

Martinus Houttuyn (1720-1798) and his contributions to the natural sciences, with emphasis on zoology

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After a short characterization of the political and economical developments in 17th-18th century Netherlands and some general remarks on the Houttuyn family and its social status, the ancestry of Martinus Houttuyn is thoroughly established. In the medical thesis he presented at Leiden University in 1749 many interesting facts about his early life and scientific development, hitherto overlooked, were found. The six principal zoological publications of Houttuyn are reviewed and are listed together with many others on a wide diversity of subjects. The esteem he received during his lifetime from compatriots as well as foreign scientists, in contrast to the near oblivion in the 19th-20th century, is demonstrated. We tried to entangle the vicissitudes of his cabinet of natural history. A copy of the catalogue of the 1787 auction of the zoological specimens is added.

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adding 26 pages on that subject, including extensive anatomical information. Such additions to Linnaeus's succinct text are exemplary for many of the following chapters, usually with supplementary references omitted by Linnaeus. The accompanying plate VI is the first signed by the artist: "J.C. Philips f."

Chapters V [*Lemur*], p. 396-403 (pl. VII); VI [*Vespertilio*], p. 403-418 (pl. VIII).

Chapter VII [*Elephas*], p. 419-462. Dealing with elephants, both Asian and African, Houttuyn regards them to represent probably a single variable species (*E. maximus*), considering differences as presumably mere adaptations to different habitats and environmental conditions. Noteworthy, and well ahead of his time, is Houttuyn's opinion, also expressed elsewhere, that differences in environment may lead to differences in phenotype. An amazing amount of anatomical, biological and historical information is added.

Chapter VIII [*Trichechus*], p. 462-479. This review of the sirenians or sea-cows, includes very extensive quotations from Clusius (who records a specimen, evidently stuffed, in Amsterdam, later removed to the Leiden Academy Garden), Labat and de la Condamine. Houttuyn presumes only a single species to be involved showing local variations.

Chapter IX [*Bradypus*], p. 479-485 (pl. IX). The two species of sloth dealt with (*B. tridactylus* and *Choloepus didactylus*) both are depicted on the plate in an upright position in a tree, their usual position hanging upside-down from a tree branch, apparently being considered incredible (fig. 6). Houttuyn erroneously records the two-toed sloth from Ceylon, evidently led astray by previous literature, including Linnaeus.

Chapters X [*Myrmecophaga*], p. 486-493 (pl. X); XI [*Manis*], p. 493-500.

Volume 2. 1761. "Vervolg der zoogende dieren"
(Continuation of the mammals): [6], 1-504, pls. XI-XXI.

After the usual title-page, with a blank reverse, there is an unnumbered two page table of contents, covering the mammals in chapters XII-XXIX, and an explanation and location of the plates on two unnumbered pages.

Chapter XII [*Phoca*], p. 1-33 (pl. XI). In this chapter, dealing with seals, it is interesting to note that among the extensive information, Houttuyn records (p. 16) to have attended in 1748 in Leiden the dissection of a common seal by Albinus, which must have been during his medical study at Leiden University.

Chapters XIII [*Canis*], p. 33-95 (pl. XII); XIV [*Felis*], p. 95-147; XV [*Viverra*], p. 147-166 (pl. XIII); XVI [*Mustela*], p. 167-212 (pl. XIV).

Chapter XVII [*Ursus*], p. 212-247 (pl. XV). In a footnote on p. 238 Houttuyn

declares to have taken his picture of the coati from a French publication, which may indicate that he never saw a specimen.

Chapters XVIII [*Sus*], p. 248-277; XIX [*Dasypus*], p. 277-287 (pl. XVI); XX [*Eri-naceus*], p. 287-298 (pl. XVII, fig. 1); XXI [*Talpa*], p. 299-312 (pl. XVII, fig. 2); XXII [*Sorex*], p. 312-316 (pl. XVII, figs. 3, 4); XXIII [*Didelphis*], p. 316-327 (pl. XVIII).

Chapter XXIV [*Rhinoceros*], p. 327-352. Houttuyn states (p. 333) to have examined three "horns". Furthermore, he treats the extensive fictions concerning this species with much scepticism, e.g. about the defencelessness of the rhinoceros when confronted with a bare bodied virgin (p. 334). Though dealing in considerable detail with the "many fables that have been spread by Earlier Writers" about the horn, he omits all references to the presumed usage as an aphrodisiac.

Chapters XXV [*Hystrix*], p. 352-369 (pl. XIX); XXVI [*Lepus*], p. 369-409.

Chapter XXVII [*Castor*], p. 409-437. It is illustrative of Houttuyn's treatment of some species how he, assembling an amazing amount of information from a large diversity of sources, gives a review of the beaver covering 26 pages.

Chapters XXVIII [*Mus*], p. 437-492 (pl. XX); XXIX [*Sciurus*], p. 493-504 (pl. XXI).

Volume 3. 1762. "Vervolg der zoogende dieren"
(Continuation of the mammals): [6], 1-554, [4], pls. XXII-XXVIII.

The title-page, with a blank reverse, is followed by two unnumbered pages listing the contents of the mammal chapters XXX-XXXXII and, on two unnumbered pages, the explanation and location of the plates.

Chapter XXX [*Pecora*], p. 1-9. Information is given on the digestive tract, especially the stomach, in this group, including the following six Linnaean genera (XXXI-XXXVI).

Chapters XXXI [*Camelus*], p. 9-28; XXXII [*Moschus*], p. 29-35.

Chapter XXXIII [*Cervus*], p. 35-154 (pls. XXII, XXIII). The diversity in shapes, specially shown in deer, evidently poses problems to Houttuyn, but he hesitatingly restricts himself to Linnaeus's classification. Also, he presents a depressing account of hunting, the regulations and the results, with emphasis on the hunting parties held by rulers and nobility, causing the senseless death of amazing numbers of various animals. The paragraphs on the reindeer include a detailed description of the physiography and living circumstances in northern Scandinavia.

Chapter XXXIV [*Capra*], p. 155-218 (pls. XXIV, XXV). On p. 186 Houttuyn states to have examined several chamois horns (*C. rupicapra*), while on p. 201 he mentions having seen horns of the gazelle (*C. gazella*).