without skin
- 12D(H1608), adult male, Saigon, 1890, S, without skin
- 12E(H1599), adult male, Saigon, S. sp, without skin
- 12F(H1611), adult, Saigon, S, without skin
- 13B'(H1613), adult, Saigon, 1896, labeled "*Cephalotes marginatus*"
- 13C(H1614), adult, labeled "*C. marginatus*", Saigon, 1896
- 13C'(H1612), adult, labeled "*Cephalotes marginatus*"
- 14A(H1704), adult female, without skin
- 14D(H1707), adult female, without skin
- 14E(H1705), juv. female, without skin
- 14E(H1706), juv. female, without skin
- 14F(H1709), adult, without skin
- 14H(H1591), adult male, without skin
- H1633, adult, Cambodge, without skin
- H1563, amb? ne (juv.), without skin

No information

Skull: H1601, H1595, H1631, H1642, H1645, H1701, H1566 (juv.), H1563 (juv.), H1555 (juv.), H1640, H1637 (juv.), H1635, H1630, H1641, H1636 (juv.), H1638 (juv.), H1656, H1644 (juv.), H1629 (juv.), H1624, H1639 (juv.), H1643

Skin: 0457, 0488, 0453, 0460, 0435, 0498, 0387, 0372, 0496, 0441, 0438, 0499, 0429, 0397, 0390, 0400, 0427, 0407, 0386, 0417, 0495, 0439, 0381, 0424, 0428, 0401, 0373, 0382, 0504, 0493, 0440, 0494, 0375, 0414, 0412, 0403, 0423, 0419, 0406, 0420, 0386, 0409, 0425, 0431, 0380 (skins not necessarily Heude)

Family Hipposideridae

(0.0.0 + 14)

- ? adult, Ning. Kouo, Su-Tsun (Caverne)
- ? Ngan King
- ? Ke-So, 1899
- ? 4 skulls from Ke'So (Tonguin), 1898
- ? Flores. Maumeris
- ? 4 skulls form Davao. Clothier
- ? 2 from Z. K. W

SCANDENTIAGenus *Tupaia**Tupaia glis*

- *Hylogalea ferruginea*

(0.0.0 + 1)

PHOLIDOTAGenus *Manis**Manis javanica*

- H. 1808 adult female, Krawang Residency, Java, labelled "*Manis manica*"

Manis sp., probably *M. pentadactyla*

(0.1.2 + 6)

- H. 1804 sub adult, skeleton
- H. 1805 sub adult, Riv. ?, 1900
- H. 1802, 1803, 1806, 1807, 1809, 1810 no localities

DERMOPTERA *Genus *Cynocephalus**Cynocephalus volans*

(0.0.1 + 3)

· H. 1532-1534 adults, Colugo

· H. 1535 juvenile, Colugo

PRIMATES

Genus *Hylobates* *

Hylobates moloch (0.0.1 + 3)

· H. 1357 (3A), 1348 (3D), 1349 adults, Sonde, Java, don. Kerkhoven

· H. 1359 (3E) juvenile, Java

Hylobates lar (0.0.0 + 1)

· H. 1377 adult, Kabin, Thailand, 1897, don. Beauvane

Hylobates (Nomascus) gabriellae (0.0.1 + 1)

· H. 1347, 1350 adult and sub adult, Saigon botanic gardens

Genus *Pongo* *

Pongo pygmaeus (0.0.2)

· H. 1353 juvenile, Borneo, jaw missing

· H. 1354 juvenile, Borneo

Genus *Trachypithecus* *

Trachypithecus germani (1.0.1)

· H. 1331 adult male, Cambodia

· H. 1368 sub adult female, Vinh-long, Vietnam

Trachypithecus auratus (0.1.0)

· H. 1358 adult female, Sonde, Java, don. Kerkhoven

Genus *Pygathrix* *

Pygathrix nemaes (0.2.3)

· H. 1337, 1338, 1344, 1367: 2 adult females, 1 sub adult male and 1 juvenile, Tourane, Vietnam

· H. 1336 juvenile, Vinh-long, Vietnam

Pygathrix sp. (1.0.0)

· H. 1374 adult male, High valley of Vigh, Vietnam

Genus *Macaca* *

Macaca nigra (0.1.0)

· H. 1346 adult female, Menado

Macaca spec. (2.1.23 + 3)

Adults

· H. 1340 female

· H. 1352 male

· H. 1343 male, Saigon, 1890

· H. 1378 (11) 1892

· H. 1345 (12) 1892

· H. 1380 (13) 1892

Juveniles and sub adults

· H. 1329 Cottabato, Philippines

· H. 1360 1892 (15)

· H. 1330 High valley of Vinh

· H. 1362 Sombawa

· H. 1332 Sonde, Java, don. Kerkhoven

· H. 1364 Formosa, don. M. Novion, inscribed "*En-nuus*", labelled "*M. cyclopis*"

· H. 1333 Saigon, 1892

· H. 1365 Sonde, Java

· H. 1334 Cottabato

· H. 1369 Sonde, Java, don. Kerkhoven

· H. 1335 Saigon, 1890

· H. 1370 no locality, inscribed "*S. nasicus*"

· H. 1339 Sumatra

· H. 1371 Tonkin

· H. 1341 Sumatra (*M. fascicularis*), inscribed "*cynomolgus*"

· H. 1372 no locality

· H. 1342 Keso?

· H. 1373 Manille, 1891

· H. 1351 Otapoupou

· H. 1374 Sonde, Java

· H. 1355 Kegian Thanh Hoa

· H. 1375 Cottabato

· H. 1356 Cochinchine

Genus *Tarsius* (figured in Heude 4 PL. XXXIII)*Tarsius bancanus* (1.1.2)

- 1. adult
- 3. juvenile female, Ty.
- 4. adult male
- 5. adult female, Billiton, Indonesia

Genus *Propithecus* **Propithecus diadema* (0.0.1 + 2)

- H. 1361, 1366 adult, inscribed "Indri"
- H. 1376 juvenile

Genus *Indri* **Indri indri* (0.0.0 + 1)

- H. 1716 adult, inscribed "Diadema"

Genus indet.

Care? cyn (0.0.0 + 1)

- 4C, 4D, Sonde (Java), 1899

RODENTIA *

Genus *Hystrix**Hystrix brachyura* (0.0.0 + 8)

Adults, skulls only:

- H. 1307 Thanh-Hoa, Vietnam
- H. 1415 Saigon, 1890
- H. 1419 Shanghai museum, don. Joseph Haas
- H. 1670 Guangxi, 1892, don. P. Bazin
- H. 1671 Cochinchine
- H. 1311 no localities
- H. 1304, 1496 jaw only, no localities

Juveniles and sub adults, skulls only:

- H. 1304 Késo, Moupin
- H. 1308 male, Holiki, 1890
- H. 1417 Késo, Tong-king
- H. 1418 Rabagu (?), 1887
- H. 1305, 1306, 1309, 1495 no localities
- H. 1495 jaw only, Késo

Hystrix javanicus

- H. 1416, 1496 adult and sub adult skulls, Flores, 1895, inscribed "Larantousa" (0.0.1 + 1)

Genus *Marmota**Marmota* sp. (0.0.0 + 7)

- H. 1520-26 two with jaws, Moupin

Genus *Pteromys*

Flying Squirrels (0.0.0 + 3)

- H. 1432-1434 adults, no localities

Genus *Rhizomys**Rhizomys* sp. (0.0.0 + 1)

- ? adult, 1891

LAGOMORPHA *

Genus *Lepus**Lepus* sp. (0.0.1 + 26)

Half with jaws

- H. 1536 Saigon
- H. 1537, 1544, 1815 Cuisine(? from the kitchen), 1891
- H. 1538 Kiang yin
- H. 1539 N, yang-fou
- H. 1540, 1547, 1821 ZKW, 1893
- H. 1543 ZKW, 1890
- H. 1545, 1817 Lieou yi gan
- H. 1546 Ning-po, 1891
- H. 1553 Laos

- H. 1820 Liang-ho, xh-go(?), don. L. Mocher
- H. 1541, 1548, 1549, 1550, 1552, 1816 no localities
- H. 1542, 1551, 1822 no localities, 1891
- H. 1823 baby, no locality
- H. 1818, 1819 no localities, 1892

CARNIVORA *

Family Ursidae

Descriptions and figures in Heude 4(1): 14-24, 5(1): 1-2, 5(2): 33-38 and Sowerby (1920): 213-232.

Genus *Ursus*

Ursus thibetanus (0.0.5+8)

Ursus leuconyx H., 1901 (not *leuconyx* Severtzov, 1873) and *Ursus clarki* Sowerby

- H. 1137 young adult, Shensi, holotype, no jaw, incisors except I^{3dex} and canines missing, Heude (1901) *Mem. Hist. Nat.*, 5(1): 2, PL. II, figs. 3, 4, 8; Sowerby (1920): 226.

Ursus japonicus Schlegel

- H. 1139 adult, Japan, Heude (1901) *Mem. Hist. Nat.*, 5(1): PL. II, figs. 5, 6, 7.

Other specimens

- H. 1133 adult, purchased in Shanghai, inscribed "*Selenarctos* (Malaisie?)", no jaw, incisors missing
- H. 1141 juvenile, Ussuri valley, labelled "*U. ussuricus*", collector D. Blange, part of the snout missing, jaw broken, incisors missing
- H. 1144 juvenile, Payen sousou, Manchuria, inscribed "*Selenarctos cavifrons*", half a jaw lost, skull damaged, most teeth missing
- H. ? sub adult female, St. Eustace de Hakodate, Japan, 1881, collector Besiner, neurocranium damaged
- H. 721, 764, 1040, 1041, 1134, 1135, 1146: 5 adults, 1 sub adult and one juvenile

Ursus arctos (0.0.1)

- H. 1140 juvenile, Kamchatka, jaw broken, some incisors missing

Genus *Helarctos*

Helarctos malayanus (0.0.0+2)

Helarctos annamiticus H., 1901

- H. 1039 adult, Cochine China (S-Vienam), lectotype, collector Kokyniaz (?), teeth except canines and a few PM_{inf} missing, Heude (1901) *Mem. Hist. Nat.*, 5(1): 1, PL. I, figs. 1, 2.

Other specimen

- H. 1143 young adult, incisors and C^{sup} missing

Genus *Ailuropoda*

Ailuropoda melanoleuca (0.0.0+1)

- H. 722 adult, viscerocranium damaged, most incisors missing

Ursidae (0.0.3+1)

Unidentified specimens

- H. 1121 adult jaw, incisors missing
- H. 1138 juvenile skull, incisors missing
- H. 1136 sub adult cranium, Csin missing
- H. 1145 juvenile cranium, damaged

Family Ailuridae *

Genus *Ailurus*

Ailurus fulgens (0.0.0+7)

- H. 1662, from Moupin
- H. 823-826, 1669, 1683 no localities

Family Mustelidae *

Genus *Gulo*

Gulo gulo (0.0.0+1)

- H. 828 adult, Vladivostok, 1897 don. Baron de?

Genus *Arctonyx**Arctonyx collaris*

(3.1.5 + 11)

- H. 1420 Hai-ph. mg, 1895, don. M. Clop (identification questionable)
- H. 1421 (2B) sub adult, Han-tchong-f., Chensi
- H. 1422 (7A) adult female, Moupin
- H. 1423 (1B) Han-tchong-f., Chensi
- H. 1466 (6A) adult male, Kienté
- H. 1467 (1A) Han-tchong-f., Chensi
- H. 1468 (3A) Tchen-K'eu-ting, 1902
- H. 1469 (1C) Han-tchong-f., Chensi
- H. 1470 (2A) Han-tchong-f., Chensi
- H. 1471 (1F) Chensi
- H. 1472 (8A) sub adult, Moupin, Tibet. orient
- H. 1581 (6B) Kienté
- H. 1582 (6D) adult male, Ning-Kuo-fu
- H. 1584 (6C) sub adult male, Kienté
- H. 1585 (1D) Han-tchong-f., Chensi
- H. 1586 (9A) Moupin, Tibet. orient
- H. 1663 (1E) Chensi
- H. 1664 (3E) sub adult, Tchen-K'eu-ting
- (5A) sub adult, Ho-chan, 1892
- H. 1583 (7B) adult male, Moupin

Genus *Meles**Meles meles* (*M. cicadatum*)

(0.0.0 + 27)

- H. 1674 from Tse hén (Tou Tan)
- H. 1425 from S-Shensi
- H. 1435 Kien Ning
- H. 1449 Kouang-tong
- H. 1453, 1454, 1456, 1473 l. chw.
- H. 1458 E. uk. w.
- H. 1474 Ning k. f.
- H. 1455, 1461 Nanking
- H. 1463 Vladivostok
- H. 1450 Hienhien, Tehé-lingy
- H. 1464 Ti Ouantre
- H. 1426, 1449, 1451, 1452, 1457, 1459, 1460, 1462, 1465, 1475, 1476, 1665 no localities

Genus *Melogale**Melogale orientalis*

(1.0.1 + 10)

- H. 1438 adult, Sonde, Java, don. Kerkhoven

Melogale moschata

- H. 1439 adult, Ou-hou, 1888
- H. 1442 adult male, ZKW, 1898
- H. 1485 sub adult, Hiang kiang
- H. 1440, 1441, 1444, 1445, 1482, 1483, 1484, no localities

Melogale personata

- H. 1443 adult, Tourane, 1898

Genus *Mustela**Mustela sibirica* (Siberian weasel)

(3.1.3 + 22)

- H. 1646-1649, 1651, 1652 Nanking, 1891
- H. 1650 adult male, ZKW, May 1896
- H. 1717 adult male, ZKW, March 1896
- H. 1719 juvenile, ZKW
- H. 1720 adult male, ZKW, May 1896
- H. 1721 Kienté
- H. 1722 adult female, ZKW
- H. 1723 juvenile, Kienté
- H. 1724 sub adult, ZKW, 1892
- H. 1718 no locality
- H. 1505 Nanking
- H. 1506 Nanking
- H. 1506? Zi-Kawei, 1890
- H. 1812, 1896 Z. K. W.
- H. 1811
- H. 1814, 1891 Nanking
- H. 1813
- No information 7 skulls, adult

Mustela sp.

(0.0.0 + 1)

- H. 1515 Kienté

Genus *Martes**Martes zibellina*

(0.0.0 + 7)

- H. 1512, 1513, 1516, 1528, 1530, 1531 Ussuri
- H. 1514 Ussuri, inscribed "zibeli"

- Martes flavigula* (0.0.0+1)
 · Adult
- Martes* sp. (0.0.0+1)
 · H1880, adult
- Genus *Lutra*
- Lutra lutra* (4.1.11+4)
 · H. 770 adult
 · H. 771 sub adult female, Ho-chan, 9.5.1889
 · H. 772 (D1) sub adult male, "L. sinensis", ZKW., May
 · H. 773 sub adult, Kiang-yin (C-China), 1890
 · H. 774 sub adult, ZKW
 · H. 775 sub adult
 · H. 776 sub adult, Kiang-yin
 · H. 777 (C1) adult male, Kiang-yin, Jan. 1883
 · H. 779 (B1) adult male, Ho-chan, 1882
 · H. 780 (A1) adult male, ZKW, May
 · H. 781 juvenile
 · H. 782 (E2) adult male, Tschang-Chou, 12.02.1883
 · H. 783 sub adult, 1893
 · H. 784 adult female, Tsong Mi, 1884
 · H. 786 sub adult, Kiang-yin
 · H. 787 adult, Ussuri
 · H. 789 sub adult, ZKW, 1893
 · H. 790 adult, Sontang, 1888, collector Chen
 · H. 791 adult, Kiang-yin, 1890
 · H. 1431 juvenile, Kiang-L
- Lutra* sp. (0.0.0+1)
 · Hong-Hoa, Donkin, 1896, juv
- Genus *Lutrogale*
- Lutrogale perspicillata* (0.0.0+1)
 · H. 785 adult, Cochinchine (S-Vietnam)
- Genus *Amblonyx*
- Amblonyx cinera* (0.0.1)
 · H. 778 sub adult, Samarang, Java, 6.12.1894
- Genus *Enhydra*
- Enhydra lutris* (0.0.0+1)
 · H. 827 adult
- Family Herpestidae***
- Genus *Herpestes*
- Herpestes* sp. (0.0.2+1)
 · H. 1519 Kienté
 · H. 1861 sub adult, Kienté
- Unidentified carnivore, ? herpestid
 · H. 1517 juvenile, Nagasaki
- Family Viverridae***
- Genus *Paradoxurus*
- Paradoxurus hermaphroditus* (0.0.2+1)
 · H. 1574 (8A) adult, Sonde, Java, don. Kerkhoven, inscribed "P. musanga"
 · H. 1685 (7A) sub adult female, Savao, 1898, don. Philippines
 · H. 1796 (10A) sub adult, Sonde, Java, inscribed "P. typus F. Cuv."
- Genus *Paguma*
- Paguma larvata* (Masked Palm-civet) (0.0.3+5)
 · H. 1666 juvenile
 · H. 1668 juvenile, Ho-chan
 · H. 1711, 1712 Moupin
 · H. 1710 China
 · H. 1795 Ngan-king
 · H. 1797 juvenile, inscribed "S. typ jun. S. Jolor solot. 1895"->P. l. ?
 · 128, adult

Genus *Viverra**Viverra zibetha* (Large Indian Civet)

(0.0.10 + 8)

Adults

- H. 1428 Kouang-tong (Guangdong)
- H. 1429 (1E) 1892
- H. 1581 Tonkin, 1896
- H. 1677 Shinze (?)
- H. 1679 Kienté
- H. 1682 Moupin
- H. 1687 (15I) Fukien (?), K'uen
- H. 1673 no locality

Juveniles and sub adults

- H. 1477 (13B) Moupin
- H. 1478 Chensi
- H. 1479 (14A) Ho-chan
- H. 1480 (1D) Moupin
- H. 1481 (1C) Moupin
- H. 1678 (7A) male, Koulinkin
- H. 1680 (1E) Tchan-K'en, 1891
- H. 1686 (12B) Non-fein, 1892
- H. 1667 (16A), 1676 (2B) no locality

Viverra sp.

