An annotated list of mammal type specimens in the collections of the former Zoological Museum of the University of Amsterdam (1890-2010)

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Key words: Mammalia; type specimens; Zoological Museum Amsterdam.
Mammal type specimens in the former Zoological Museum in Amsterdam, The Netherlands, are listed and, where necessary and possible, annotated. The collection held 123 type specimens including 10 holotypes, 91 paratypes, 2 lectotypes, and 20 paralectotypes, together representing 6 orders, 15 families, 22 genera, and 26 species and subspecies.

Introduction

One of the tasks of those involved in the care for and use of a scientific zoological collection is to make the existence of its contents known to taxonomists and other colleagues all over the world. While data on more and more collections at large are being made available on the Internet, particular selections still have to be made by the users of those data. Moreover, not all data bases involved have the same design or do contain the same details per specimen. For example, it is not easy to construe an annotated list of the type specimens present in a particular collection. Furthermore, not in all cases do original descriptions of species mention all the available data.

The present paper provides a list of mammal types and their full data in the collections of the former Zoological Museum of the University of Amsterdam (ZMA). As from the 28th of January 2010, the ZMA has merged with the National Museum of Natural History Naturalis in Leiden (the former Rijksmuseum van Natuurlijke Historie, RMNH) and the National Herbarium of the Netherlands, together constituting the Netherlands Centre for Biodiversity Naturalis.

Material and methods

The author has been working in the mammal collection of the ZMA in various part-time qualities from September 1971 until its demise and is well acquainted with it. As a rule, type specimens in the collection were not kept separate from their conspecifics, but were clearly marked as types, not only in writing (register, card index, data base, specimen labels) but also with the aid of colour, labels and index cards being either marked in red or entirely red. However, this policy has not always been strictly followed. In some cases, specimens had been marked as types whereas they turned out to be no more than specimens from the type locality of the taxon involved. In one case, unregistered type specimens were discovered which had been marked as types since

1912, but not in red, and had gone unrecognized as types until 2009 (Cruz, in prep.). In another case, specimens which at some stage had been published as syntypes turned out to be no types at all. Thus, while the basis for this list was provided by the red marking of type specimens, it has been necessary to check the justification for marking and to go through the collection looking for hidden types.

Symbols and abbreviations used: # = field number; alc. = alcohol.

Results: An annotated list of mammal types in the ZMA

Names of orders and families in this list are according to Wilson & Reeder (2005), which in principle was used as the standard reference for the arrangement of ZMA mammal holdings. For practical reasons the names of species and subspecies are also given as listed in Wilson & Reeder (2005); when different, the name given by the first describer(s) and the reference of the description are also quoted. In a few cases, the author differs in opinion regarding the nomenclature used in Wilson & Reeder (2005), which is explained in a note following the enumeration of specimens of each species and subspecies. The name is followed by the type category; number of specimens if more than one; sex; age when not adult; the way in which the specimen has been preserved; collecting locality; geographical coordinates; collecting altitude in m; date of collection (with Roman numbers representing the months); collector; field number; and ZMA registration number. These data are taken from field labels and ZMA registers, not from the published descriptions.

Not in all cases all the data are known and in some cases the data here presented extend the original description. When useful and possible, notes on the specimens and their history are given.

ORDER DIPROTODONTIA

Family Pseudocheiridae

Petauroides volans (Kerr, 1792)

Petauroides volans incanus O. Thomas, 1923a: 247.

Paratype.— ♂, skin, skull, Eidsvold (25°23'S, 151°08'E), Queensland, Australia, altitude 450 feet (about 150 m), 18.i.1922, collector T.V. Sherrin, ZMA 5380.

Notes.— According to the ZMA register, this specimen was received in exchange from the British Museum (Natural History) in 1923.

Family Macropodidae

Dorcopsis luctuosa (D'Albertis, 1874)

Dorcopsis luctuosa phyllis Groves & Flannery, 1989: 125, fig. 10.

Holotype.— ♀, skin, skull, postcranial skeleton, vicinity of Merauke (8°30'S, 140°22'E), New Guinea, Indonesia, end of 1959/beginning of 1960, collected for or by A.J.N. Monsanto.