(0.0.0 + 1)

- H. 1424 don. Farges

Genus *Macrogalidia**Macrogalidia musschenbroeki*

(0.0.0 + 1)

- H. 1675 (9A) Célèbes, Menado (Sulawesi), 1895, inscribed "cynogale"

Family *Canidae**Genus *Nyctereutes**Nyctereutes procyonoides*

(3.5.7 + 16)

- H. 792 sub adult, Nan Kow pt. Chianne Kennouen, 1884, don. Fauvel
- H. 793 sub adult, 1889, G. Foulet
- H. 794 adult male, Magasins de Paterfield, Shanghai, 3.12.1881, labelled "N. alopecoida"
- H. 795 adult
- H. 796 adult, skull fragment
- H. 797 adult, Choue-tong
- H. 798 adult
- H. 799 adult, ZKW, 1879
- H. 800 adult, Ou-hou, 1889
- H. 801 adult, Nanking, 1891
- H. 802 adult male, Kiang-yin, Feb.1882
- H. 804 adult, Vladivostok, don. Anderson
- H. 805 sub adult, N. k. f., 1889
- H. 806 adult female, Nanking, 1879
- H. 807 adult, Ning-po
- H. 808 adult, Hgan-king, 1889, don. Crochet
- H. 809 adult, Ning k. f.
- H. 810 juvenile, Nagasaki, 1891
- H. 811 sub adult, Tonkin
- H. 812 adult, Ning-po, 1890
- H. 813 adult female, Kiang-yin, Feb. 1882
- H. 814 adult female Tchang-chou, Christmas 1881
- H. 815 adult, Tchang-chou
- H. 816 sub adult, King-kiao
- H. 817 adult female, Pi-K. Kiao, 1889
- H. 818 adult male, Nganking, 1890
- H. 819 adult, Wen chiang hsien, 1889
- H. 820 adult, Han Kou, 1884
- H. 821 sub adult, Sou-long, 1891
- H. 822 adult female, Zai-hou, 1890
- ? half a skull

Genus *Vulpes**Vulpes vulpes*

(1.0.3 + 11)

- H. 1150, 1152, 1153, 1156, 1430, 1446, 1447, 1577, 1684 no localities
- H. 1155 adult, Dijon, 1889
- H. 1151 Hien hien
- H. 1437 sub adult, H-Kienté
- H. 1578 adult male, Hien-hien, 1889
- H. 1580 juvenile, Kuang-tong
- H. 1695 sub adult, Charbonia, 1889

Genus *Canis**Canis lupus*

(0.0.2 + 8)

- H. 1124 adult, Zi-Ka-Wei
- H. 1127 (1B) no data
- H. 1130 adult, Tsi nan Fou, Chang Tang
- H. 1132 no data
- H. 1147 no data
- H. 1148 no data

- H. 1661 no data
- H. 1672 juvenile, Envogéde, paoapoa(?)
- H. 1672 bis no data
- H. 1825 juvenile, Zi-Ka-Wei, 1893

Genus *Cuon**Cuon alpinus*

(0.0.0+7)

- H. 756 adult, China
- H. 765 adult, Java
- H. 768 no data
- H. 1123 adult, Cha Zoc
- H. 1125 adult, Java
- H. 1126 no data
- H. 1128 adult, Saigon, 1899

Family Otariidae*Genus *Callorhinus**Callorhinus ursinus*

(0.0.4+2)

- H. 1654 juvenile
- H. 1655 sub adult, inscribed "*Otariua mandjour*"
- H. 1657 adult, inscribed "*Otariua mandjour*"
- H. 1658 adult, inscribed "*Otariua mandjour*"
- H. 1659 juvenile
- H. 1660 juvenile

Family Felidae*Genus *Profelis**Profelis temminckii*

(0.0.0+1)

- H. 1157 adult, Kampot. I., Nov. 1899, don. M. A. Leclère

Genus *Prionailurus**Prionailurus bengalensis*

(0.1.4+1)

- H. 1688 juvenile
- H. 1689 sub adult male, Shanghai, July 1884
- H. 1690 adult female, Shanghai, summer
- H. 1691 adult, Sonde, Java, don. Kerkhoven
- H. 1692 juvenile, Tji Sibir, Sonde, Java, don. Kerkhoven
- H. 1693 juvenile male

Genus *Panthera**Panthera pardus*

(1.0.11+23)

- H. 1085 no data
- H. 1086 no data, no jaw
- H. 1087 adult, Sumatra
- H. 1088 no data, no jaw
- H. 1089-1093 no data
- H. 1094 sub adult, Pa-tong, H.P., 1888, don. P. Tien
- H. 1095 jaw only
- H. 1096 no data
- H. 1097 no data, no jaw
- H. 1098, 1099 no data
- H. 1100 sub adult male, Sonde
- H. 1101 sub adult, Surabaya, Java, 1895
- H. 1102, 1102bis, 1103 no data
- H. 1104 no data, no jaw
- H. 1105 sub adult, Sonde, bought in Shanghai
- H. 1106 sub adult, Ceylon, 1886
- H. 1107 no data
- H. 1108 no data, no jaw
- H. 1109 sub adult, Sonde, Java
- H. 1110 adult, Kienté
- H. 1111 sub adult, S-Shensi
- H. 1112 adult male, Ho-chan, 1884, don. P. Joret
- H. 1113 juvenile female, Eché-tcheou, 1888
- H. 1115 adult, Sonde
- H. 1115 bis sub adult, "Malaisie?"
- H. 1119 juvenile, Ho-chan, 1891
- H. 1486 juvenile, Java, 1894
- H. ? jaw only, Ning Kuo Fu

Panthera tigris

(0.0.0+9)

- H. 718 no data
- H. 719 no data
- H. 1033 no data
- H. 1035 no data
- H. 1036 no data
- H. 1037 no data
- H. 1038 no data
- H. 1119 no data
- H. 1122 no data

Felidae indet

(0.0.3+0)

- 3juveniles

Carnivora

Unidentified specimens:

- H. 1487, 1488, 1824: juveniles

ARTIODACTYLA

Family Suidae

Descriptions and figures in Heude 2(2): 85-111, 2(4): 212-222, 3(4): 189-194, 4(3): 113-133, 5(1): 37-43 and Sowerby (1917): 11-16.

Genus *Sus*

Heude, in his early publications, included all his new pig species in *Sus*, but later divided them into a number of genera: *Sinismus* (Chinese pigs), *Annamismus* (later altered to *Indosus*, for Indochinese pigs), *Verrusus* (the *Sus verrucosus* group), *Rhinusus* (the *Sus barbatus* group), *Microsus* (for *Sus celebensis*) and *Nesosus* (Philippines pigs). He also referred to informal concepts such as *Taenisuidés* (*S. scrofa vittatus* group), *Indosuidés*, *Scrofisuidés* (for northeast Asian wild pigs) and *Scrofoidés* (for European wild pigs). These are all used as subheadings here.

The skulls are mostly marked with the acronyms, in thick red or black print: *S. s.*, *I. s.*, *A. s.* and so on, so are readily allocated to their quasi-generic groups, even if no precise locality is recorded.

Nesosus (Philippines)

With one exception all the new species described by Heude from the Philippines were referred by Groves (1997) to a single species, *Sus philippensis*, with three subspecies, two of which (*S. p. philippensis* from Luzon and *S. p. mindanensis* from Mindanao) are abundantly represented in the Heude collection. The sole exception is the Cebu pig, which is a strongly differentiated species, *Sus cebifrons* (one of a few definitely valid species described by Heude). At the time of the 1997 publication, the second specimen was not identified by C. P. G.

Other names appear only as captions to a few of the plates in Heude's papers, but lack descriptions so are *nomina nuda*; yet others are written on some of the skulls, but were not published at all.

Sus cebifrons H., 1894 (1.0.1)

- NS 4A adult male, Cebu, Philippines, don. S. Faura, lectotype, canines and some upper I missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 218, PL. XXVIII figs. 1-4.
- NS 4B juvenile, Cebu, Philippines, don. S. Faura, paralectotype, jaw, upper canines and I^{2dex} missing

Sus philippensis (31.7.35)*Sus arietinus* H., 1894

- NS 1A adult male, Manilla, Philippines, 1885, don. de la Guardia, lectotype, C_{sin} and C^{dex} missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 219, PL. XXX figs. 1-3.
- NS 1B juvenile female, Manilla, Philippines, 1885, don. de Elorza, paralectotype, milk and permanent premolars extracted in left jaws, in maxilla permanent premolars refitted

Sus effrenus H., 1894

- NS 2A adult male, Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, lectotypes, canines and some incisors missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 215, PL. XXVII figs. 1-3, 8.
- NS 2B adult female, Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, paralectotype, I^{2,3} and C^{sin} lost ante mortem, most incisors missing
- NS 2Bbis juvenile female, Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, paralectotype, left jaws broken to extract premolars, most incisors missing
- NS 2C adult male, Jala-Jala (Manila), Philippines, 1893, don. M. Vidal, paralectotype, canines and all but I_{1sin} missing

- NS 2E sub adult male, Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, paralectotype, jaw and upper incisors missing
- NS 2F, adult male, Jala-Jala (Manila), Philippines, 1893, don. M. Vidal, paralectotype, left premaxillary missing, upper canines and incisors missing
- NS 2H juvenile? Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, paralectotype, jaw, upper canines and incisors missing

Sus frenatus H., 1894

- NS 3A adult male, Jala-Jala (Laguna Bay), Luzon, Philippines, 1885, don. M. Daillard, lectotype, canines and most upper incisors missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 216, PL. XXVI figs.4-6.
- NS 3B juvenile female, Jala-Jala (Manila), Philippines, 1893, don. M. Vidal, paralectotype, most upper and some lower incisors missing
- NS 3C juvenile, don. Chiadian

Sus microtis H., 1894

- NS 5A adult male, Bataan, Luzon, Philippines, don. de Elorza, holotype, lower canines, C^{sin} and some upper incisors missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 217, PL. XXVIII figs.5-7.

Sus minutus H., 1894

- NS 7B young adult male, Jala-Jala, Luzon, Philippines, 1886, don. du Marais, lectotype, all upper incisors but I^{1sin} missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 218, PL. XXIX C figs.4-6.
- NS 7A young adult male, Jala-Jala, Luzon, Philippines, 1886, don. du Marais, paralectotype, all incisors and canines but C_{dex} missing
- NS 7C juvenile female, upper canines and some incisive missing, PM_{an} figured (fig.11?)
- NS 7H juvenile, Jala-Jala, Luzon, Philippines, 1885, jaw and most teeth missing, in Heude (1894) PL. XXIX, figs.3 (*S. effrenus*) and 6 (*S. minutus*), p. 219, Fig.3 is described as *S. arietinus*.

Other specimens

Luzon

- NS 6A-D; NS 7 D, F, G, O, P; NS 8A-E; NS 9 A-E, J: series from Sao Miguel de Murcia, Luzon, Philippines, 1893, don. A. du Marais: 6 adult males, 1 sub adult male, 3 adult females, 7 sub adult females and 3 juveniles
- NS 8A, NS 10B: from Nueva Ecija, Philippines, don. Ayala, juvenile male and female

Mindanao

- NS 12A: adult female Surigao, Philippines, 1894, *S. cf. philippensis*
- NS 12(?); VS 11A 2 adult males, Lac de Mainit, Mindanao, Philippines, 1892
- NS 13A sub adult female, Mamanua, Mindanao, Philippines
- NS 16A adult male, Mt. Apo (600 m), Mindanao, Philippines, 1893, don. Gisbert
- NS 17B, E, G, J, M; NS 20J; NS 21A, B, D, E; NS 23A; NS 24A, NS 26A, B, D-F: series from Davao, Mindanao, Philippines, more exact location: Malalag (8) and Sigaboy (1), probably all 1893, don. labelled once Dr. N. Prinda and once Gisbert: 14 adult males, 2 sub adult males and a baby

Other islands or unknown

- NS 14: from Pinancaryz? or Kanaregenta?, 1893 don. Vic. Villaget: adult female, juvenile male
- NS 15A-D, F-I: series from Basilan, Philippines, Jan. 1893: 3 sub adult males, 1 juvenile male, 1 adult female, 1 sub adult female and 2 juveniles
- NS 25A: juvenile, Samar, Philippines
- NS 28H: sub adult female Balingasag, Philippines, inscribed "*Ns. maurivorus*"

Additional jaws

(33.13.13 + 1)

(A lot of these jaws seemed to be trophy jaws painted or lacquered in dark red-brown)

- NS 12 series of jaws from Surigao, Philippines, inscribed "*Ns. surigaensis*", 4 males
- NS 13F jaw from Numancia, Siargao, Philippines, don. S. J. Guardiet
- NS 22, 23, 25 series of jaws from Sigaboy, Davao, Mindanao, Philippines, one male, one female and two juveniles
- NS 24 and 25, series of jaws from Samal, Philippines, 2 males and 4 females
- NS 24S juvenile, inscribed from Samal, Philippines, labelled "*Ns. davaensis*"
- NS 24, 25, 26, series of jaws from Davao, Philippines, 6 males, 3 females and 3 juveniles

- NS 28A-D, series of jaws *Ns. maurivorus*, three from Iligan, one from Jasaan (Cagayan), 4 males
- NS 11, 32, 33 series of jaws from Mainit, Mindanao, Philippines, one male (32) inscribed "*Ns. megalodus*", one male (33) inscribed "*Ns. mainitensis*" and six males, one juvenile (11) inscribed "*Ns. mamananuarum*"
- NS 28 and 29, series of jaws from Balingasag, Philippines, one inscribed "*Ns. eratensis*", two inscribed "*Ns. mindanao*", 5 males, 4 females and 6 sub adults and juveniles
- NS (?) 29A male jaw from Rolingaran, (*Sus philippensis*?), don. Preleus
- NS 30 A-C series of jaws from Laguna?, Taganan?, Philippines, two males and one female

Unidentified material (*N. s.*)

(10.3.20)

- Skulls: 2 adult and 2 sub adult males, 5 juveniles
- Crania: 2 adult, one sub adult and one juvenile males, two juveniles
- Jaws: 5 males, 3 females and 7 juveniles
- NS ? E juvenile cranium from Bao (?), Philippines
- NS (?) 20B juvenile cranium from Da? on
- Half adult male cranium from? (locality illegible), don. T. Arvu(?)

Rhinosus (*Sus barbatus* group)*Sus ahoenobarbatus*

(3.0.0)

Sus calamianensis H., 1894

- RS 3(III)D adult male, Calamianes, Philippines, don. Claude Sandoval, lectotype, most upper incisors and all canines but C_{in} missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 221, PL. XL figs. 1, 2, 5.
- RS 3C adult male, Calamianes, Philippines, don. Claude Sandoval, paralectotype, I^1 and all canines missing, caries (roots damaged) at both M_1 .
- RS 3B adult male, Calamianes, Philippines, don. Claude Sandoval, paralectotype, some upper incisors and C^{sin} missing

Sinismus (China)

Groves (1981), lacking sufficient material, lumped almost all Chinese wild pigs in one subspecies, *Sus scrofa moupinensis*. The rich Heude collection offers ample opportunity for testing this arrangement.

Sus scrofa

(11.4.10)

Sus meles Sowerby

- SS 1A adult male, Kuang-si (= Guangxi), China, 1892, holotype described by Sowerby. The name "*Sus melas*" (sic) was given by Heude but not described, hence it takes its author and from Sowerby's usage. PM^1 not developed, neurocranium badly damaged, lower canines missing, don. Barzin

Sinismus collinus H.,

- SS 2A adult male, Ning Kuo, Yangtse-river, China, lectotype, canines and some incisors missing, Heude (1899) *Mem. Hist. Nat.*, 4(3): 128, PL. XXIV figs. 5, 6.

Sinismus chirodonticus H., 1899

- SS 4A adult male, S-Kienté, China, don. Frin, lectotype, C_{dex} missing, Heude (1899) *Mem. Hist. Nat.*, 4(3): 128, PL. XXVI figs. 1-6.

Sinismus moupinensis Milne-Edwards

- SS 9A adult female, Shensi, China, figured by Heude (1899) 4: PL XXVII figs. 1, 2, 7, 8.

Sinismus taiwanus Swinhoe

- SS 17A male adult, Ta-Kao, Taiwan, figured by Heude (1897) 3: PL XXX figs. 3, 4, 6; all incisors missing

Other specimens

- SS 2F, I adult female and sub adult male, from Ning-kuo-fu, China, labelled "*Sinismus collinus*"
- SS 3A adult male, from Kienté, China, 1882, labelled "*Sinismus collinus forme angusticeps*" (on label) and "*Sinismus stricticeps*" (on skull)
- SS 3H adult male, from Li-yang, China, Jan. 1881, don. C. de Balloy, labelled "*Sus flavescens*"
- SS 3P, SS 5B adult male and juvenile female, from ? Ho-chan (Anhui)? (locality of Heude's species), China, labelled "*Sus planiceps*"

- SS 4C, K sub adult and adult males, from Kienté, China, don. (K) Moisan, labelled "*Sinismus chirodontus*"
- SS 4E, Y, β sub adult male and female, adult female, from Kienté, China
- SS 5C juvenile, from Yen-chan, China, 1889, don. Dochan, labelled "*Sinismus planiceps*"
- SS 6A adult male, from Ou-si, China, don. T. Kiong, labelled "*Sus nigriceps*"
- SS 12A adult female, from S-Chensi, China, 1889, don. S. Vidi, labelled "*Sinismus curviceps*"
- SS 13A, B adult and juvenile males, from S-Chensi, China, 1889, don. S. Vidi, labelled "*Sinismus oxyodonus*"
- SS 14A juvenile male, from Setchouan, China, 1902, don. S. Farges, labelled "*Sinismus diorusus*"
- SS 15A, B adult male and sub adult female, from S-Chensi, China, 1883, don. S. Vidi, labelled "*Sinismus curticens*"
- SS ? E juvenile male, from ? "*Marché*" (presumably, the market in Shanghai), labelled "*Sinismus paludosus*"

Unidentified material (*S. s.*)

Skulls

(13.11.13)

- SS 1H adult female
- SS 2F, H adult females(2), B, F, G sub adult males(3)
- SS 3B, J adult males(2), G, Gbis-K, P adult females(7), E, J sub adult males (2)
- SS 4E, K, N, R, S adult males(5), G, J, L, O sub adult females(4), I juvenile
- SS 5I adult male
- SS 6D adult male
- SS 9C sub adult male
- 4 adult males and 2 sub adult males, one adult female

Crania

(0.1.10)

- SS 1Q sub adult female
- SS 2E, J sub adult female and juvenile
- 1 adult and 3 sub adult females, 4 juveniles

Jaws

(1.2.7)

- adult male (4V), 2 adult females (6A, 10B) and 7 juveniles (2J, 4H, 13B)

Indosus and *Annamisus* (Indochina)

Groves (1981) included pigs from the Indochinese countries as *Sus scrofa moupinensis*, along with Chinese pigs. Although there are no exact localities among Heude's pigs (*Indosus* and *Annamisus*), comparison of them with those from China should confirm or refute their identity.

Indosus

Sus scrofa

(6.2.2+1)

Skulls

- IS 1B adult male, C^{sup} missing
- IS 1C adult female
- IS 1I adult male, C missing
- IS 1J sub adult female
- IS 2D adult C^{sup} missing
- IS 3C adult male, C^{sin} missing
- IS 3Cbis juvenile
- IS 4A adult male, C^{dex} missing
- IS 7D adult male, C missing
- IS 7H adult female, C^{dex} missing

Jaws

- IS 3H adult male

Annamisus

Sus scrofa

Skulls

(7.5.12)

- AS 1A, E adult males
- AS 2A adult male
- AS 3C, G, adult males
- AS 7A, B adult males
- AS 1D, K adult females
- AS ? B adult female
- AS 1H sub adult male
- AS 3A, B sub adult males
- AS 5E sub adult male
- AS 2A, C, D juvenile males
- AS 5I juvenile male
- AS 5B juvenile
- AS 7B juvenile

Jaws

- AS 3D, adult females
- AS 2G, juvenile females

Other specimen

- ? 6A sub adult female cranium from Hong ?, Tonkin

(0.0.1)

Microsus (Indonesia)

The only type specimen of Heude's pigs which we failed to find is that of *Microsus macassaricus* H. , 1899

Sus celebensis and *Sus celebensis* × *Sus scrofa*

(7.2.1)

Microsus maritimus H. , 1899

- MS 2A juvenile male, Macassar, 1895, lectotype, no jaw, incisors missing, Heude (1899) *Mem. Hist. Nat.* , 4(3): 115, PL. XXX figs.1, 2.

Other specimen

Skulls

- MS ? adult male, Batjian (P. Bacan), 1895, don. M. Diepenheim, C^{sup} missing

Crania

- MS ? (H982) adult male, I. Petit Key (P. Kai Kecil), 1895, I and C missing
- MS ? adult male, Batjian/Ternate (P. Bacan), don. M. Diepenheim, I and C missing

Jaws

- MS 1A adult female, Macassar, 1895
- MS 2B adult male, Macassar
- MS 3A (H985) adult male, Flores, Kolting(?)
- MS ? adult female, Maumere, Flores, 1895, rami missing
- MS ? adult male, Lomblen, 1895, rami missing, *scrofic* C
- MS ? adult male, of an islet near Eoudly, I. de Key, 1895, "skin white during its whole life", *scrofic* C
- MS ? adult male
- MS ? adult male, Kei Is. , 1895

Scrofisuidés (Nothorn Eurasia)*Sus scrofa*

(6.1.12 + 1)

Sus leucomystax Swinhoe

- SF 1A adult male, Tokyo, Japan, 1898, most I^{sup} and some I_{inf} missing

Sus ussuricus H. , 1897

- S 4A adult male, Vladivostok, Siberia, holotype, rami and most of neurocranium broken off, C_{inf} missing, Heude (1897) *Mem. Hist. Nat.* , 3(4): 190, PL. XXXIII fig.5.

Sus gigas H. , 1897

- SF 3C adult male, Vladivostok, Siberia, 1893, don. Baron de Braubenberg, most I^{sup} and C^{dex} missing

Sus songaricus H. , 1897

- S 5 A juvenile female, Bassin du Songari, Manchuria, 1888, holotype, I^{2,3} missing, left jaw at PM₁ damaged, Heude (1897) *Mem. Hist. Nat.* , 3(4): 191, PL. XXXII figs.4, 6, 9.

Sus mandchuricus H. , 1897

- SF 7A juvenile female, Mukden, Manchuria, 1882, don. Chevalier, holotype, I³ and C^{sup} missing, Heude (1897) *Mem. Hist. Nat.* , 3(4): 192, PL. XXXI figs.1, 2, 10.

Sus canescens H. , 1897

- S 6 A sub adult female, Peking (Beijing), China, 1881, don. Témelli, holotype, some incisors missing, I^{3dix} absent, Heude (1897) *Mem. Hist. Nat.* , 3(4): 192, PL. XXI figs.3, 4, 5.

Sus coreanus H., 1897

- SF 6 B adult female, S-Korea, lectotype, left side (especially ramus) slightly damaged/punctured, Heude (1897) *Mem. Hist. Nat.*, 3(4): 191, PL. XXX figs.1, 3.

Other specimens

- S 1A adult male, Sologne, France, C^{sup} and C_{dex} missing, don. M. Boucher
- S 1B sub adult female, France, some I^{sup} missing
- S 1F adult ?, snout and jaw missing
- SF 1C juvenile, no jaw
- SF 1H juvenile, rami broken, incisors except I_{2dex} and canines missing
- SF 1I juvenile, no jaw, some incisors missing
- SF 2A adult male, C-Japan, 1882, don. Capt. Blakiston, labelled "*Sus nipponicus*", C_{inf} missing
- SF 2B sub adult female
- SF 2C sub adult female, C-Japan, 1882, don. Capt. Blakiston, labelled "*Sus nipponicus*", jaw missing
- SF 2Cbis juvenile
- SF 3B sub adult male, most upper some lower incisors missing
- SF 8A adult male, Fousan, Korea, 1896, don. Oudet, snout damaged, incisors except I_{1sin} and canines missing
- SF 8C subadult male, Corée (Korea), Mai 1893, some incisors and upper canines missing

Unidentified material (*Scrofisuidés*)

(0.1.3)

- Skulls: one adult female
- Jaws: 2 juvenile females and one juvenile

Verrusus (*Sus verrucosus* group)

Sus bucculentus is another of the species described by Heude that remains valid today.

Sus verrucosus

(4.0.3 + 1)

- VS 1A-E: 3 adult males, 2 juveniles from Java (one from Samarang)
- Skull without any data, Heude collection (?)
- 2 jaws: adult male and juvenile (VS 24G)

Sus bucculentus

(1.0.1)

- VS 2A adult male, Dong Nai, Vietnam, 1891, lectotype, some incisors and all canines missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 219, PL. XXXVII figs.2, 4, 6, 7, 9-11.
- VS 2B sub adult female, Cochinchina, paralectotype, C_{dex} missing This specimen had not been identified by the time of the publication of Groves *et al.* (1997)

Taenisuidés (*Sus cf. scrofa vittatus* group)*Sus scrofa vittatus*

(1.0.4)

Sus vittatus

- juvenile skull from Java, 1891
- male adult cranium and juvenile cranium from Java, 1894
- female cranium from Cheribon, Java
- male cranium from Surabaya, Java, 1898

Sus

Unidentified material

(70.58.90)

- Skulls: 8 adult males, 3 adult females, 2 juveniles
- Crania: 15 adult, 5 sub adult males, 6 adult, 1 sub adult females, 13 juveniles
- Jaws: 43 adult males, 48 adult females, 22 sub adults, 46 juveniles
- One adult male snout
- 2 adult and 1 sub adult male, 1 adult female from "Cap", 1897, don. Paillard
- adult male cranium from I. Kékélüt, 1895

Genus *Babyrousa*

Heude evidently intended to publish on this genus, as some of the material is inscribed with new names; but, in the event, babirusas are not mentioned except for some brief comparisons of their dentition (especially canines) with *Sus*.

Babyrousa babyrussa

(12.1.3)

- BR 1C adult male, Bourou, collector A. Vorderman, labelled "*B. brachyrhinus*"
- BR 1D juvenile, Bourou, 1895, collector Viden Hovevell, labelled "*B. brachyrhinus*"
- BR 2A adult male, Klabat, Menado
- BR 2B adult male, Menado, labelled "*B. megalodus*"
- BR 2C adult male
- BR 2D adult male, labelled "*B. ancylocodus*"
- BR 3A adult male, Menado, labelled "*B. alfurus* (F.)"

- BR 3B adult male, Menado, marché (market), labelled "*B. alfurus* (F.)"
- BR 3C adult male, Menado, from Manilla city, labelled "*B. alfurus* (F.)"
- BR 4A adult male, Menado, "*B. microdonticus*"
- BR ? sub adult male, Bourou
- BR ? adult male, Bourou
- BR ? adult male, Bourou
- BR ? sub adult male, Bourou
- BR ? adult male, N-Celebes (N-Sulawesi)
- BR ? adult female

Family Tragulidae*Genus *Tragulus**Tragulus napu*

(0.0.0 + 3)

- H. 1239 (1A) adult, with foot bones, Billiton
- H. 1244 (3A) adult, Balabac, inscribed "*nigricans*"

- H. 1696 adult, Nhatrang, Vietnam

Tragulus javanicus

(0.0.0 + 10)

- H. 1238 adult, Khong
- H. 1240 (4A) adult, Balabac
- H. 1242 (7B) adult, Baria
- H. 1243 adult, Malacca, 1899
- H. 1245 adult, Singapore

- H. 1246 (5A) adult, no locality
- H. 1248 (7A) adult, Saigon
- H. 1249 (2A) Banka
- H. 1250 (3B) Balabac
- H. 1698 adult, no jaws, Sigarkei?

Tragulus sp.

(0.0.4)

- H. 1237 juvenile, no locality
- H. 1241 juvenile, Saigon, 1900

- H. 1247 juvenile, Khong
- H. 1697 juvenile, Saigon

Family Moschidae

All specimens without jaws, if not indicated otherwise.

Genus *Moschus**Moschus moschiferus*

(1.0.0)

- Young adult male, Korea

Moschus berezovskii

(3.1.3)

- 1A adult female, Han-sup., 1889, don. S. Vidi
- 1B sub adult female, Han-sup.
- 9? adult male, Han-sup.
- 11I adult male, Setchouan, 1881

- (32) sub adult male, Moupin
- sub adult female, Moupin
- adult male, Ho-chan, 1887

Family Cervidae

All specimens without jaws, if not indicated otherwise.

Genus *Muntiacus***Muntiacus muntjak*

(6.8.3)

- H. 1279 adult male, "Para"
- ? adult male, Eilmoni Cap, 1891
- ? adult female, Yen-bay, Vietnam
- ? adult male, Kompot
- ? adult female, Tay-ninh, Vietnam
- ? adult female, Saigon

- ? adult male, 1896
- H. 757, 1263 adult males
- H. 1253, 1256, 1269, 1278, 1283 adult females
- H. 1251, 1268 juvenile males
- H. 1265 juvenile female

Muntiacus reevesi

(18.8.16)

- ? adult male, Kienté central

- ? adult male, Kienté, 1885

- 3A adult female, Ningpo, Mar 1882
- H. ? adult male, Ningpo, 1882
- H. 1163 sub adult female, Kienté
- H. 1164 adult female, M. Eru
- H. 1174 adult male, Takao, Taiwan
- H. 1196 sub adult female
- H. 1258 adult male, Kienté central, 1887
- H. 1261 adult female, Sou-tsen, 1884
- H. 1264 adult female, Kienté central, 1887
- H. 1266 adult female, Kienté, 1885
- H. 1270 adult male, Ningpo, 1881
- H. 1327 adult male, Ningpo, Jun. 1889
- H. 1775 adult male, Moupin
- H. 752, 755, 1159, 1161, 1162, 1172, 1176, 1179, 1181, 1184 adult males
- H. 1171, 1175, 1272 adult females
- H. 1177, 1180, 1185, 1274, 1276 juvenile males
- H. 1257, 1267, 1273, 1275, 1780, 1782, 1784, 1785, 1786 juvenile females

Genus *Elaphodus***Elaphodus cephalophus*

(13.18.5)

- H. 1192 adult female with jaw
- H. 1195 sub adult female with jaw, Moupin
- H. 1254 sub adult female with jaw, Moupin
- 1A adult female, Moupin
- 2A adult female, Se-chouan
- H. 1158 adult female
- H. 1161 adult female, Se-chouan
- H. 1187 adult male
- H. 1189 adult male, Moupin
- H. 1252 sub adult female, Ningpo
- H. 1781 sub adult female, Ningpo
- H. 1783/5C sub adult female
- 6A, 10B, E; H. 1186, 1188, 1191, 1291, 1326, 1787, 1788, 1789 males
- 2C, E; H. 1160, 1165, 1166, 1169, 1170, 1173, 1178, 1182, 1193, 1194, 1790 females

Genus *Hydropotes***Hydropotes inermis*

(16.17.18)

- 7A, H. 1203-05, 1207, 1210-12, 1219, 1220, 1223, 1228, 1231, 1299, 1300, 1318 adult males
- H. 762, 763, 1198, 1199, 1202, 1296, 1208, 1209, 1213-1215, 1226, 1234, 1315, 1317, 1320, 1324 adult females
- H. 1197, 1216, 1228, 1232, 1233, 1295, 1319, 1321, 1322 juvenile males
- H. 1200, 1227, 1230, 1236, 1294, 1296-98, 1315 juvenile females

Genus *Capreolus***Capreolus pygargus*

(15.14.11)

- CS 1A adult male
- CS 1C juvenile male, Vladivostok, labelled "*C. adanaus*"
- CS 1B adult female, Vladivostok, 1892, labelled "*C. horridus*"
- CS 1D adult male, Han-sup., 1888
- CS 2A adult male, Vladivostok, labelled "*C. ussuricus*"
- CS 2B adult female, Vladivostok, labelled "*C. ussuricus*"
- CS 2C adult male, with jaw, Vladivostok, labelled "*C. ussuricus*"
- CS 3A juvenile male, Songari, 1886
- CS 3B adult female, 1890, labelled "*C. robustus*"
- CS 4B juvenile female
- CS 6B adult female, Han-sup., labelled "*C. vidianus*"
- CS 6C juvenile female, Han-sup., 1885, labelled "*C. vidianus*"
- CS 6D adult female, Han-sup., 1885, labelled "*C. vidianus*"
- CS 6E adult female, Han-sup., 1885, labelled "*C. vidianus*"
- CS 6F juvenile female, Han-sup., labelled "*C. yadanaus*"
- CS 7A adult male, Han-sup., 1885, labelled "*C. clinoceros*"
- CS 7B adult female, Han-sup., 1885, labelled "*C. clinoceros*"
- CS 7E juvenile female, Han-sup., 1885, labelled "*C. clinoceros*"
- CS 8A adult male, Han-sup., 1885, labelled "*C. ruliens*"
- CS 8B adult female, Han-sup., 1889, labelled "*C. ruliens*"
- CS 12A adult female, Han-sup., 1889
- CS 13A adult female
- CS 13B adult male
- CS 14A adult male, Huriuist?, labelled "*C. laeris*"
- CS 14B juvenile male, Vladivostok, don. Faure, labelled "*C. laeris*"
- CS 15A adult male, Vladivostok, labelled "*C. moncatinus*"
- CS 15B adult female
- CS 15C adult male, Vladivostok, just frontal plate
- CS 16A adult male, Siuantse, Mongolia, 1889, labelled "*C. elegans*"
- CS 16D juvenile female, Mongolia, 1889, labelled

- “C. ?”
- CS 17B adult male, Mongolia, 1883, labelled “C. *brachyrhinus?*”
- CS 17C adult female, Mongolia, 1889, labelled “C. *brachyrhinus?*”
- CS ? adult female, Han-sup.
- CS 11? adult female
- CS ? juvenile male
- CS ? (H. 761) juvenile female
- CS ? adult male
- CS ? adult male
- CS ? adult male
- CS ? sub adult male

Genus *Axis* (Descriptions and figures Heude 2(1): 49-50. Heude's *Hyelaphus calamianensis* is generally regarded as a valid species)

Axis calamianensis (5.1.1)

Hyelaphus calamianensis H., 1888

- H 1B juvenile male, lectotype, Calamianes Is., don. Sandoval, Heude (1888) *Mem. Hist. Nat.*, 2(1): 49, PL. IV fig. 1.

Other specimens

- H 1D adult female, Calamianes Is., 1887
- H 1E adult male, Calamianes Is., don. Don Claudio Sandoval
- H 1G adult male, Calamianes Is., don. Don Claudio Sandoval, just frontal plate
- H 1F adult male, just frontal plate
- H 1H adult male, Calamianes Is., don. Don Claudio Sandoval, just frontal plate
- H ? adult male, Calamianes Is., don. Don Claudio Sandoval, just frontal plate

Axis porcinus annamiticus (11.1.3)

Hyelaphus annamiticus H., 1888

- H 2G (H. 884) adult male, Baria, S-Vietnam, lectotype, snout missing, Heude (1888) *Mem. Hist. Nat.*, 2(1): 50, PL. IV figs. 3, 3'.
- H 2C adult male, Cochinchine, don. S. Simon, paralectotype, snout damaged

Other specimens

- H 2A sub adult male
- H 2D adult male, Cochinchine, don. S. Simon, labelled “*H. annamiticus*”
- H 2E adult male, Cochinchine, don. S. Simon, labelled “*H. annamiticus*”
- H 2K adult male, Bien Hoa, 1891, don. A. Lemée, labelled “*H. annamiticus*”
- H 2L young adult female, Bien Hoa, 1891, don. A. Lemée, labelled “*H. annamiticus*”
- H ? adult male
- H ? adult male
- H ? juvenile male, Cochinchine
- H ? (H. 954) adult male
- H ? adult male
- H ? (H. 886) adult male
- H ? (H. 930) adult male, viscerocranium damaged
- H 2? juvenile male, just frontal plate

Axis kuhlii (3.0.1)

- H 3A sub adult male, Banka, Indonesia, 1894, don. Vorderman
- H 3B adult male, Banka, Indonesia, don. Vorderman, just frontal plate
- H ? young adult male, just frontal plate
- H ? male, just frontal plate, labelled “*Hyelaphus kuhlii*”

Axis axis (3.1.2)

- A 1A adult male
- A 1C sub adult male
- A 1D adult male
- A 1E adult female
- A 1G sub adult male
- A ? adult male

Axis sp. (2.1.6)

- 2 adult male, just frontal plate
- 4 sub adult male, just frontal plate
- 2 juvenile male, just frontal plate
- 1 adult female, just frontal plate

Genus *Cervus*

Subgenus *Rusa*

Heude divided what Grubb & Groves (1986) called the subgenus *Rusa* into four genera:

Hippelaphus, *Sambur*, *Ussa* and *Melanaxis*. These correspond exactly to the species *Cervus* (*Rusa*) *timorensis*, *unicolor*, *mariannus* and *alfredi* of Grubb & Groves (1986) and Groves & Grubb (1983). Although Heude described the putative genus *Melanaxis*, and referred some species to it, no specimen in the surviving collection could be ascribed to this group.

Cervus (*Rusa*) *timorensis* (20.3.9)

Descriptions and figures in Heude 3(1): 47-52 and 3(2): 92-97. We failed to find the type of *Hippelaphus hoëvelli* H., 1897.

Hippelaphus macassaricus H., 1896

- Adult male, Gowa, near Macassar, Sulawesi, 1895, lectotype, just frontal plate, Heude (1896) *Mem. Hist. Nat.*, 3(1): 50, PL. XIII.
- Juvenile male, Macassar, 1895, don. Burgman, labelled "*H. celebensis*", paralectotype, Heude (1896) *Mem. Hist. Nat.*, 3(1): 50, PL. XIII figs.4-6.

Hippelaphus buruensis H., 1897

- Adult male, Buru, 1898, don. von Hoevell, lectotype, Heude (1888) *Mem. Hist. Nat.*, 3(2): 93, PL. XVI figs.1-5.

Hippelaphus hamiltonianus H., 1896

- Adult male, Sandakan, N of Borneo, don. Pritchard, holotype, just facial plate, Heude (1896) *Mem. Hist. Nat.*, 3(1): 49, PL. XII figs.1-3.

Hippelaphus moluccensis H., 1897

- Adult male, Amboine, lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(2): 94, PL. XVII figs.1-5, PL. XVI fig.11.

Hippelaphus menadensis H., 1896

- Adult male, Menado, lectotype, just facial plate, Heude (1896) *Mem. Hist. Nat.*, 3(1):50, PL. XIII figs.1,2.
- Juvenile male, Macassar, Feb1898, paralectotype, Heude (1896) *Mem. Hist. Nat.*, 3(1): 50, PL. XIII figs.3-5.

Hippelaphus floresiensis H., 1897

- Adult male, Larantouka, Flores, Aug1895, don. Dom Lorenzo, lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(1): 92, PL. XV figs.1-4.

Hippelaphus sumbavanus H., 1897

- Adult male, Sombawa, Flores Is., 1895, lectotype, just frontal plate, Heude (1897) *Mem. Hist. Nat.*, 3(2): 92, PL. XV fig.5.

Other specimens

- Adult female, Adonare Is., Jul.1895
- Juvenile male, Timor, labelled "*H. timorensis* Blainville", figured in Heude 3: PL. XIV fig.3.
- Juvenile male, labelled "*H. floresiensis*", figured in Heude 3: PL. XV fig.4.
- Adult male, Dobo, 1895
- Adult male, Dobo, Is. Arou, 1896, "Indroduit de Céramilya..." just frontal plate
- Adult male, Timor, 1895, labelled "*H. timorensis* Bl."
- Adult male, Solor, Flores, labelled "*H. timorensis* Bl."
- Adult male, Sombawa, Flores, 1895, labelled "*H. floresiensis*"
- Adult male, labelled "*H. ?*"
- Adult male
- 6 adult males, just frontal plate
- 2 adult females, 2 sub adult females, 2 juvenile females
- 2 frontal plates with antlers larger than any other specimen, perhaps the Javan form

Cervus (*Rusa*) *unicolor* (23.7.11)

Descriptions and figures in Heude 2(1): 20, 41-46.

Sambur curvicornis H., 1888

- SR 1A adult male, Tay-ninh, Cochinchine, 1880, don. Simon, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1):

42, PL. XIII fig.2.

Sambur joubertianus H. , 1888

- SR 2B adult male, Cambodia, don. Joubert, lectotype, Heude (1888) *Mem. Hist. Nat.* , 2(1): 45.

Sambur lignarius H. , 1888

- 11B (H. 745) adult male, Cochinchine, holotype, Heude (1888) *Mem. Hist. Nat.* , 2(1): 44, PL. XVII fig.2.

Sambur planiceps H. , 1888

- SR 12C adult male, Baria, don. Outrey, holotype, snout damaged, Heude (1888) *Mem. Hist. Nat.* , 2(1): 45, PL. XIII fig.3.

Sambur simoninus H. , 1888

- SR 7A adult male, Baria, don. Errard, holotype, Heude (1888) *Mem. Hist. Nat.* , 2(1): 46, PL. XIII fig.4.

Sambur officialis H. , 1888

- Holotype missing (*perhaps* 13A in Shanghai)
- SR 13B sub adult male, Baria, 1883, don. Combalbert, paratype, just frontal plate, labelled "typ. n. ", "S. *officialis*", Heude (1888) *Mem. Hist. Nat.* , 2(1): 46.

Sambur combalbertinus H. , 1888

- Lectotype in Shanghai
- SR 16D adult female, Baria, 1883, don. Combalbert, labelled as "typ. n. " (= paralectotype?), figured in Heude 2: PL. XVI fig.5.

Sambur colombertinus H. , 1888

- SR 7C adult male, lectotype, neurocranium damaged, Heude (1888) *Mem. Hist. Nat.* , 2(1): 43, PL. XVI fig.4
- SR 8B juvenile male, Baria, 1885, don. Errard, paralectotype, Heude (1888) *Mem. Hist. Nat.* , 2(1): 43, PL. XVI figs.3, 3^a.

Sambur longicornis H. , 1888

- SR 16C adult male, Saigon, holotype, Heude (1888) *Mem. Hist. Nat.* , 2(1): 42.

Sambur brachyrhinus H. , 1888

- SR ? adult male, Cochinchine, holotype, neurocranium damaged, Heude (1888) *Mem. Hist. Nat.* , 2(1): 46, PL. XII fig.1.

Other specimens

- SR 1C adult female with jaw, Tay-ninh, 1891, don. Simon, labelled "S. *curvicornis*"
- SR 1D adult male, Tay-ninh, 1890, don. Simon, labelled "S. *curvicornis*"
- SR 2A adult male, Tay-ninh, 1891, don. Simon, labelled "S. *joubertianus*"
- SR 2B adult male, Singapore, 1884
- SR 3B adult female, Tay-ninh, 1890, don. Simon, labelled "S. *simoninus*"
- SR 3C adult male, Tay-ninh, don. Simon, labelled "S. *simoninus*"
- SR 3D adult male, Tay-ninh, 1882, don. Simon, labelled "S. *simoninus*"
- SR 4A sub adult male, Tay-ninh, don. Simon, labelled "S. *capitosus*"
- SR 4C adult male, Tay-ninh, don. Simon, labelled "S. *capitosus*", just frontal plate
- SR 4Cbis adult male, Tay-ninh, 1892, don. Simon, labelled "S. *simoninus*", just frontal plate
- SR 5A sub adult male, Tay-ninh, Baria, 1892, don. Simon
- SR 5B juvenile female, Tay-ninh, 1891, don. Simon, labelled "S. *simoninus*"
- SR 5C adult male, Tay-ninh, 1888, don. Simon, just frontal plate
- SR 6A adult male, Tay-ninh, 1890, don. Simon
- SR 6B juvenile male, Cochinchine, don. Simon
- SR 6C adult female with jaw, Tay-ninh, 1891, don. Simon
- SR 7B adult female, Bien-Hoa, 1891, don. Lemée, labelled "S. *colombertinus*"
- SR 9B juvenile male, Baria, figured Heude (1888) *Mem. Hist. Nat.* , 2(1): PL. XIV fig.1, mentioned on p. 46, but not described, "S. *verutus*"
- SR 12C adult male, Mi-hoi, Baria, 1891, don. Lemée

- SR 13F adult male, Bien-hoa, 1891, don. Lemée, inscribed "*S. officialis*", neurocranium missing
- SR 14C adult male, don. Tillier, labelled "*S. tillierianus*"
- SR 17A sub adult male, Cochinchine, 1892, labelled "*S. striliuanus*"?
- SR 17B juvenile male, Baria, 1883, don. Combalbert
- SR 17Bbis adult male, Baria, 1889, don. Combalbert, labelled "*S. trictans*"?, just frontal plate
- SR 18B juvenile male, Késo, Jun. 1896,
- SR 22B adult male, Zhangba
- SR ? sub adult male, Baria, 1899
- SR(??), adult male, Vinh Riv., Tonkin, 1891
- SR(??), adult female, Vinh Riv., Tonkin
- SR(??), adult female, Vinh Riv., Tonkin

Antlers

(5.0.0)

- SR 7C left antler, Baria, Cochinchine, 1889, don. Errard
- SR 9C left antler, Baria, 1883, don. Lemée, labelled "*S. verutus*"
- SR 11? Right antler, Baria, 1885, don. Errard, labelled "*S. planiceps*"
- 2 single antlers

Unidentified specimens

(41.8.9)

- | | |
|--|---|
| <ul style="list-style-type: none"> • SR 1B adult male • SR 2D adult male • SR 6D adult male • SR 7E adult male • SR 9A adult male • SR 10B adult female • SR 11C adult female • SR 12A, B, C adult males | <ul style="list-style-type: none"> • SR 14A adult male • SR 17A adult male • SR 18A adult male • SR 20B adult female • SR 29A sub adult male • 30 adult males, 5 adult females, 5 sub adult males, 1 juvenile male and 2 juvenile females |
|--|---|

Cervus (Rusa) mariannus

(109.31.28)

Descriptions and figures in Heude 2(1): 1-10, 19-40 and 4(3): 134-145. We failed to find the type specimens of the following putative species: *Ussa francianus*, *U. nublanus*, *U. rosarianus*, *U. dailliardianus*, *U. microdontus*, *U. telesforianus*, *U. brachyceros*, *U. corteanus* and *U. chrysotrichos*, all of Heude, 1888.

Ussa garcianus H., 1888

- U 2B adult male, Nueva Ecija, don. A. del Rosario, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 29, PL. XIV fig. 4.

Ussa verzosanus H., 1888

- U 3A adult male, Nueva Ecija, Philippines, holotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 37, PL. XIV fig. 3.

Ussa longicuspis H., 1888

- U 3 G adult male, Luzon, Philippines, don. E. Tuason, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2: 35, PL. IX fig. 1.
- U 3K sub adult male, Luzon, Philippines, paratype, Heude (1888) *Mem. Hist. Nat.*, 2: 35, PL. IX fig. 1.

Ussa macarianus H., 1888

- U 4 A adult male, Nueva Ecija, Luzon, Philippines, holotype, neurocranium damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 28, PL. I fig. 6, PL. X fig. 1.
- U 4C juvenile, Nueva Ecija, Philippines, paratype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 28, PL. I fig. 6.

Ussa ramozianus (ramosianus) H., 1888

- U 5 A adult male, Nueva Ecija, Luzon, Philippines, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 26, PL. XV figs. 6, 2.
- U 5F juvenile male, Nueva Ecija, Luzon, Philippines, don. A. del Rosario, paralectotype, viscerocranium damaged

Ussa ambrosianus H., 1888

- U 7 A adult male, Nueva Ecija, Luzon, Philippines, don. A. del Rosario, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 27, PL. XI fig.2.

Ussa michaelinus H., 1899

- Lectotype in Shanghai
- U 8 F sub adult male, Sao Miguel de Murcia, Tarlac, Philippines, 1899, paralectotype, Heude (1899) *Mem. Hist. Nat.*, 4: PL. XXXIII A fig.2.

Ussa vidalinus H., 1899

- U 9 A (H. 946) adult male, Tarlac, Philippines, 1893, don. A. de Marais, lectotype, snout damaged, Heude (1899) *Mem. Hist. Nat.*, 4(3): 136, PL. XXXIII fig.9.

Ussa villemarianus H., 1899

- U 10 A adult male, Tarlac, Luzon, Philippines, 1893, don. A. de Marais, lectotype, neurocranium damaged, Heude (1899) *Mem. Hist. Nat.*, 4(3): 136, PL. XXXIII A fig.6.
- U 10D adult female, Tarlac, Luzon, Philippines, 1893, don. A. de Marais, labelled "*U. villemarianus*", neurocranium damaged

Ussa gorrichanus H., 1888

- U 11 A adult male, Batangas, Luzon, Philippines, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 21, PL. VI, fig.4.

Ussa gonzalinius H., 1888

- U 12 A adult male, Batangas, Luzon, Philippines, don. G. Tuason, holotype, neurocranium and snout damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 35, PL. IX fig.3.

Ussa tuasoninus H., 1888

- U 13 A adult male, Balingas, Philippines, holotype, neurocranium damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 25, PL. IX fig.2; 4(3): 137.

Ussa hipolitanus (*hipolitanus*) H., 1888

- U 15 A adult male, Manilla, Philippines, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 39, PL. VIII fig.1.

Ussa guidoteanus H., 1888

- U 14 D adult male, Batangas, Philippines, lectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 29 and 138, PL. XV fig.3.

Ussa guevaranus H., 1888

- U 16 F/H ? adult male, Laguna, Luzon, Philippines, holotype, just facial plate, Heude (1888) *Mem. Hist. Nat.*, 2(1): 40, PL. XV fig.4, labelled "*U. dorzanus*".

Ussa barandanus H., 1888

- U ? adult male, Mindoro, Philippines, holotype (identified by Heude 1888 as type of *U. b.*), most teeth missing, palatinum damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 22, PL. V fig.4.
- U 19A adult male, Mindoro, Philippines, paratype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 22, PL. XIII fig.3.
- U 19B adult male, Mindoro, Philippines, collector de Baranda, paratype

Ussa crassicornis H., 1888

- U 20 A adult male, "*Cebu?*" (Label), don. Ateneo, holotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): 23, PL. XIII fig.2.

Ussa (Label)/*Melanaxis* (Text) *basilanensis* H., 1888

- U 21 A adult male, Basilan, Philippines, holotype, snout damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 49, PL. XI fig.3.

Ussa spatharius H., 1888

- U 22 E adult male, Batangas, (LaLaguna), Luzon, Philippines, 1885, don. E. Tuason, lectotype, neurocranium and snout damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 25, PL. X fig.3.
- U 22D adult female, Batangas, (LaLaguna), Luzon, Philippines, 1885, don. E. Tuason, paralectotype, labelled "*U.*

spatharius", Heude (1888) *Mem. Hist. Nat.*, 2(1): 25, PL. Ⅱ fig.3 figured as "*U. verzosanus*".

Ussa atheneensis H., 1899

- U 23 A adult male, Manilla, Philippines, lectotype, right first antler sawed off, Heude (1899) *Mem. Hist. Nat.*, 4(3): 138; 2: PL. XV fig.3.
- U 23B adult female, Manilla, Philippines, paralectotype, neurocranium damaged, labelled "*U. atheneensis*", Heude (1899) *Mem. Hist. Nat.*, 4(3): 138; 2: PL. X fig.3' figured as "*U. spatharius*".

Ussa maraisianus H., 1888

- U 25 A adult male, Laguna, Philippines, 1879, don. A. de Marais, holotype, snout damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 31, PL. VI fig.2.

Ussa baryceros H., 1899

- U 26 B adult male, Bosobroso, Philippines, don. Guidote, lectotype, Heude (1899) *Mem. Hist. Nat.*, 4(3): 139, PL. XXXI B fig.1.

Ussa marzaninus H., 1888

- U 43 B adult male, Infanta, Philippines, don. G. Marzano, holotype, neurocranium damaged, Heude (1888) *Mem. Hist. Nat.*, 2(1): 33, PL. Ⅲ fig.4.

Ussa roxasianus H., 1888

- U ? adult male, Batangas, Philippines, holotype, PM1 missing ante mortem, Heude (1888) *Mem. Hist. Nat.*, 2(1): 33, PL. V fig.5.

Ussa rubiginosus H., 1888

- U ? adult male, Nueva Ecija, Philippines, lectotype (identified by Heude 1888 as type of *U. r.*), Heude (1888) *Mem. Hist. Nat.*, 2(1): 38, PL. V fig.2.
- U 1A adult male, 1885, paralectotype, Heude (1888) *Mem. Hist. Nat.*, 2(1): PL. VI fig.1, labelled "*U. philippensis*".

Other specimens

Luzon

- U 1B adult male, Manilla, Philippines, labelled "*U. philippinus Desm.*"
- U 2A adult male, Nueva Ecija, Philippines, don. A. de Marais, labelled "*U. gracianus*"
- U 2C adult female, Laguna, Philippines
- U 3B adult female, Nueva Ecija, Philippines, labelled "*U. verzusianus*"
- U 3C adult male, Nueva Ecija, Philippines, don. A del Rosario, labelled "*U. verzusianus*", just frontal plate
- U 3E adult male, Nueva Ecija, Luzon, Philippines, don. Elorzano, labelled "*U. roxasianus*"
- U 3D adult male, Nueva Ecija, Philippines, don. A. del Rosario, labelled "*U. verzusianus*", just frontal plate
- U 3G adult male, Nueva Ecija, Philippines, don. Ramos, labelled "*U. verzusianus*"
- U 3H adult female, Nueva Ecija, Philippines, labelled "*U. verzusianus*"
- U 4D adult male, Nueva Ecija, Philippines, don. A. del Rosario, labelled "*U. macaianus*"
- U 4H adult male, Nueva Ecija, Philippines, don. A. del Rosario, labelled "*U. macaianus*", just frontal plate
- U 4S adult male, Laguna, Philippines, labelled "*U. nigricans Brooks*"
- U 5B adult male, Masbate, 1894
- U 5C adult male, Nueva Ecija, Philippines, don. A. del Rosario, labelled "*U. ramosianus*"
- U 5E adult male, Nueva Ecija, Philippines, don. A. del Rosario, labelled "*U. ramosianus*"
- U 8B adult male, Tarlac, Philippines, don. A. de Marais, Heude (1885)
- U 8E adult female, Tarlac, Philippines, 1893, labelled "*U. michaelinus*"
- U 8D juvenile male, Tarlac, Luzon, Philippines, 1893, labelled "*U. michaelinus*"
- U 9C sub adult female, Sao Miguel de Murcia, Tarlac, Philippines, 1893, labelled "*U. vidalinus*"
- U 9D juvenile female, Sao Miguel de Murcia, Tarlac, Philippines, 1893, don. A. du Marais, labelled "*U. vidalinus*"
- U 10B adult female, Tarlac, Philippines, 1893, labelled "*U. ?*"
- U 10C sub adult male, Tarlac, Luzon, Philippines, don. A. de Marais
- U 10G sub adult male, Tarlac, Philippines, 1893, labelled "*U. ?*"
- U 11D adult male, Batangas, Philippines, labelled "*U. gorrichanus*"
- U 11G juvenile male, Manilla, Philippines, don. Gorricho, labelled "*U. gorrichanus*"

- U 13H juvenile male, Laguna, Philippines, don. Nubla, labelled "*U. tuasoninus*", figured as "*U. nublanus*" in Heude 2; PL. VII fig.3'
- U 13I juvenile male, Bataan, Philippines, 1888, labelled "*U. marzaninus*"
- U 13J adult male, Manilla, Philippines, labelled "*U. tuasoninus*"
- U 14A adult male, Manilla, Philippines, labelled "*U. guidoteanus*", "PL. X fig.2, corteanus suppl. "
- U 14F adult male, Batangas, Philippines, don. G. Tuason, labelled "*U. guidoteanus*"
- U 14G adult male, Manilla, Philippines, labelled "*U. guidoteanus*"
- U 14I adult male, Batangas, Philippines, don. Peoras, labelled "*U. guidoteanus*"
- U 14S adult male, Laguna, Manilla, Philippines, 1889
- U 15B adult male, Batangas, Philippines, don. G. Tuason, labelled "*U. hipolitianus*"
- U 15D adult male, Batangas, Philippines, don. S. Roxas, labelled "*U. hipolitianus*"
- U 17B adult male, Nueva Ecija, Luzon, Philippines, Labelled "*U. roxasianus*"
- U 17K sub adult male, Batangas, Philippines, labelled "*U. roxasianus*"
- U 17S adult male, don. S. Roxas, labelled "*U. roxasianus*"
- U 18C juvenile male, Tarlac, Luzon, Philippines, 1893, don. A. du Marais
- U 22F adult male, Batangas, Philippines, don. G. Tuason, labelled "*U. spatharius*"
- U 22? adult male
- U 24A adult male, Laguna, Philippines, 188?, don. A. du ?, labelled "*U. nigricans* Brooke", figured Vol. 2 PL. VIII fig.6
- U 24B adult female, Laguna, Philippines, 1888, don. A du Marais, labelled "*U. nigricans* Brooke "
- U 24C sub adult male, Laguna, Philippines, labelled "*U. nigricans* Brooke"
- U 24D adult male, Infanta, Philippines, don. G. Marzano, labelled "*U. nigricans* Brooke"
- U 24Ff juvenile male, Laguna, Philippines, don. A. du Marais, labelled "*U. nigricans* Brooke"
- U 24? adult female, don. A du Marais, labelled "*U. nigricans* Brooke"
- U 24? adult male, Laguna, Philippines, labelled "*U. nigricans* Brooke"
- U 24H adult male, Laguna, Philippines, don. A. de Marais, labelled "*U. nigricans* Brooke"
- U 24J adult female, labelled "*U. nigricans* Brooke"
- U 24K adult male, Laguna, Philippines, labelled "*U. nigricans* Brooke"
- U 24Q adult male, Laguna, Philippines, labelled "*U. nigricans* Brooke"
- U 24Y adult male, Infanta, Philippines, don. G. Marzano, labelled "*U. nigricans* Brooke"
- U 25 B adult male, Laguna, Philippines, don. A. de Marais, labelled "*U. maraisianus*"
- U 25C sub adult male, Jala-Jala, 1892
- U 25E(ε) adult female, Laguna, Philippines, 1889, don. Daillard, labelled "*U. maraisianus*"
- U 25G adult male, Laguna, Luzon, Philippines, don. Marzano, labelled "*U. maraisianus*"
- U 25K adult female, Laguna, Philippines, 1889, labelled "*U. maraisianus*"
- U 25L adult male, Jala-Jala, Luzon, Philippines, don. A. de Marais, labelled "*U. maraisianus*"
- U 25M adult female, Laguna, Philippines, 1889, don. Daillard, labelled "*U. nigricans* Brooks"
- U 25P juvenile male, Laguna, Philippines, labelled "*U. marzaninus*"
- U 25Q juvenile male, Jala-Jala, Luzon, Philippines, 1893, don. Vidal
- U 26E adult male, Batangas, Philippines, labelled "*U. brachycerus*"
- U 26? (H. 948) adult male, Batangas, Philippines
- U 43A adult male, Infanta, Philippines, labelled "*U. marzaninus*"
- U 43C (H. 942) adult male, Infanta, Philippines, inscribed "*U. maraisianus*"
- U 43D adult male, Infanta, Philippines, labelled "*U. marzaninus*"
- U ? adult male, Nova Ecija, Philippines, labelled "*U. corleanus*"
- U ? E adult male, Batangas

Mindanao

- U 7A (H. 876) adult male, Mainit, Mindanao, Philippines, labelled "*U. costeanus*", just frontal plate
- U 7B adult male, don. A. del Rosario, labelled "*U. ambrosianus*", Heude (1888) 2, PL. VII fig.1 "*U. toxocerus*"
- U 7F adult male, don. Roxas, labelled "*U. roxasianus*"
- U 10A adult male, Davao, Philippines, labelled "*U. ca?*"
- U 27A adult male, Zamboanga, Mindanao, Philippines, 1899
- U 27B sub adult male, Zamboanga, Philippines
- U 28A sub adult male, Davao, Mindanao, Philippines, 1899 labelled "*U. unicornis*" (one antler already shedded)

- U 28B adult male, Davao, Philippines, labelled "*U. unicornis*"
- U 28C adult female, Davao, Philippines, 1893, labelled "*U. unicornis*"
- U 28E adult male, Laguna, Philippines
- U 29D adult female, Davao, Philippines, 1899
- U 31A sub adult male, Mindanao, Philippines, labelled "*U. francianin?*", just frontal plate
- U 32A adult male, Davao, Philippines, June 1893, labelled "*U. adontogina*"
- U 32B young adult male, Davao, Philippines, 1892, labelled "*U. conqramatus*"
- U 32C adult female, Davao, Philippines, labelled "*U. adontogina*"
- U 32D adult female, Davao, Philippines, 1893, "*U. odontogenas*"
- U 32E juvenile male, Samal, Davao, Philippines, 1899, labelled "*U. odontogenas*", figured in Vol. 4, PL. XXXI B fig. 2 as "*U. cinera*" (not described)
- U 33A-E two adult males, three adult females, Davao, Philippines, 1893
- U 33F adult female, Davao, Philippines, 1893
- U 33G sub adult male, Davao, Philippines, 1893
- U 34B adult female, Davao, Philippines, labelled "*U. campestus*"
- U 35B adult female, Davao, Philippines, 1893, labelled "*U. decoronatus*"
- U 35C sub adult male, Davao, Philippines, 1893, labelled "*U. decoronatus*"
- U 35F adult female, Davao, Philippines, 1899, labelled "*U. conqramatus*"
- U 35? adult male, just frontal plate, Davao, Philippines, 1893
- U 36A (H. 963) adult male, Davao, Philippines, labelled "*U. davaensis*"
- U 36B sub adult male, Davao, Philippines, labelled "*U. davaensis*"
- U 36D adult female, Davao, 1899, Philippines, labelled "*U. davaensis*"
- U 39B (H. 957) adult male, Sigaboy, Davao, Philippines, 1899
- U 44A adult male, Davao, Philippines, 1893, labelled "*U. maraisianus*", just frontal plate
- U 45A adult male, Mainit, Mindanao, Philippines, labelled "*U. Ericornis?*"
- U 45B adult male, Malalag, Davao, Philippines, 1893, labelled "*U. apoensis*", just frontal plate
- U 45D adult male, Mainit, Mindanao, Philippines, labelled "*U. tricornis*"
- U 47A adult male, Mainit, Mindanao, 1894, labelled "*U. colonum*"
- U 47B adult male, Mainit, Mindanao, Philippines, labelled "*U. colonum*"
- U 47C adult male, Mainit, Mindanao, Philippines, labelled "*U. colonum*"
- U 48A adult male, Mainit, Mindanao, Philippines, labelled "*U. occipitalis*"
- U 48B adult male, N-Mindanao, Philippines, labelled "*U. occipitalis*"
- U 50A adult male, Mainit, Mindanao, Philippines, labelled "*U. floridus*"
- U 54B adult male, Iligan, Mindanao, Philippines, 1893, labelled "*U. mainus*"(?)
- U 55A adult female, Cottabato, Mindanao, Philippines, 1893
- U 56A adult male, Cottabato, Mindanao, Philippines, labelled "*U. hypodonticus*"
- U 56B adult female, Cottabato, Mindanao, Philippines, 1893, labelled "*U. hypodonticus*"
- U 57A (H. 891) adult male, Cottabato, Mindanao, Philippines
- U 58A adult female, Cottabato, Mindanao, Philippines, 1893
- U 59C adult male, Cottabato, Mindanao, Philippines, just frontal plate
- U 59D adult male, Mainit, Surigao, Philippines, labelled "*U. florisianus*", just neurocranium
- U ? E adult male, Batangas

Other islands, and unknown

- U 1A adult female, Masbate
- U 6A adult male, Cebu, Philippines, labelled "*U. cinereus*"
- U 14E adult male, labelled "*U. guidoteanus*"
- U 21C adult female, Basilan, Philippines, 1893
- U 21E adult male, Basilan, Philippines, 1893
- U 26G adult male, Basobosa, Philippines, labelled "*U. brachycerus*"
- U 41E sub adult male, "*U. unicornis*"
- U 41 G adult male, Basilan, Philippines, 1893, don. Ayala, labelled "*U. avileanus*", just frontal plate
- U 45J adult male, Basilan, Philippines, labelled "*U. exciteanus*"
- U ? adult male, Manana, Philippines
- U ? adult male, Marianas Is.

- U ? A sub adult male, Macassar, 1897
- ? adult male, without antlers, 1888, labelled "*U. celestino*"

Unidentified specimens (without locality)

(53.4.15)

- U 2B sub adult female
- U 2D sub adult male
- U 2G sub adult male
- U 5A adult female
- U 13D, F adult males
- U 14I adult male
- U 17E sub adult male
- U 17 ? juvenile female
- U 22H adult female
- U 24P, Pbis, T, U, V, Y, α , β , g adult males
- U 24N juvenile female
- U 25L, W, α adult males
- U 26A adult male
- U 28I sub adult male
- U 34A sub adult male
- U 35A adult male
- U 42A adult male
- U 59A adult male
- U 59E adult female
- 34 adult males, 4 sub adult males, 2 juvenile males, 1 adult female, 1 baby female

Subgenus *Cervus*

Heude described a genus and species, *Sikelaphus soloensis*, which appears to be an endemic sika-like deer from Jolo, in the Philippines. Its characters are certainly consistently different from those of any other deer, and there is a further specimen in the American Museum of Natural History, New York. Being clearly subgenus *Cervus*, not *Rusa*, its occurrence in the southern Philippines is enigmatic. All others of the subgenus *Cervus* described by him belong to *Cervus nippon*; he placed most of them in the genus *Sika* Sclater, and erected a new genus *Sikaillus* for the small Sika from the Goto Islands, Japan (curiously, including *Cervus nippon* itself (see Groves & Smeenk, 1978), which he renamed *Sika schlegeli*).

Sikelaphus soloensis H., 1894 (incertae sedis)

- S ? (H. 932) adult male, Solo (Jolo), Philippines, 1892, don. R. P. Marc, holotype, jaw missing, snout damaged, Heude (1894) *Mem. Hist. Nat.*, 2(3): 147, PL. XX C.
- S ? juvenile male, Solo (Jolo), Philippines, 1882, don. M. F. Sendras, paratype, Heude (1894) *Mem. Hist. Nat.*, 2(3): 147, PL. XX C fig. 6.

Cervus nippon

(51.23.40)

Described and figured in Heude (1882, 1884), Heude 2(3): 146-163, 3(3): 98-107, 4(2): 90-111, 4(4): 209-210 and Sowerby (1917, 1918). We failed to find the types of the following putative species: *Cervus gracilis*, *C. ignotus*, *C. joretianus*, *C. devilleanus*, *C. cyclochinus* and *C. hyemalis* H., 1882; *Sika microdontus*, *S. yuanus*, *S. dominicanus*, *S. novioninus*, *S. schultzianus*, *S. morrisianus*, *S. fuscus*, *S. hollandianus*, *S. orthopus*, *S. legrandianus*, *S. sylvanus* and *S. grassianus* H., 1884; *S. rivierianus* and *S. frianianus* H., 1894; *S. schizodonticus* H., 1897; and *Sikaillus latidens* H., 1898.

China (Central)

Sika brachyrhinus H., 1884

- S 1A adult male, Kienté, lectotype, Heude (1894) *Mem. Hist. Nat.*, 2(3): 151, PL. XXIII, PL. XXV B fig. 5.
- S 1B adult female, Kienté, paralectotype, Heude (1894) *Mem. Hist. Nat.*, 2(3): 151, PL. XXIII figs. 5-8.
- S 1C juvenile female, Oct 1881, don. Joret, paralectotype, labelled "*S. brachyrhinus*"

Sika cycloceros H., 1884

- S 3 A adult male, China, lectotype, Heude (1894) *Mem. Hist. Nat.*, 2(3): 160, PL. XXVI figs. 1-8, PL. XXV B fig. 6.

Sika surdescens H., 1894

- S 5 B adult male, C-Kienté, lectotype, part of frontal plate with antlers sawed off, Heude (1894) *Mem. Hist. Nat.*, 2(3): 161, PL. XXVI A figs. 1-4, PL. XXIV A fig. 1; PL. XXV B fig. 9.
- S 5A juvenile male, paralectotype, right antler deformed, Heude (1894) *Mem. Hist. Nat.*, 2(3): 154, PL. XXIV A

fig. 1.

Sika pouverlianus H. , 1884

- S 6 A adult male, Kienté (?), lectotype, snout damaged, Heude (1894) *Mem. Hist. Nat.* , 2(3): 149, PL. XXI; PL. XXV B fig. 2; PL. XIV A fig. 10.
- S 6B juvenile male, Kienté (?), paralectotype, Heude (1894) *Mem. Hist. Nat.* , 2(3): 149, PL. XXI fig. 5.

Sika grilloanus H. , 1884

- S 7 E adult male (very old), Tong lieu on the Yang-tze, lectotype, Heude (1894) *Mem. Hist. Nat.* , 2(3): 154, PL. XIII A figs. 1-7, PL. XXV A fig. 4; PL. XXV B fig. 12.
- S 7F adult female, N-Kienté, don. Kopschi, paralectotype, Heude (1894) *Mem. Hist. Nat.* , 2(3): 154, PL. XXXIII A figs. 6, 7.
- S 7G adult male, C-Kienté, don. Souvreau, paralectotype, Heude (1894) *Mem. Hist. Nat.* , 2(3): 154, PL. XIII A figs. 3, 4.

Cervus (later *Sika*) *frinianus* H. , 1882

- S 8 A adult male, Kienté, lectotype, antlers sawed off, Heude (1894) *Mem. Hist. Nat.* , 2(3): 159, PL. XXV A figs. 1-8, PL. XXIV A figs. 5, 8; PL. XXV B fig. 3.
- S 8C adult male, Kienté, 1890, don. Delonne, paralectotype, part of frontal plate with antlers sawed off, labelled "S. *frinianus*"
- S 8D adult male, Kienté, don. Delonne, paralectotype, part of frontal plate with antlers sawed off, labelled "S. *frinianus*"

Sika oxycephalus H. , 1884

- S 9 A adult male, Kienté, don. Souvreau, holotype (labelled as "type... prime"), Heude (1894) *Mem. Hist. Nat.* , 2(3): 158, PL. XXV figs. 1-4, PL. XXV fig. 4, PL. XXIV A figs. 2, 15.

Cervus (later *Sika*) *lacrymosus* H. , 1882

- S 10 A adult male, C-China, holotype, part of frontal plate with antlers sawed off, Heude (1894) *Mem. Hist. Nat.* , 2(3): 154, PL. XXVI A figs. 9, 10, PL. XXIV A fig. 6.

Sika arietinus H. , 1894

- S 11 A adult male, C-Kienté, 1884, don. Souvreau, lectotype, part of frontal plate with antlers sawed off, Heude (1894) *Mem. Hist. Nat.* , 2(3): 162, PL. XXVI A figs. 5-8; PL. XXV B fig. 10.

Cervus (later *Sika*) *andreanus* H. , 1882

- S 12 A adult male, Mts. Between Tsché-kiang and Ngan-houé, holotype, condyli sawed off, Heude (1894) *Mem. Hist. Nat.* , 2(3): 152, PL. XIII figs. 1-4; PL. XXV B fig. 7.

China (North)

Sika microspilus H. , 1884

- S 35 A adult male, Moukden, lectotype, snout. Heude (1898) *Mem. Hist. Nat.* , 4(4): 210, PL. XXXVII figs. 1-6, PL. XXXVII fig. 3.

Sika mandchuricus Sw.

- S 34A sub adult male, Moukden, figured Heude 4: PL. XXXVII figs. 7-9.
- S 34B adult female, Moukden, figured Heude 4: PL. XXXVII fig. 10.

Sika imperialis H. , 1899

- Lectotype in Shanghai
- S 38B adult female, Songari Valley, paralectotype, figured in Heude 4 PL. XXXIII fig. 4.
- S 38 C adult female, Songari Valley, paralectotype, labelled "S. *imperialis*", figured in Heude 4, PL. XXXIII fig. 5.

Japan (Honshu)

Sika sendaiensis (or *xendaiensis*) H. , 1884

- S 14 A adult male, Sendai, Japan, lectotype, Heude (1897) *Mem. Hist. Nat.* , 3(3): 98, PL. XIX figs. 1-3, 6, PL. XXI figs. 1-3.

Sika aplodonticus (or *aplodontus*) H., 1884

- S 17 A adult male, N-Tokyo, don. Capt. Blakiston, holotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 100, PL. XXI figs. 2-4, PL. XXII figs. 7-9.

Sika orthopodicus H., 1897

- S 19 A adult male, Kobé (captured Mar1881, died Nov1889 at ZKW), holotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 101, PL. XXIII figs. 4-6, PL. XXIII A figs. 1, 2.

Sika mitratus H., 1884

- S 20 A adult male, Tokyo, 1889, don. Blakiston, lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 102, PL. XXV figs. 1-3, PL. XXV figs. 7, PL. XXVI A figs. 16-18.
- S 20B juvenile male, paralectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): PL. XXV fig. 7.

Sika ellipticus H., 1897

- S 21 A adult male, Sendai, Japan, holotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 103, PL. XXV figs. 1-3, PL. XXVI figs. 4-6.

Sika minoensis H., 1897

- S 23 A adult male, Min. W. of Tokyo, holotype, base of neurocranium sawed off, Heude (1897) *Mem. Hist. Nat.*, 3(3): 104, PL. XXV figs. 54, PL. XXVI A figs. 7-9.

Japan (Hokkaido)

Sika dolichorhinus H., 1897

- S 16 A adult male, Yeso, Japan, lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 100, PL. XX figs. 3-6, PL. XXIII figs. 4-6.
- S 16B juvenile female, Yeso, labelled "*S. dolichorhinus*", paralectotype

Sika rutilus H., 1897

- S 24 B adult male, Hakodate, 1888, don. Faniac?, labelled "*S. rubiginosus*", lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 105, PL. XXIII figs. 1-3, PL. XXVI A figs. 10-12.
- S 24A adult male, Hakodate, 1888, don. Berlios, paralectotype

Sika yesoensis H., 1884

- S 25 A adult male, Yeso, lectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 105, PL. XXVI, PL. XXVI A figs. 1-3.
- S 25B adult male, Yeso, paralectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 105, PL. XXVI, PL. XXVI fig. 2.
- S 25C juvenile female, Yeso, paralectotype, figured Heude (1897) *Mem. Hist. Nat.*, 3(3): PL. XXVI fig. 4.
- S 25D juvenile male with jaw, Yeso, paralectotype, Heude (1897) *Mem. Hist. Nat.*, 3(3): 105, PL. XXVI fig. 3.

Japan (Goto Islands)

Sika (later *Sikaillus*) *infelix* H., 1884

- S 27 A adult male, Goto Is., lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 100, PL. XV, figs. 1-3, 10, 11, PL. XVII fig. 6.

Sikaillus daimius H., 1898

- S 28 B adult male, Goto Is., lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 101, PL. XVII figs. 7-9, 12, 13; PL. XVII fig. 3; PL. XIX fig. 1.
- S 28A juvenile male, Fukuié, Goto Is., 1887, don. Marmand, paralectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): PL. XVII fig. 8, figured as "*S. kematoceros*" in Heude 2; PL. XIX fig. 1.

Sikaillus rex H., 1898

- S 29 A adult male, Fukuié, Goto Is., 1889, don. Marmand, holotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 102, PL. XV figs. 4-6, 12, 13, PL. XVII fig. 1, PL. XIX fig. 2.

Sikaillus paschalis H., 1898

- S 30 B adult male, Fukuié, Goto Is., 1887, lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 103, PL. XVI figs. 7-11, PL. XVIII fig. 2, PL. XIX fig. 4.
- S 30A juvenile male, Fukuié, Goto Is., paralectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 103, PL. XVI fig. 8.

- S 30C sub adult female, Fukuié, Goto Is., paralectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 103, PL. XVI fig. 9.

Sikaillus regulus H., 1898

- S 31 C adult male, Fukuié, Goto Is., 1887, lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 103, PL. XIV figs. 7-9, 14, 15, PL. XVIII fig. 8, PL. XIX fig. 6.

Sikaillus sicarius H., 1898

- S 33 B adult male, Goto Is., lectotype, snout damaged, Heude (1898) *Mem. Hist. Nat.*, 4(2): 105, PL. XV figs. 7-9, 14, 15, PL. XVIII fig. 8, PL. XIX fig. 4.

Sikaillus consobrinus H., 1898

- S 35 B adult male, Nakadori, Goto Is., 1898, don. Sila, lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 107, PL. XIV figs. 4-6, 14, 15, PL. XVIII figs. 5, PL. XIX fig. 3.

Sikaillus dejardinius H., 1898

- S 34 B adult male, Goto Is., lectotype, figured Heude(1898) 4(2):106, PL. XVI figs. 4, 5, 12, 13, PL. XVIII fig. 10.

Sikaillus marmandianus H., 1898

- S 36 B adult male, Goto Is., lectotype, Heude (1898) *Mem. Hist. Nat.*, 4(2): 108, PL. XVII figs. 4-6, 14, 15, PL. XVII fig. 7.

Sika (later *Sikaillus*) *brachypus* H., 1884

- S 38 A adult male, Goto Is., lectotype, snout damaged, right antler sawn off, Heude (1898) *Mem. Hist. Nat.*, 4(2): 106, PL. XVI figs. 1-3, 14, 15, PL. XVIII fig. 9.

Other specimens

China (Central)

- S 2B adult female, S-Kienté, 1877, don. Joret, labelled "*S. joretianus*"
- S 2H juvenile female, Kienté, 1888, labelled "*S. joretianus*"
- S 3B adult female, S-Kienté, 1881, don. Frin, labelled "*S. cycloeros*", figured Heude 2: PL. XXVI fig. 3
- S 6C adult female, Kienté, 1882, don. Frin, labelled "*Sika. pouvrelianus*", figured Heude 2: PL. XXI fig. 4
- S 6D/9C adult female, Kienté, Mar 1882, don. Frin, labelled "*S. pouvrelianus*"
- S 7A adult male, C-Kienté, don. Lariviere, labelled "*S. grilloanus*"
- S 7B adult female, Kienté, 1889, don. Souvreau, labelled "*S. grilloanus*"
- S 8B sub adult female, Kienté, don. Delonne, labelled "*S. frinianus*"
- S 8F sub adult female, Kienté, 1891, don. Delonne, labelled "*S. frinianus*", figured Heude 2: PL. XXV A figs. 5-8
- S 9B adult female, Kienté central, 1881, don. Frin, labelled "*S. oxycephalus*", figured Heude 2: PL. XXV fig. 5
- S 9D/B juvenile male, S-Kienté, Jan 1890, Frin, labelled "*S. ?*", figured as "*S. oxycephalus*" in Heude 2: PL. XXV A fig. 2
- S 10B baby female, Lai-me Chou, Kienté, labelled "*S. lacrymosus*"
- S 17A adult male, Venu par Amoy?, labelled "*S. efatiar*"

China (North) and Russia

- S 33 Abis adult male, Ussuri valley, "*Sika dybovski Taczanowski*", jaw missing, snout damaged, figured in Heude 4: PL. XXXIX fig. 1
- S 33Cbis adult female, Vladivostok, labelled "*S. dybovskii*", figured in Heude 4: PL. XXXIX fig. 3
- S 33Dbis juvenile male, Ussuri Valley, Vladivostok, labelled "*S. dybovski Taksz.*", figured in Heude 4: PL. XXXIX fig. 2
- S 34Bbis adult female, Moukden, labelled "*S. mandchuricus Sw.*" figured Heude 4: PL. XXXIV fig. 10, died at ZKW
- S 34Cbis sub adult female, Moukden, died at ZKW, don. Conreans, labelled "*S. mandchuricus Sw.*"

China (Taiwan)

- S 13 A adult female, Ta-kaio, (inscribed "... *Formosa*"), don. Novim, labelled "*S. taivanus Sw.*"
- S 14B juvenile male, Ta-kaio, labelled "*S. ? tronicru? s*" (illegible)
- S 15B adult male, Ta-kaio, Formosa, don. Steriti (Stenti?), labelled "*S. schulzianus*", just frontal plate
- S 15C sub adult male, Ta-kaio, Formosa, don. Chinchon, labelled "*S. schulzianus*"

- S 15Dbis adult male, Ta-kaio, Formosa, labelled "*S. schulzianus*", just frontal plate
- S 16A adult female, Ta-Kao, labelled "*S. morrisianus*"
- S 16D male, Ta-Kao, just front plate

Vietnam

- S 13 B juvenile male, Hung-hoa, Tonkin, 1892, don. de Goy, labelled "*S. dugenneanus*", figured Heude 2: PL. XXIV A fig. 3
- S ? adult male, Tonkin, don. Clop, labelled "*S. dugenneanus*", antlers sawed off

Japan (Honshu?)

- S 15Ibis adult male, Tokyo, labelled "*S. blakistoninus*", just frontal plate
- S 23 C juvenile male, Tokyo, 1892, don. Beuf, labelled "*S. minoensis*", figured Heude 4: PL. XX fig. 5

Japan (Hokkaido)

- S 14D juvenile male, Hakodate, labelled "*S. blakistoninus*"
- S 14E adult male, Hakodate, Mar1884, labelled "*S. blakistoninus*"
- S 15E sub adult male, figured as "*S. blakistoninus*", Heude 3: PL. XX fig. 2S
- S 15H juvenile male, Hakodate, 1884, labelled "*S. blakistoninus*"
- S 15I adult male, Hakodate, don. H. Silva, labelled "*S. blakistoninus*", just frontal plate

Japan (Goto Islands)

- S 26 A juvenile male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. sika T. et S.*", figured Heude 4: PL. XV fig. 2, figured as "*S. minuzes*" Heude 2: PL. XVII fig. 3
- S 26B adult male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. sika T. et S.*", figured Heude 4: PL. XV fig. 1
- S 26C adult female, Goto Is., 1884, don. Capt. Holland, labelled "*S. sika T. et S.*", figured Heude 4: PL. XV fig. 3
- S 27C adult female, Goto Is Fukuié, 1887, labelled "*S. infelix*", figured Heude 4: PL. XIV fig. 3
- S 28G sub adult female, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. daimius*"
- S 29B juvenile male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. rex*", figured Heude 4: PL. XV fig. 5
- S 29E adult female, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. rex*", figured Heude 4: PL. XV fig. 6
- S 31A juvenile male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. regulus*", figured Heude 4: PL. XIV fig. 8
- S 31B sub adult male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. regulus*"
- S 31F adult male, Goto
- S 31J adult female, Fukuié, Goto Is., 1887, labelled "*S. regulus*"
- S 32C juvenile male, Goto Is.
- S 33A juvenile male, Goto Is., figured as "*S. sicarius*" in Heude 4: PL. XV fig. 8
- S 33C(L) sub adult male, Goto Is.
- S 32A juvenile male with jaw, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. aceros*"
- S 33D(B) young adult male, Fukuié, Goto Is., 1888, labelled "*S. sicarius*"
- S 34D adult female, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. dejardinus*"
- S 35A juvenile male, Nakadori, Goto Is., 1898, don. Séla, labelled "*S. consobrinus*", figured Heude 4: PL. XIV fig. 5
- S 35D sub adult female, Goto Is., don. Marmand, labelled "*S. consobrinus*"
- S 36A juvenile male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. marmandianus*", figured Heude 4: PL. XVII fig. 5
- S 36C adult female, Goto, labelled "*S. marmandianus*", daughter of 36E
- S 36E adult female Goto, labelled "*S. marmandianus*", figured in Heude 4: PL. XVII, fig. 6, mother of 36C
- S 38B juvenile male, Fukuié, Goto Is., 1887, don. Marmand, labelled "*S. brachypus*", figured Heude 4: PL. XVI fig. 2
- S 38F juvenile male, Fukuié, Goto Is., 1887, labelled "*S. brachypus*", son of 36G
- S 38G adult female, Fukuié, Goto Is., 1889, labelled "*S. brachypus*", figured Heude 4: XVI fig. 3
- S ? C adult male, labelled "*S. retoranus*"
- S ? adult male, Captivité, 1899

Unidentified specimens (without locality)

- S 3? juvenile male, 1892
- S 3? adult male

(31. 19. 19)

- S 3E juvenile female
- S 3G adult female
- S 5C adult female
- S 7D juvenile female
- S 7E adult male
- S 9D adult male
- S 13C adult male
- S 13E adult male, just front plate
- S 14A adult male
- S 15A adult male
- S 15E? adult male
- S 15G adult male
- S 2? F adult male
- S 25C adult male
- S 28E juvenile female
- S 29C juvenile male
- S 3?? juvenile male
- S 3? B adult female
- S 31G adult male
- S 31D sub adult male
- S 31E adult female
- S 31I adult female
- S 32E adult female
- S 32I adult male
- S 32F(1)? juvenile male
- S 32H adult female
- S 33F adult female
- S 33H young adult male
- S 34C adult male
- S 35C adult male
- S 37B sub adult male
- S 38E adult female
- 6 juvenile males, 3 sub adult males, 15 adult males, 10 adult females, 1 juvenile female

“Hybrids” bred at Zi-ka-wei by Heude. Some of the labels on these specimens were especially hard to interpret (5.4.8)

- S 13 C' juvenile female, labelled “S. (*novio-morris*) × *S. taiwanus*” father: 16B, mother: 13A
- S 13C² juvenile female, labelled “S. (*novio-morris*) × *S. taiwanus*” father: 16B, mother: 13A
- S 13C³ juvenile female, labelled “S. (*novio* × *morris* × *taiwanus*) × *S. taiwanus*”, mother: 13A
- S 15A² adult female, Yeso-Goto, labelled “*S. schulzy* × *goto-yeso*”
- S 15A³ adult male, labelled “*S. schulzy-goto-yeso*” (Hg6, perque par 15A)
- S 16A' adult female, labelled “*S. novio-morris*”
- S 16B adult male, Sié-kiao (Shanghai), labelled “*S. novio-morris*”
- S 16A⁴ juvenile female, labelled “*S. novio* × *morris* × *morrisianus*”
- S 19A⁺ juvenile female, labelled “*S. orthop.* × *yeso* × *goto*”, (*Mofia guatremas*?)
- H. 1725? juvenile male, ♂ XII , ♀ *Goto*
- 1AB adult male, 1891, *R. nriu* × *Sn. Koue*
- 3AB juvenile female, 1891, *charlef-ef-Carothme II*
- S VII D adult female, Fille de ?, labelled “*S. taiwanus*”
- S XIII G adult male, ♂ VIII , ♀ *Goto*
- S XV F adult male, *schulzianus* × *morrisianus*
- ? adult female, *Othop* ♂ × *Goto* ♀
- ? juvenile male, ♂ *Grill*, ♀ Japan

Shed antlers

(14.0.0)

- *Sikelaphus soloensis*, left antler, Jolo, 1889, don. Vidal, figured Heude 2: PL. XX C fig.7
- *S. cycloceros*?, left antler, Kienté
- *S. cycloceros*?, left antler, Kienté
- *S. brachyrhinus*, right antler, Kienté
- *S. brachyrhinus*, left antler, Kienté
- *S. surdescens*, right antler, Kienté, figured Heude 2: PL. XIV A fig.7
- *S. frinianus*, left antler, Kienté
- S 14B *S. blakistoninus*, left antler with part of frontal plate, (bought?) (Hong)-kong, 1894
- *S. pouvrelianus*, right antler, Kienté
- *S. cycloceros*?, right antler, Kienté
- S 7C *S. grilloanus*, right antler, Kienté
- S 7C *S. grilloanus*, left antler, Kienté
- *S. fargesianus*, part of left antler, Tchen-kiang, 1892, don. Farges
- *S. joreteanus*, left antler, Kienté

Antlers with no information

- 11 single antlers
- 1 pair of antlers
- 1 pair of antler velvet

Cervus elaphus

(0.0.4)

- E? sub adult female, Mongolia, 1899
- E? juvenile female, Songari valley, labelled “*Ela-*
phus minor”
- E? juvenile male, Songari valley

- 4 juvenile females, 3 adult females

Subgenus *Rucervus**Cervus eldi*

(4.2.3)

- Sub adult male, Cochinchine
- P 2A adult male frontal plate, Hai-nan, don. Schomburg, 1889, labelled "*Panolia*"
- 3 adult males, no data
- 2 sub adult males, no data
- 2 adult females, no data

Cervus schomburgki

(1.0.0)

- adult male, Siam, Thailand, don. Suphan

Unidentified deer (Genus *Cervus*)

- Juvenile skull
- 4 adult frontal plates with antlers
- 3 juvenile frontal plates with antlers
- 7 single antlers

Genus *Rangifer**Rangifer tarandus*

(0.0.3 + 1)

- ? adult, Vinopaika, W-Manchuria ("*Munijouri*"), 1890, Capt. Eckard and M. Gehring
- 2 juveniles, Kamchatka
- juvenile, no data

Family Bovidae

Genus *Procopra* **Procopra gutturosa* (jaws missing)

(9.0.2)

- P 1E adult male, Tientsin
- P 2A adult male, horns sawed off, Tientsin
- P 2B (H. 838) sub adult female, Tientsin, Nov. 1891
- P 3B (H. 1058) adult male, Tientsin, 1892, labelled "*P. minor*"
- P 3C (H. 1051) adult male, Tientsin, labelled "*P. minor*"
- P 4B adult male
- P 6A (H. 1059) adult male, Tientsin
- P 7B sub adult male, Peking, 1889, labelled "*P. brachyrhina*", figured in Heude Vol. II PL. 0 fig. 7
- P 8A (H. 1063) adult male, Tientsin, 1889
- P 12A (H. 840) adult male with jaw
- P ? (H. 1060) adult male

Genus *Gazella* **Gazella subgutturosa*

(4.1.4)

- H. 841, 842, 844, 1056 adult males
- H. 843 sub adult male
- H. 845-47 juvenile males
- H. 1851 adult female

Gazella erlangeri

(2.0.0)

- H. 836 adult male
- H. 1061 adult male

Gazella pelzelni

(1.2.0)

- H. 837 adult male, Djibouti
- H. 1852, 1853 adult females, Obock

Genus *Nanger*

This evidently forms part of a small collection from Djibouti.

Nanger soemmerringi

(0.1.0)

- H. 835 adult female

Genus *Madoqua*

This evidently forms part of a small collection from Djibouti.

Madoqua saltiana

(0.0.0 + 4)

- H. 1798-1801

Genus *Ovis**Ovis ammon*

(0.1.2)

- H. 737 adult female, Tchéli
- H. 738 juvenile female
- H. 1078 juvenile female, Ho-nan

Genus *Nemorhaedus* (Described and figured in Heude 2(4): 234-245 and Sowerby (1917). We failed to find the type of *Kemas arnouzianus* H., 1894)

Nemorhaedus griseus (1.0.11 + 18)

Groves and Grubb (1985) regard this as a species separae from *N. goral*.

Kemas aldridgeanus H., 1894

- K 1 A (H. 1071) adult, Yi-tschang, don. Dr. A. Henry, holotype, jaw missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 244.

Kemas initialis H., 1894

- K 2 C (H. 727) adult, Tchen-kéon, 1885, don. Farges, lectotype, right horn missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 243.

Kemas niger H., 1894

- K 9 A (H. 726) adult, Tchen-kéon-t., don. Farges, holotype, Heude (1894) *Mem. Hist. Nat.*, 2(4): 241, PL. XXXVIII figs.1, 2; PL. XXXIX figs.2-6.

Kemas vidianus H., 1894

- K 10 A (H. 1001) adult, Mts. Of Yen-ho, Shensi, don. S. Vidi, holotype, horns missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 243.

Kemas galeanus H., 1894

- K 11 B (H. 1075) juvenile, Mts. of Yu-ho, Shensi, don. S. Vidi, paralectotype, horns and jaw missing

Kemas xanthodeirus H., 1894

- K 12 A (H. 1002) adult male, W-Sichuan, 1887, don. Pinchon, holotype, horns missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 243.

Kemas pinchonianus H., 1894

- K 13 A (H. 1013) adult, W-Sichuan, don. Pinchon, holotype, jaw, left and part of right horn missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 243.

Kemas fargesianus H., 1894

- K 14 B (H. 1066) sub adult, Tchen-kéon t., don. Farges, lectotype, horns and jaw missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 241, PL. XXXIX figs.1, 7-10 (probably not PL. XXXVIII).

Nemorhaedus caudatus

(0.0.1)

Groves and Grubb [in preparation] regard this as a species separate from both *N. griseus* and *N. goral*.

Kemas raddeanus H., 1894

- K 7 A (H. 1003) adult, Ussuri Mts., 1890, holotype, nasalia missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 241, PL. XXXV.

Other specimens

- K 2 B (H. 849) juvenile, horns and jaw missing
- K 4 A (H. 1012) adult, horns and jaw missing
- K 5 A (H. 731) sub adult, jaw missing
- K 6 A (H. 735) juvenile, horns missing, teeth figured PL. 0 fig. 5?
- K 6 B (H. 736) juvenile, horns and jaw missing
- K 11 A (H. 728) adult, left horn missing
- K 14 A (H. 1073) adult, horns and jaw missing
- K 14 C (H. 1070) adult, Tchen-kéon-t., don. Farges, horns and jaw missing
- K 15 A (H. 1072) adult, horns missing
- K 16 A (H. 723) adult, jaw missing
- K 16 B (H. 729) adult, Moupin, 1893, don. Briand, horns missing, labelled "*K. cinerus* Milne-Edwards"
- K 17 A (H. 1067) adult, Moupin, 1893, don. Briand, jaw missing
- K 17 B (H. 730) adult, Moupin, 1893, don. Briand, jaw missing

- K 17C (H. 1069) adult, Moupin, 1893, don. Briand, left horn and jaw missing
- K 17D (H. 1074) adult, jaw missing
- K 17E juvenile, Moupin, 1899, don. Briand, horns and jaw missing
- K ? (H. 1068) adult, horns and jaw missing
- K ? (H. 733) juvenile, Tchen-kéon, left horn and jaw missing
- K ? (H. 734) juvenile, right horn and jaw missing, neurocranium damaged
- K ? (H. 732) adult, horns and jaw missing

Jaws

- K 2B juvenile
- K 7C juvenile

Genus *Capricornis*

Described and figured in Heude 2(4): 222-333, 3(3): 151-155, 3(4): 196-198, 4(1): 1-9, 4(4): 211 and Sowerby (1917). We failed to find the types of *C. argyrochaetes*, *C. maxillaris*, *C. microdontus*, *C. vidianus*, *C. pugnax*, *C. longicornis* and *C. chrysochaetes* H., 1894; *C. marcolinus* H., 1897; *C. microdonticus* H., 1898; and *C. collasinus* H., 1899; and we are not sure if the specimen labelled *C. benetianus* is in fact the type of this putative species, described by Heude in 1894.

Capricornis milneedwardsi (2.1.4 + 16)

Groves and Grubb (in preparation) regard this as a species separate from Southeast Asian *C. sumatraensis*.

Capricornis vidianus H., 1894

- C 2A adult, Ha-tchang-fou Mts., don. Vidi, holotype, right horn and jaw missing, Heude (1897) *Mem. Hist. Nat.*, 3(3): 154, PL. XXVIII.

Capricornis platyrhinus H., 1898

- C 3A adult male, Tchen-kéon-ting, don. Farges, holotype, jaw missing, Heude (1897) *Mem. Hist. Nat.*, 3(4): 195, PL. XXXV.

Capricornis maritimus H., 1894

- C 4A (H. 992) adult, Along Bay, don. Sailors of the Kersaint, lectotype, jaw missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 226, PL. XXXIII figs. 1-8.
- C 4B ?, Along Bay, N-Vietnam, 1886, don. Kiesel, paralectotype, just frontal plate with horns

Capricornis berthetianus H., 1898

- C 5A adult, Késo, 1899?, holotype, jaw missing, Heude (1898) *Mem. Hist. Nat.*, 4(1): 8, PL. V.

Capricornis erythropygius H., 1894

- C 7A (H. 999) adult, Tchen-kéon-t., don. Farges, holotype, Heude (1897) *Mem. Hist. Nat.*, 3(4): 195, PL. XXXV.

Capricornis cornutus H., 1894

- C 8B (H. 998) adult, W-Sichuan, don. Pinchon, lectotype, jaw missing, neurocranium damaged, failed to shed M^{1sin}, Heude (1897) *Mem. Hist. Nat.*, 4(1): 1, PL. I.

Capricornis rocherianus H., 1894

- C 10A (H. 993) adult, Along Bay, 1887, don. E. Rocher, holotype, jaw missing, Heude (1894) *Mem. Hist. Nat.*, 2(4): 225, PL. XXX.

Capricornis brachyrhinus H., 1894

- C 13A (H. 1064) adult, Sichuan, jaw missing, palatinum damaged, Heude (1897) *Mem. Hist. Nat.*, 3(4): 196, PL. XXXVI.

Capricornis nasutus H., 1894

- C 14A (H. 991) adult, Moupin, holotype, left horn and jaw missing, Heude (1898) *Mem. Hist. Nat.*, 4(1): 3, PL. IV.

Capricornis fargesianus H. , 1894

- C 17A adult female, Sichuan, lectotype, horns and jaw missing, Heude (1897) *Mem. Hist. Nat.*, 3(4): 196, PL. XXXVI.
- C 17C (H. 994) adult female, Tchen-kéon-t. , 1891, don. Farges, paralectotype, horns and jaw missing

Other specimens

- C 1A (H. 996) adult, horns and jaw missing
- C 6A adult male, Keso, Tonkin, 1898, labelled "*C. gendrelianus*"
- C 7B (H. 1000) juvenile, Tchen-kéon-t. , don. Farges, labelled "*C. erythropygius*", left horn missing, jaw not fitting
- C 12B (H. 1009) juvenile female, Moupin, don. Briand, labelled "*C. unguulosus*", jaw missing
- C 13A (H. 1064) adult
- C 15A (H. 997) adult, snout missing
- C 17B (H. 1007) juvenile, horns and jaw missing
- C 18B (H. 1006) adult, Along Bay, N-Vietnam, 1887, don. Morin, horns and jaw missing
- C 18Bbis ?, Along Bay, N-Vietnam, inscribed "*C. benetianus*" (holotype?), just frontal plate, left horn missing
- C ? (H. 724) adult, Along Bay, N-Vietnam, 1899, jaw missing
- C ? (H. 990) adult, Along Bay, Tonkin, N-Vietnam, Jardin de Saigon, jaw missing, neurocranium damaged
- C ? (H. 1008) juvenile, Kiu-tcheon, Dec. 1892, jaw missing
- C ? (H. 1011) adult, Along Bay, N-Vietnam, Jardin de Tonkin, right horn and jaw missing

Capricornis (Capricornulus) crispus

(0.0.0+3)

- Cls 1A (H. 1010) adult, Tokyo, Japan, 1892, don. Beuf, horns, snout and jaw missing
- Cls 2B (H. 1065) adult, Japan, horns and jaw missing
- Cls ? (H. 725) adult, Japan, horns missing

Genus *Bos* (Described and figured in Heude 5(1): 2-11)*Bos javanicus*

(1.1.0)

Bibos longicornis H. , 1901

- Adult male, Indochina, holotype, jaw missing, M1_{dex}, PM1_{dex}, PM1_{sin} missing, PM1_{dex} lost ante mortem, Heude (1901) *Mem. Hist. Nat.*, 5(1): 9, PL. IX figs. 1, 2.
- Female?; Indochina, ascribes it "dubiously" to *B. l.*, just facial plate, horns missing, Heude (1901) *Mem. Hist. Nat.*, 5(1): 9, PL. IX fig. 3.

Bos taurus

(0.1.0)

- B 1C adult female

Bos sp.

(0.0.1)

Bibos discolor H. , 1901

- Sub adult/juvenile ?, Indochina, paralectotype, snout/nasalia missing, Heude (1901) *Mem. Hist. Nat.*, 5(1): 8, PL. VIII fig. 5.

Specimens in Shanghai Natural History Museum

PHOLIDOTA *

Genus *Manis**Manis* sp.

(0.0.0+1)

- (630/20668) adult

PRIMATES *

Genus *Macaca**Macaca* sp.

(0.0.3)

- (548/20586) juvenile female
- (549/20587) juvenile female
- (545/20583) sub adult male

Genus *Nycticebus**Nycticebus bengalensis*

(0.0.0+1)

- (631/20669) adult, jaw missing

RODENTIA *

Genus *Marmota*

Marmota himalayana

- 36 (806/558/20596) sub adult (0.0.3) cus) *gabriellae*
- 39 (806/564/20602) sub adult *Hylobates* (*Nomas-* • 40 (806/557/20595) sub adult, Moupin

CARNIVORA

Family Ursidae

Descriptions and figures in Heude 4(1): 14-24, 5(1): 1-2, 5(2): 33-38 and Sowerby (1920): 213-232.

Genus *Ursus*

Ursus thibetanus

- (606/20644) adult

Ursus arctos

Ursus mandchuricus H., 1898

- (135 1/24331) adult male, Vladivostok, Ussuri valley, lectotype, Heude (1898), *Mem. Hist. Nat. Emp. Chin.*, 4 (1): 24, PL. VII fig. 1.

Ursus beringianus Midd.

- (108 31/567/20605) sub adult, Kamchatka, Russia, figured by Heude (1898) *Mem. Hist. Nat. Emp. Chin.*, 4 (1): PL. VII fig. 2.

Family Ailuridae *

Genus *Ailurus*

Ailurus fulgens

- 14 (815/1400/24380) adult, Moupin, Sichuan
- 18 (815/1399/24379) adult, Moupin, Sichuan

Family Felidae *

Genus *Panthera*

Panthera pardus

- 5° (804/1366/24346) adult female, Cochinchine, 1882, don. Lermée

(0.1.0)

Panthera tigris

- (608/20646) adult, Baria, Cochinchine, don. Vemerelle
- (807/1356/24336) young adult, Java

(0.0.1+1)

PERISSODACTYLA

Family Rhinocerotidae

All specimens are descriptions and figures in Heude 2(2): 75, PL. XIX figs. 1-5.

Genus *Rhinoceros*

Rhinoceros sondaicus

(0.0.3)

Rhinoceros annamiticus H., 1892

- 1A (1344/24324) juvenile, Tay-ninh, 700km from Saigon, holotype, don. Dr. Simon. The name *annamiticus* was used as an available name for the Vietnamese subspecies of *R. sondaicus* by Groves & Guérin (1980), and it just escapes being a *nomen nudum* by a very brief description in fn. 1 on p. 75 of Heude, 1892 (above).

Other specimens

- (1345/24325) juvenile, Tonkin
- (1348/24328) sub adult, Java

Genus *Dicerorhinus*

Dicerorhinus sumatrensis (0.0.0+1)
 · (1332/24312) adult (Vietnam?)

Rhinocerotidae indet.

(809) Fossil, Si-ngan-fou, part of jaw

ARTIODACTYLA

Family Suidae

Descriptions and figures in Heude 2(2): 85-111, 2(4): 212-222, 3(4): 189-194, 4(3): 113-133, 5(1): 37-43 and Sowerby (1917): 11-16.

Genus *Sus*

Sinicus

Sus scrofa (8.3.1)

Sus paludosus H., 1897

- SS 1 A (1378/24358) adult male, Tchen-kiang, on the Yang-tze, lectotype, C_{sin} missing, Heude (1897) *Mem. Hist. Nat. Emp. Chin.*, 3(4): 193, PL. XXX figs. 2, 5, 7-9.

Sus gigas H., 1897

- SS 3A (747/1354/24334) adult male, Vladivostok, lectotype, don. Moncet, C missing Heude (1897) *Mem. Hist. Nat. Emp. Chin.*, 3(4): 48, PL. XXXIII figs. 1-3, 7, 8.

Sus flavescens H., 1899

- SS 3A (748/1397/24377) adult male, Ning-k. -lian, holotype, Heude (1899), *Mem. Hist. Nat. Emp. Chin.*, 4(3): 130, PL. XXVI figs. 7, 8.

Sus planiceps H., 1899

- SS 5A (753/1357/24337) young adult female, Ho-chan, lectotype, don. S. Joret, Heude (1899) *Mem. Hist. Nat. Emp. Chin.*, 4(3): 132, PL. XXVI figs. 3-6.

Other specimens

- SS 1B (750/24340) adult female, Shanghai, labelled "*Sus paludosus*"
- SS 1J (751/1363/24343) adult female, (market), labelled "*Sus angusticeps*"
- SS 2B (943/20986) adult male, C_{sin} missing
- SS 4B (1401/24381) adult male, Kienté, 1882, C_{sin} missing
- SS 4Bbis (745/1398/24378) sub adult male, Kienté, 1882, labelled "*Sus chirodontus*"
- SS 6B (24382) adult male, Shanghai, don. Jardine (Zoo?), labelled "*Sus nigricans*", C_{sin} missing
- SS 8 C (752/1342/24322) young adult male, Tan-yang, Feb. 1882, don. de Bezouse, labelled "*Sus paludosus*"
- SS 16A adult male, S-Shensi, 1883, don. P. Vidi, labelled "*Sus laticeps*"

Genus *Babyrousa*

Heude evidently intended to publish on this genus, as some of the material is inscribed with new names; but, in the event, babirusas are not mentioned except for some brief comparisons of their dentition (especially canines) with *Sus*.

Babyrousa babyrussa (4.0.0)

- BR 1 A (741/1339/24319) adult male, Buru, Indonesia, don. Van der Hoevell, labelled "*B. brachyrhinus*"
- BR 1B (10827/566/20604) adult male, Buru, Indonesia, don. Van der Hoevell, labelled "*B. brachyrhinus*"
- BR 4B (1338/24318) adult male, Menado, Indonesia
- ? (170/624/20662) adult male, Heude(?), canines missing

Genus *Axis*

Descriptions and figures Heude 2(1): 49-50. Heude's *Hyelaphus calamianensis* is generally regarded as a valid species.

Axis calamianensis (1.0.0)

- H 11 (705/1362/24342) adult male, just plate with antlers, Calamianes Is., Philippines, labelled "*Hyelaphus calamia-*

nensis", don. Ch. Sandoval

Axis (porcinus?) annamiticus (1.0.0)
 · H 2H (703/1303/24283) adult male, Cochinchine, Vietnam, 1890, labelled "*Hyelaphus annamiticus*", don. P. Simon

Genus *Cervus*

Subgenus *Rusa*

Cervus (Rusa) timorensis (1.0.0)
 · H. ? (1328/24308) adult male

Cervus (Rusa) unicolor (13.0.0)

Sambur combalbertinus H. , 1888

· SR 1C (1300/24280) adult male, Baria, lectotype, Heude (1888) *Mem. Hist. Nat. Emp. Chin.*, 2(1): 43, PL. XVI figs. 5, 6, PL. II fig. 9.

Other specimens

- SR 1A (1281/24261) adult male, Bien-hoa, don. P. A. Lerneé, labelled "*Sambur outreyanus*"
- SR 10A (1298/24270) adult male with jaw
- SR 13A (1285/24265) adult male
- SR 16A (1286/24266) adult male
- SR ? A (1670/1275/24255) adult male, Vietnam?
- S 15A (1277/242? 7) adult male
- HR ? A (1350/24330) adult male
- H. (1315/24295) adult male, Saigon
- H. ? (1307/24281) adult male
- H. ? (1317/24237) adult male
- H. ? (1314/24294) adult male
- H. ? (1319/24299) adult male

Cervus (Rusa) marianus (8.0.2)

Ussa michaelinus H. , 1888

- U 8A (1327/24307) adult male, S. Miguel de Murcia, Tarlac, Philippines, 1893, lectotype, don. A. de Marais, Heude (1899) *Mem. Hist. Nat. Emp. Chin.*, 4(3): 135, PL. XXX A figs. 1-5.
- U 8G (1278/24258) adult male, Tarlac, Philippines, 1893, paralectotype, don. A. de Marais, Heude (1899) *Mem. Hist. Nat. Emp. Chin.*, 4(3): 135, PL. XXXIII fig. 1.

Ussa elorzanus H. , 1888

- U ? (1589/1307/24287) adult male, Bataan, Luzon, Philippines, don. R. Garcia, lectotype, Heude (1888) *Mem. Hist. Nat. Emp. Chin.*, 2(1): 28, PL. VII fig. 4.

Other specimens

- 8H (704/1306/24280) adult male, Tarlac, Philippines, labelled "*Ussa michaelinus*", neurocranium damaged
- U 15C (1304/24286) adult male, Batangas, Philippines, labelled "*Ussa hippelitanus*", don. G. Tuason
- U 39A (714/1323/24303) adult male, Mati, Mindanao, Philippines, 1899, labelled "*Ussa matiensis*", don. P. Slopert
- U 24F (715/1321/24301) adult male, La Laguna, Philippines, labelled "*Ussa nigricans*", don. Triarte
- U 25R (695/1371/24351) juvenile male, Jala-Jala, Laguna Bay, Philippines, 1893, labelled "*Ussa maraisianus*", don. Vidal
- U 35E (573/20611), juvenile male, Davao, Philippines
- H. ? (1320/24300) adult male

Subgenus *Cervus*

Cervus nippon (6.0.2)

Sika imperialis

- S 38A (702/1316/24296) adult male, Pa-yen-sou, Songari valley, Manchuria, holotype, don. Mgr. Raguit, Heude (1899) *Mem. Hist. Nat. Emp. Chin.*, 4(4): 209, PL. XXXVIII figs. 1-8.

Sika blakistoninus H. , 1884

- S 15D (699/1287/24267) adult male with jaw, Hakodate, Japan, 1888, lectotype, Heude (1897) *Mem. Hist. Nat. Emp. Chin.*, 3(3): 98, PL. XX fig. 1.

Sika dugenneanus H. , 1894

- S (4)13A (731/1298/24278) adult male, Mts. Of Phu-lang-thuong, Tonkin, Sept. 1886, lectotype, don. Lt. Col.

Dugenne, Heude (1894) *Mem. Hist. Nat. Emp. Chin.*, 2(3): 156, PL. XXV fig. 1.

Sikaillus aceros H., 1898

- S 32B (A704/1358/24338) juvenile male with jaw, Goto Is., Japan, 1887, lectotype, Heude (1899) *Mem. Hist. Nat. Emp. Chin.*, 4(2): 104, PL. XVII fig. 1.

Other specimens

- S 17B (707/1284/24264) adult male, Kaga, Japan, 1898, labelled "*Sika apiodonticus*"
- S 23J (711/559/20597) juvenile male
- S ? (1587/1318/24298) adult male
- S ? (1587/1318/24298) adult male

Cervus elaphus

(2.0.0)

- E 1A (1326/24306) adult male
- E ? (1312/24298) adult male

Subgenus *Rucervus*

Cervus schomburgki

(2.0.0)

- H. ? (1568/1322/24302) adult male, Thailand, jaw missing
- H. ? (1562/1288/24268) adult male, Thailand, jaw missing

Unidentified deer (Genus *Cervus*)

- Juvenile skull
- 4 adult frontal plates with antlers
- 3 juvenile frontal plates with antlers
- 7 single antlers

Family Bovidae

Genus *Procapra* *

Procapra gutturosa

(4.0.0)

- P 1A (1365/24345) adult male, Tien-tsin, labelled "*P. nasuta*"
- P 5A (723/1359/24339) adult male, Tien-tsin, labelled "*P. bellicose*"
- P 11A(6B) (1266/24246) adult male, Tsien-tsin, Sahnacku?, labelled "*P. microgenys*"
- P 13A (725/1337/24317) adult male, don. Buvour, jaw missing

Genus *Antilope*

Antilope cervicapra

(1.0.0)

- H. ? (2443/1271/24251) adult male

Genus *Ovis*

Ovis ammon

(0.1.0)

- H. 733 adult female, Shanghai

Ovis nivicola

(3.0.0)

- O ? (1236/24216) adult male, Kamchatka, don. Bousé, jaw missing
- O ? (1256/24236) adult male, jaw missing
- O ? (1259/24236) adult male, jaw missing

Genus *Nemorhaedus*

Nemorhaedus griseus

(0.1.0 + 2)

- K 2? (585/20623) adult, neurocranium damaged
- K 3A (584/20622) adult
- K 8 A (717/1364/24344) adult female, NE Hou-pé (Habei), 1889, don. Fantozati, labelled "*Kema fantozatianus*", jaw missing

Genus *Capricornis*

Capricornis milneedwardsi

(1.0.0 + 2)

Capricornis macrolinus

- C 11 A (729/1264/24244) adult, Thien Duong Mts., right bank of Red River, 1896, holotype, don. Marcou, neurocranium slightly damaged, Heude (1897) *Mem. Hist. Nat. Emp. Chin.*, 3(3): 151, PL. XXVII.

Capricornis unguulosus H., 1894

- C 12A (726/1367/24347) adult male, Moupin, 1892, holotype, don. Briand, PM_{infan} missing (extracted?), Heude (1898) *Mem. Hist. Nat. Emp. Chin.*, 4(1): 2, PL. III.

Other specimens

- C ? (1244/24224) adult, coast of Tonkin, 1901, don. M. Brossard

Capricornis (Capricornulus) crispus

(0.0.0+2)

- Cls 2A (719/583/20621) adult, Japan, July 1885, don. Druer
- Cls 3A (720/1372/24356) adult, Fujiyama, Japan, 1899, don. Pryer, left horn missing

Genus *Bubalus* (Described and figured by Heude 2(1): 50-51, 3(1): 45-47)

Bubalus mindorensis Heude, 1888. (This is a valid and widely recognised species, commonly known as the Tamaraw) (1.0.0)

- (1590/1251/24231) adult male, Mindoro, Philippines, 1888, holotype, don. Sainz de Branda, PM missing, Heude (1888), *Mem. Hist. Nat. Emp. Chin.*, 2(1): 50.

Bubalus cf. arnee

(2.0.0+1)

Bubalus mainitensis H., 1896

- (1255/1244/24235) adult male, Mainit, Philippines, 1892-1893, holotype, Heude (1894), *Mem. Hist. Nat. Emp. Chin.*, 2: 205; 1896, 3(1): 45, PL. X.

Other specimens

- ? H. (1254/24234) adult male
- ? H. (1607/1252/24232) adult

Bubalus (Anoa) depressicornis

(0.0.0+1)

- (1334/24314) adult, Celebes, Indonesia

Genus *Bos*

Described and figured in Heude 5(1): 2-11. It is ironic that Heude had a specimen of a genuinely new species, later named *Bos sauveli* Urbain, but did not describe it.

Bos gaurus

(4.6.1)

Bubalibos annamiticus H., 1901

- (1376/24356) adult male, Hué, lectotype, don. Duranton, snout bowed (old injuries), Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 6, PL. VII figs. 1, 2.
- (1611/1223/24203) adult female, Hué, paralectotype, don. Duranton, horns missing, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 6, PL. VII figs. 3, 4.

Gauribos mekongensis H., 1901

- (1239/24219) adult female, Kratie, Cambodia, lectotype, don. Leroy, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 5, PL. VI figs. 1, 2.

Gauribos sylvanus H., 1901

- (1240/24220) adult female, Moi forests, holotype, skull damaged, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 4, PL. VI figs. 3, 4.

Gauribos laosiensis H., 1901

- (1620/1241/24221) sub adult male, Camoun Prov., Annamites, lectotype, only frontal plate, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 3, PL. III fig. 2.

Gauribos brachyrhinus H., 1901

- (1601/1220/24200) adult male, Pursat, on one of the affluents of the great lakes of Cambodia, lectotype, horns missing, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 4, PL. IV figs. 1, 2.
- (1250/24230) adult female, Pursat, on one of the affluents of the great lakes of Cambodia, paralectotype, only frontal plate, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 4, PL. VII fig. 3.

Uribos platyceros H., 1901

- (1224/24204) adult male, north flank of mts. separating Tourane, Bay from rivers of Hué, 1898-9, lectotype, horn sheaths missing, don. P. Allys, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 5, PL. V figs.1, 2.

Other specimens

- ? H. (1238/24218) adult female
- ? H. (1228/24208) adult male
- ? H. (1614/1232/24217) adult female

Bos javanicus

(4.1.1)

Bos discolor H., 1901

- (1616/1242/24222) adult male, Indochina, lectotype, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 8, PL. VIII figs.1, 2.
- B 1D (1598/1232/24212) adult female, Indochina, paralectotype, Heude (1901), *Mem. Hist. Nat. Emp. Chin.*, 5(1): 8, PL. VIII figs.3, 4.

Other specimens:

- B 1A (1608/1246/24226) adult male missing
- ? H. (1612/1353/24333) adult male
- ? H. (1247/24227) adult male, just frontal plate, domestic or Borneo?
- ? H. (1603/1221/24201) sub adult male, horns

Bos cf. javanicus

- ? H. (1231/24211)

Bos sauveli

- ? H. (1615/1248/24228) adult male, only frontal plate

Bos Taurus

- ? H. (1219/24199) horns missing
- ? H. (1600/1229/24209)
- ? H. (1604/1222/24202) horns missing

Gazetteer

Some of the geographic names, which were transcribed from labels or from the specimens themselves, may have been misread, or may not be geographic names at all (perhaps, collectors' names). They were written in French spelling, and we have transliterated them into Wade-Giles and, where possible, into Ping-wu.

China

- Amoy = Xiamen, 24.26°N, 118.07°E (厦门)
- Chang-hai = Shanghai, 31.2°N, 121.4°E (上海)
- Chensi or Chen-si = Shaanxi, 34.2°N, 108.9°E (陕西)
- E. uk. w. or Z. k. w. = Xujiahui, 31.1°N, 121.4°E (上海徐家汇)
- Formosa = Taiwan, 23.7°N, 120.9°E (台湾)
- Fukien = Fujian, 26.0°N, 119.3°E (福建)
- Hai-nan = Hainan, 19.2°N, 109.7°E (海南)
- Han Kou = Hankou, 30.5°N, 114.2°E (汉口)
- Han-sup. = upper Han River, approx. 30.5°N, 114.2°E (汉水河上游)
- Han-tchong-fu = Hanzhong, 33.5°N, 114.2°E (今陕西汉中),
- Ha-tchang-fou Mts. = mountains around Hanzhong (汉中周围山系)
- Hiang Kiang, perhaps Hia Kiang = Rongjiang, 25.9°N, 108.5°E (广西榕江)
- Ho-chan = Hexian = Huoshan, 31.6°N, 116.3°E (安徽霍山)
- Holiki, perhaps Holi Mts. = Helishan, 39.7°N, 99.8°E (甘肃合黎山)
- Ho-nan = Henan, 34.7°N, 113.6°E (河南)
- Hou-pé = Hebei, 38.0°N, 114.5°E (河北)
- Késo, Moupin = Baoxing, 30.3°N, 102.8°E (今四川宝兴)
- Khiang-L. = Chiang Ling = Jiangling, 30.3°N, 112.1°E (湖北江陵)
- Kiang-yin = Jiangyin, 31.9°N, 120.2°E (江苏江阴)
- Kien Ning = Xuemuling, 26.51°N, 116.49°E (江西血木岭)
- Kienté = Wangjiang, 30.1°N, 116.6°E (安徽附近望江)

- Kiun-tcheou (? Kiun-tcheon, or Chuin-chou), approx. Zhushan, 33.1°N, 109.4°E (湖北附近竹山)
- Kouang-tong = Guangdong, 23.1°N, 113.2°E (广东)
- Kuang-si = Guangxi, 22.8°N, 108.3°E (广西)
- Lai-me Chou, Kienté = Wangjiang, 30.1°N, 116.6°E (安徽附近望江)
- Liang-ho, xh-go? = Lianghe, 24.8°N, 98.2°E (云南梁河)
- Li-yang = Liyang, 31.4°N, 119.4°E (江苏溧阳)
- Moukden (Mukden) = Shenyang, 41.8°N, 123.4°E (辽宁沈阳)
- MouKoen = Moukden = Shenyang (辽宁沈阳)
- Moupin = Baoxing, 30.3°N, 102.8°E (四川宝兴)
- Mukden see Moukden (辽宁沈阳)
- Nanking = Nanjing, 24.5°N, 117.3°E (福建南靖)
- Nan Kow pt., Chianne kenniuen = Nankou, 39.9°N, 116.4°E (北京南口)
- Ngan-houé = Anhui, 31.8°N, 117.2°E (安徽)
- Ngan-king = Anch'ing = Anqing, 30.5°N, 117.0°E (安徽安庆)
- Ning-Kouo, Yangtse River = Ning-kuo = Ningguo, 30.6°N, 118.9°E (安徽宁国)
- Ning-k. -lian = ? Ning Kouo = Ningguo, 30.6°N, 118.9°E (安徽宁国)
- Ning-Kuo-fu (Ning k. f.) = Ning-Kouo = Ningguofu, 30.6°N, 118.9°E (安徽宁国府)
- Ning-po (= Yin-hsien) = Ningbo, 29.8°N, 121.5°E (浙江宁波)
- Non-fein = ? Ning fan = Ningyuanfu, 27.9°N, 102.2°E (四川宁远府, 现西昌附近)
- N. yang-fou = Ning-yang, 35.49°N, 116.51°E (现山东济宁市附近)
- Ou-hou = Wuhu, 31.3°N, 118.3°E (安徽芜湖)
- Ou-si = Wuxi, 31.5°N, 120.3°E (江苏无锡)
- Pa-tong, H. P. = Badong, 31.0°N, 110.3°E (湖北巴东)
- Payen sousou or Pa-yen-sou, Songari valley, Manchuria = Pa-yen = Bayan, 46.0°N, 127.4°E (今黑龙江巴彦)
- Peking = Beijing, 39.9°N, 116.4°E (北京)
- Setchouan = Sichuan, 30.6°N, 104.0°E (四川)
- Shensi see Chen-si = Shaanxi, 34.2°N, 108.9°E (陕西)
- Si-ngan-fou = Xi'an, approx., 34.2°N, 108.9°E (陕西西安)
- Sigarkei? = ? Zikawei = Xujiahui, 31.1°N, 121.4°E (上海徐家汇)
- Sou-long = Xuzhou, 34.2°N, 117.1°E (江苏徐州)
- Sou-tsen = either Su-ch'ien, 34.00°N, 118.30°E, or Su-Chou = Suzhou, 31.3°N, 120.6°E (江苏苏州)
- Ta-kaio, Formosa = Taiwan, 23.6°N, 121.1°E (台湾)
- Tan-yang = Danyang, 32.0°N, 119.5°E (江苏丹阳)
- Tchang-chou = Guangzhou, 23.1°N, 113.2°E (广州)
- Tché-li = Chili = Hebei, 38.0°N, 114.5°E (河北)
- Tchen-kiang, Yangtse = Chenchiang = Zhenjiang, 24.3°N, 119.30 (江苏镇江)
- Tchen-kéon-t. or Tchen-kéon-ting or Tchen-K'ou-ting = Chen-k'ou-ting = Chengkou, 31.9°N, 108.6°E (今四川重庆城口附近)
- Tientsin = Tianjin, 39.1°N, 117.2°E (天津)
- Tong lieou on the Yang-tze = Tung-liu = Dongliu, 30.1°N, 116.9°E (安徽东流)
- Tschang-Chou = either Ch'ang-chou = Changzhou, 31.45°N, 119.57°E (江苏常州), or Chang-chou = Zhangzhou, 24.5°N, 117.6°E (福建漳州)
- Tsche-kiang = Zhejiang (浙江)
- Vinopaika, probably Manchuria (or Russia?) = Manzhouli (满洲里或俄罗斯)
- Wen Chiang hsien = Wen-chiang = Wenjiang, 30.6°N, 103.8°E (四川温江)
- Yen-chan = Yenshan = Yanshan, 38.0°N, 117.2°E (河北盐山)
- Yen-ho Mts., Shensi, probably approx. Yanchuan, 36.8°N, 110.1°E (陕西延川附近)
- Yi-tchang = Yichang, 30.6°N, 111.2°E (湖北宜昌)
- Yu-ho Mts., Shensi = Shaanxi, 34.2°N, 108.9°E (陕西)
- Zi-ka-wei = Xujiawai, suburb of Shanghai (原上海郊区徐家汇)
- ZKW = Zi-ka-wei (原上海郊区徐家汇)

Russia

- Kamchatka, approx. 50-60°N, 160°E, peninsula in far eastern Siberia (堪察加)
- Songari = Sung Hua, River, approx. 47-48°N, 130-133°E (松花江)

Ussuri Mts., see Ussuri Valley (乌苏里山)

Ussuri Valley, River, approx. 45-48°N, 133-135°E, forming Russia-China border (中苏边境乌苏里江)

Vladivostok, 43.09°N, 131.53°E (海参威,即符拉迪沃斯托克)

Wladiwostok, see Vladivostok (海参威)

Korea

Fousan = Pusan, 35.05°N, 129.02°E (釜山)

Japan

Fujiyama, 35.23°N, 138.42°E (富士山)

Fukuié (= Fukue), Goto Is., 32.41°N, 128.52°E (福江)

Goto Is., 32.30-33.30°N, 128.30-129.30°E (五岛列岛)

Hakodate, 41.46°N, 140.44°E (函馆)

Kobe, 34.40°N, 135.12°E (神户)

Min, west of Tokyo (东京以西)

Nagasaki, 32.45°N, 129.52°E (长崎)

Nakadori, Goto Is., 33°N, 129.30°E (中通岛)

St. Eustace de Hakodate, see Hakodate (函馆)

Sendai, 38.16°N, 140.52°E (宫城县仙台)

Tokyo, 35.40°N, 139.45°E (东京)

Yeso (= Hokkaido), island, 41.30-45.30°N, 139.30-145°E (北海道)

Indochina

Along Bay = Ha Long, 21°N, 107°E (越南下龙湾)

Baria = Ba Ria, 10.30°N, 107.09°E (越南巴地)

Bien Hoa, 10.57°N, 106.49°E (越南边和)

Carnoun Prov., Annamites, between Vietnam and Laos (安南,越南与老挝之间)

Cochinchine (Cochinchina), approx. 8.30-12°N, 105-109°E (交趾支那,现越南)

Dong Nai, River, approx. 11.50-10.20°N, 108-107°E (越南同奈河)

Haiphong, 20.50°N, 106.41°E (越南海兴)

Hong ?, Tonkin (越南东京): Hong Gai, 21.10°N, 107.05°E (鸿基), or possibly Song Hong, 21.45°N, 104.44°E (红河)

Hué, 16.28°N, 107.36°E (越南顺化)

Hung-hoa, Tonkin, approx. 21.20°N, 105.10°E (越南东京,兴化)

Kampot, 10.37°N, 104.11°E (柬埔寨贡布)

Kegian, Thanh Hoa, approx. 20°N, 106°E (越南清化)

Khong, Laos, 14.08°N, 105.50°E (老挝孔埠)

Kratié, Cambodia, 12.30°N, 106.03°E (柬埔寨桔井)

Laos, Country, 14-22.30°N, 100-107.40°E (老挝)

Mi-hoi, Baria see Baria (越南巴地)

Moi forests, Vietnam, approx. 10-18°N, 106-108°E (? ,越南)

Nhatrang, 12.15°N, 109.11°E (越南芽庄)

Phu-lang-thuong, Mts. of, Tonkin, 21°N, 106.20°E (越南东京,富波)

Pursat, on one of the affluents of the great lakes of Cambodia, 12.33°N, 103.55°E (柬埔寨菩萨省,金边湖一支流)

Saigon = Ho Chi Minh City, 10.46°N, 106.43°E (越南胡志明市)

Siam = Thailand 泰国

Tay-ninh, Cochinchina, 11.18°N, 106.06°E (越南西宁)

Thanh Hoa, Province, Vietnam, 19.17-20.45°N, 104.21-106.04°E (越南清化)

Thien Duong Mts., right bank of Red River-Red River, approx. 22.30-21°N, 104-106°E (越南红河右岸)

Tonkin, region, northern Vietnam, 20.00-23.30°N, 102-108°E (越南北部东京)

Tourane Bay = Da Nang, 16.04°N, 108.14°E (越南土伦港)

Vinh River, Tonkin, 18.42°N, 105.41°E (越南东京,? 河)

Vinh-long, approx. 10°N, 104°E (越南永隆)

Yen-bay = Yen Bai, province, 21.18-22.17°N, 103.56-105.07°E (越南安沛)

Indonesia + Malaysia + Singapore

Adonare = Adonara island, 8.20°S, 123°E (印度尼西亚阿多那拉岛)

- Amboine = Ambon island, 3.50°S, 128°E (印度尼西亚安汶岛)
- Banka = Bangka island, 1.30-3.00°S, 105-107°E (印度尼西亚邦加岛)
- Batjan = Bacan island, 0.30°S, 127.30°E (印度尼西亚巴占岛)
- Billiton = Belitung island, 3.00°S, 108°E (印度尼西亚乌里洞岛)
- Borneo, island, 7°N-4°S, 109-119°E (印度尼西亚婆罗岛)
- Bourou = Buru island, 3-4°S, 126-127°E (印度尼西亚布鲁岛)
- Buru see Bourou (印度尼西亚布鲁)
- Celebes = Sulawesi island, 2°N-6°S, 119-125°E (印度尼西亚苏拉威西岛)
- Céram = Seram island, 3-4°S, 128-131°E (印度尼西亚塞兰岛)
- Cheribon = Cirebon, 6.46°S, 108.33°E (印度尼西亚井汶岛)
- Dobo, 5.48°S, 134.13°E (印度尼西亚多波)
- Eoudley?, Kei Is. = Ewab, alternative name for Kai Is., 5-6°S, 133-134°E (印度尼西亚埃瓦布群岛, 又称卡伊群岛)
- Flores, island, 8-9°S, 120-123°E (印度尼西亚弗罗勒斯岛)
- Java = Jawa, island, 6.00-8.30°S, 105.00-114.30°E (印度尼西亚爪哇岛)
- Klabat, Menado, 1.28°N, 125.04°E (印度尼西亚万鸦老)
- Krawang Residency, 6.15°S, 107.15°E (印度尼西亚加拉横)
- Larantouka, 8.20°S, 123.00°E (印度尼西亚拉兰图卡)
- Lomben, island, 8.00-8.30°S, 123-124°E (印度尼西亚龙布陵岛)
- Macassar = Ujung Pandang, 5.09°S, 119.28°E (印度尼西亚乌戎潘安)
- Malacca = Melaka, 2.14°N, 102.14°E (马来西亚马六甲)
- Maumere, Flores, 8.35°S, 122.13°E (印度尼西亚毛梅雷)
- Manado = Manado, 1.32°N, 124.55°E (印度尼西亚万鸦老)
- Petit Key = Kai Kecil island, 5.30-6.00°S, 132.30-132.40°E (印度尼西亚小卡伊岛)
- Sandakan, 5.52°N, 118.04°E (马来西亚山打根)
- Semarang, 6.58°S, 110.29°E (印度尼西亚三宝壟)
- Singapore, 1.20°N, 103.50°E (新加坡)
- Sombawa = Sumbawa island, 8.00-8.30°S, 117-119°E (印度尼西亚松巴哇岛)
- Sonde = Sunda, name for western Java (印度尼西亚雅加达)
- Sumatra = Sumatera island, 6°N-6°S, 95-106°E (印度尼西亚苏门达腊岛)
- Surabaya, 7.14°S, 112.45°E (印度尼西亚泗水, 又称苏腊巴雅)
- Ternate, 0.50°N, 127.19°E (印度尼西亚特尔纳特, 又称德那地)
- Timor, island, 8.30-10.30°S, 123.30-127°E (印度尼西亚帝力岛)
- Tji Sibir, Sonde, Java ? (印度尼西亚爪哇, 雅加达)

Philippines

- Apo, Mt., Mindanao, 6.59°N, 125.16°E (棉兰阿波火山)
- Balabac island, 7.50-8.05°N, 116.55-117.05°E (巴拉巴克岛)
- Basilan island, 6.40°N, 122°E (巴西兰岛)
- Bataan, province, 14.25-14.55°N, 120.15-120.35°E (巴丹省)
- Batangas, province, 13.45°N, 121.03°E (八打雁省)
- Bosobroso (博索博索河)
- Calamianes, island group, 11.40-12.20°N, 119.50-120.20°E (卡拉棉群岛)
- Cebu, island, 9.30-11.00°N, 123.10-124.00°E (宿务岛)
- Cottabato, Mindanao, 7.14°N, 124.15°E (? , 棉兰)
- Da? on -probably Davao (答沃省)
- Davao, province, 5.35-8.00°N, 125.05-126.35°E (答沃省)
- Iligan, Mindanao, 8.12°N, 124.13°E (? , 棉兰)
- Infanta, 15.50°N, 119.55°E (因凡塔)
- Jala-Jala, 14.21°N, 121.19°E (哈拉, 哈拉)
- Jasaan, Cagayan, 7°N, 118.28°E (? , 卡加延)
- Jolo, island, 5.50-6.05°N, 120.50-121.25°E (霍洛岛, 即和乐岛)
- Laguna Bay, 14.00-14.35°N, 121.00-121.35°E (内湖)
- La Laguna see Laguna Bay (内湖)
- Luzon, island, 12.30-18.40°N, 119.40-124.10°E (吕宋岛)
- Mainit, 9.34°N, 125.31°E (迈尼特)

Malalag, Davao, bay, 6.40°N, 125.30°E (达沃马拉拉格)
 Mamanua, Mindanao, 9.9.40°N, 125.30°E (? 棉兰)
 Manana-probably Mamanua (? 棉兰)
 Manille = Manila, 14.35°N, 121.00°E (马尼拉)
 Masbate, island, 11.50-12.40°N, 123-124°E (马斯巴特)
 Mati, 6.56°N, 126.11°E (马蒂)
 Mindanao, island, 5.40-10°N, 122-126.30°E (棉兰老岛)
 Mindoro, island, 12.10-13.30°N, 120.20-121.30°E (民都洛岛)
 Nueva Ecija, province, 15.15-16.05°N, 120.30-121.20°E (新怡诗夏省)
 Numancia, 9.54°N, 126.00°E (努曼西亚)
 Samal, Davao, island, 7°N, 125.50°E (萨马尔岛, 达沃)
 Samar, island, 11.10-12.50°N, 124.10-125.30°E (萨马岛)
 S. Miguel de Murcia, Tarlac, 15.25°N, 120.40°E (? , 打拉)
 Sigaboy, Davao see Davao (锡加博伊)
 Solo, see Jolo (霍洛)
 Surigao, 9.45°N, 125.30°E (苏里高)
 Tarlac, 15.29°N, 120.35°E (打拉)
 Zamboangao = Zamboanga, 6.54°N, 122.04°E (三宝颜)

Other

Ceylon (= Sri Lanka), island state, 6-10°N, 79.50-81.50°E (锡兰, 即斯里兰卡)
 Dijon, France, 47.20°N, 5.02°E (法国第戎)
 Djibouti, country (and capital), 11.35°N, 43.11°E (吉布提)
 Malaisie = Malaysia, probably Peninsular Malaysia, 1.30-6.30°N, 100-104.20°E (马来西亚, 半岛马来西亚地区)
 Marianas Is., Micronesia territory, 13-21°N, 145°E (密克罗尼西亚马利亚那岛)
 NSW, Australia (= New South Wales), state, 28-37 S, 141-154°E (澳大利亚新南威尔士)
 Obock, Djibouti, 11.59°N, 43.20°E (吉布提奥博克)

List of publications by P. M. Heude

1 Early publications, not in the *Mémoires*

1882. Note sur quelques cerfs de Chine. *Bull. Soc. Philom. Paris*, 6:183-189.

1884. *Catalogue des Cerfs Tachetés (Sikas) du Musée de Zi-ka-wei, ou Notes préparatoires à la Monographie de ce Groupe.*

2 Publications (by taxonomic group) in *Mémoires concernant l'Histoire Naturelle de l'Empire Chinois*. Shanghai: Catholic Mission printery. (*Mém. H. N. Emp. Chin.*)

Sika Deer (*Cervus nippon*)

1894. Catalogue révisé des cerfs tachetés (Sika). 2(3):146-163, Pls. XVII-XXVI^A.

1897. Catalogue révisé des cerfs tachetés (Sika). Japon. 3(3):98-107, Pls. XIX-XXVI.

1898. Catalogue révisé des cerfs tachetés (Sika). Japon; groupe des Goto. 4(2):90-111, Pls. XIV-XXII.

1899. Catalogue révisé des sikas. 4(4):209-210, Pls. XXXVII-XXXIX.

Sambur deer (*Cervus unicolor*)

1888. Etudes sur les ruminants: Notes sur le type Sambur, tel qu'il est en Cochinchine. 2(1):41-46, Pls. XII, XVI.

Philippine rusa (*Cervus mariannus*)

1888. Etudes sur les ruminants de l'Asie orientale. Cerfs des Philippines et de l'Indochine. 2(1):1-10, 19-40, Pls. I-II, V-XV.

1899. Première revision du genre *Ussa* H. et rectification de nomenclature. 4(3):134-140, Pls. XXXII^{A-B}.

Rusa (*Cervus timorensis*)

1896. Aperçu sommaire du genre *Hippelaphus*, groupe de la famille des Cervidés propre aux Iles Malaises. 3(1):47-52.

1897. Aperçu sommaire du genre *Hippelaphus* H. 3(2):92-97, Pls. XI-XVII.

Prince Alfred's deer (*Cervus alfredi*)

1888. Etudes sur les ruminants: Axis et Melanaxis. 2(1):47-49, Pl. III.

Hog-deer (*Axis*)

1888. *Hyelaphus* Sundevall. 2(1):49-50, Pl. IV.

Serow (*Capricornis*)

1894. Notes sur le genre *Capricornis* (Ogilby, 1836). 2(4):222-233, Pls. XXX-XXXIII.

1897. Note sur le quatrième capricorne de Tonkin. 3(3):151-155. Pls. XXVII-XXVIII.

1897. Capricornes de Se-tchouan (1). 3(4):196-198, Pls. XXIX-XXXIX.

1898. Capricornes de Moupin (1). 4(1):1-9, Pls. I-V.

1899. Capricorne de la Chine méridionale. 4(4):211, Pl. XLII figs.5-8.

Goral (*Nemorhaedus*)

1894. Note sur le genre *Kemas* (Ogilby, 1836). 2(4):234-245, Pls. XXXIV-XXXV, XXXVIII-XXXIX.

Gazelle (*Gazella subgutturosa*)

1894. Note sur deux gazelles de Mongolie. 2(4):245, Pls. XXXVI-XXXVII.

Gaur and banteng (*Bos*)

1901. Essai sur les bovidés sauvages de l'Indochine française. 5(1):2-11, Pls. III-XI.

Buffalo (*Bubalus*)

1888. Note sur le petit buffle sauvage de l'île de Mindoro (Philippines). 2(1):50-51.

1896. Note sur un buffle de Mindanao. 3(1):45-47, Pl. X.

Wild pigs (*Sus*)

1892. Etude sur les suilliens, Chapitre II. 2(2):85-111, Pls. XVII, XX-XXIX^A.

1894. Etude sur les suilliens, Chapitre III. Notes sur quelques crânes de sangliers des Philippines. 2(4):212-222, Pls. XVI-XX^B, XL.

1897. Etude sur les suilliens, Chapitre IV. Sangliers Chinois. 3(4):189-194, Pls. XXX-XXXIII.

1899. Etude sur les suilliens. Revue des types Asiatiques. 4(3):113-133, Pls. XXXII-XXX.

1901. Etude sur les suilliens, Chapitre IV (continued). Sangliers Chinois. 5(1):37-43, Pls. XXIV-XXVII.

Bears (*Ursus*)

1898. Note sur l'ours et ses parents. 4(1):14-24, Pls. VII-VIII.

1901. Notes sur quelques ursidés peu ou point connus. 5(1):1-2, Pls. I-II.

Moles (*Talpidae*)

1898. Talpidés. 4(1):40-42, Pl. XXXIII.

Other early papers on the Heude collection

Courtois, F. 1906. Note sur les ursidés du Musée de Zi-ka-wei. *Mém. H. N. Emp. Chin.*, 5(2):33-38, Pls. XVII-XIX.

Sowerby, A. de C. 1917. On Heude's collection of pigs, sika, serows, and gorals in the Sikawei Museum, Shanghai. *Proc. Zool. Soc. Lond.*, 1917:7-26.

Sowerby, A. de C. 1918. Notes upon the Sika deer of North China. *Ann. Mag. Nat. Hist.*, 2(9):119-122.

Sowerby, A. de C. 1920. Notes on Heude's bears in the Sikawei Museum, and on the bears of Palaearctic eastern Asia. *J. Mammal.*, 1:213-233.

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Appendix

Sowerby collections

INSECTIVORA

<i>Erinaceus europaeus</i>	7
<i>Scaptochirus moschatus</i>	1
<i>Suncus murinus</i>	13

CHIROPTERA

<i>Hipposideros</i> sp.	20
<i>Rhinolophus</i> sp.	16
<i>Myotis</i> sp.	4
<i>Miniopterus schreibersi</i>	4
<i>Eptesicus</i> sp.	6
<i>Pipistrellus</i> sp.	15

RODENTIA

<i>Apodemus</i> sp.	17
<i>Typhlomys</i> sp.	11
<i>Rattus norvegicus</i>	22
<i>Rattus flavipectus</i>	40
<i>Rattus fulvescens</i>	26
<i>Rattus confucianus</i>	55
<i>Rattus</i> sp.	8
<i>Mus bactrianus</i>	8
<i>Dipus sagitta</i>	8

CARNIVORA

<i>Mustela sibirica</i>	5
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震旦博物院哺乳动物头骨标本收藏目录

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摘要

天主教传教士 Pierre Marie Heude(1836-1902)1867年自法国来到中国,他特别钟情于自然历史研究,把几乎所有的精力倾注于他在东亚地区的标本收藏上。1868年,他在现上海市郊的徐家汇建立了一座博物馆并收藏大量的动物标本。1933年徐家汇博物馆被震旦大学(现复旦大学)接管,并建立了一座新馆,更名为震旦

博物院(欧洲称为 Musée Heude)。在 Heude 收藏的标本中,一部分是他在菲律宾、印度尼西亚、日本、印度及中国等地区探险时采集的,而绝大多数标本则是他通过各种方法联络各国同僚收集而来。在他死后,由他的接班人 Courtois 和 Sowerby 等继承了他的研究。1952年,上海自然历史博物馆接收了原震旦博物院,1958年原震旦博物院的标本被送至上海自然历史博物馆和中国科学院动物研究所收藏。

源自原震旦博物院的哺乳动物头骨标本可能是目前仍保存在国内有关亚洲地区收藏数量最大的一部分,然而,由于历史久远和中国近代变迁等因素的影响,Heude 当时收藏的原始记录资料和标本标签大多遗失或破损,使这批具有极高学术价值的头骨标本一直在标本馆中沉睡了一百多年。

2000年4月中旬至5月中旬,作者将存放在上海和北京的所有兽类头骨标本进行了整理,重新进行标识和编目。经整理,共清理出兽类头骨 2 139 件。根据 Heude 当时的分类,共查出模式标本 188 件(其中正模 54,副模 6,配模 79,余模 49),用红色圆点在模式标本上进行了标记,并将其名写于其上。尽管 Heude 标本中模式标本绝大多数为同物异名,这在一定程度上降低了它们的价值,但仍有一部分模式标本是名符其实的,如 *Bubalus mindorensis* 和 *Sus cebifrons* 等。

在本文中,作者按现代分类顺序将它们进行排列,并将保存于上海和北京两地的标本分开排列,以便于查找。同时采用现代学术界认可的种名。在每一种名之后,分别列出标本中雌、雄个体、亚成体和性别不明标本的数量。如 3.4.7+5 表示,标本中有 3 个雄性成体,4 个雌性成体,7 个亚成体和 5 只性别不明个体。在种名的下面,按 Heude 在标本上标识的种名进行排列,在种名后是作者名和在著作中进行描述的时间。模式标本排列在前,其它标本在后。

目录中的地名来自 Heude 在头骨上的标记,在目录最后列出了所有在目录中出现的地名。Heude 在标签和头骨上书写的地名,可能是他根据当地口音或其他方式所确定,多数不是学术上公开使用的有效名称,给现在及将来使用带来诸多不便,因此在研究历史文献的基础上尽可能地附上了这些地名的现代名称。

关键词 震旦博物院,哺乳动物,标本.

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