Notes.— The specimen was collected for or by A.J.N. Monsanto, an animal trader based in Merauke but collecting and buying animals in a much larger area around it, which is corroborated by other material in the ZMA collection. (Incidentally, the present author stayed in Merauke during the first half of 1960 and his efforts to contact Mr. Monsanto all failed because of the latter's frequent absence due to the many trips he made.) It was sold by him to the Amsterdam Zoo (Natura Artis Magistra) where according to one of its labels it died after about 2 months, on 31.xii.1962, reportedly about 4 years old. As small size appears to be an important character of this taxon (Groves & Flannery, 1989; Groves, 2005), it is worth mentioning that on the day of its death the animal had a body mass of 3165 g. Groves (2005: 62) wrote "The subspecies *phyllis* (Fly River district) is highly distinctive; it appears to fall outside the range of variation of nominotypical *luctuosa* (Port Moresby district), and is probably a distinct species."

ORDER SCANDENTIA

Family Tupaiidae
Tupaia glis (Diard, 1820)

Tupaia glis phoeniura O. Thomas, 1923b: 255.

Paratype.— ♀, immature, alcohol, Deli Proefstation, Medan (98°39'E, 3°35'N), Sumatra, Indonesia, 1905-1917, collector L.P. le Cosquino de Bussy, ZMA 11.310.

Notes.— The data mentioned by Thomas (1923b) and applying to both holotype and this (single) paratype can be amended as follows. "Deli" was the name of an agricultural experimental station (Dutch: "proefstation") at Medan, Sumatra. The collector of the specimens was stationed in Deli from 1905 to 1917. His proper name reads L.P. le Cosquino de Bussy. The year 1923 is the year of Thomas' publication.

The paratype was received, probably in exchange, from the British Museum (Natural History) in 1923.

ORDER RODENTIA

Family Sciuridae
Prosciurillus weberi (Jentink, 1890)

Sciurus weberi Jentink, 1890: 115, pl. VIII, pl. X figs 1-3.

Paralectotypes.— 1 ♀ (?), mounted skeleton, near Palopo (2°59'S, 120°11'E), Luwu, Sulawesi, Indonesia, ii.1889, coll. M.W.C. Weber, ZMA 11.237. 1 ♀ (?), mounted specimen, skull, near Palopo, Luwu, Sulawesi, Indonesia, coll. M.W.C. Weber, ZMA 11.328.

Notes.— The indication of the sex on the old labels of these specimens is equivocal. Their collecting date has been quoted earlier as 1888, but Weber visited Palopo in February 1889. Musser, Durden, Holden & Light (2010) designated the lectotype and confirmed the paralectotype status of the two ZMA specimens.

Family Cricetidae
Calomys hummelincki (Husson, 1960)

Baiomys hummelincki Husson, 1960: 34, fig. 7a-d.

Paratypes.— 1 juvenile ♀, alc., skull, west of Baranca Corrá (or Corá; 12°29'N, 69°56'W), Aruba, 4.vi.1930, coll. and leg. P. Wagenaar Hummelinck, ZMA 1564. 1 juvenile ♂, alc., near Seroe Blanco (12°31'N, 70°02'W) at point 62.8, Aruba, 1.vii.1930, coll. and leg. P. Wagenaar Hummelinck, ZMA 1570. Remains of skull from owl pellet, Cave of Savonet (12°21'N, 69°06'W), Cueba Bossa, northwestern Curaçao, 10.i.1959, coll. and don. J.H. Stock, ZMA 2480.

Note.— The meaning of "point 62.8" is not known to the author.

Family Muridae
Mus musculus Linnaeus, 1758

Mus wagneri rotans Droogleever Fortuyn, 1912: 189.

Type material.— Recently, ten type specimens of *Mus wagneri rotans* were discovered in the ZMA collection. They will be registered, described as lectotype and paralectotypes respectively, and discussed in a forthcoming paper by Cruz (in prep.).

Family Anomaluridae
Anomalurus pelii (Schlegel & Müller, 1845)

Anomalurus pelii peralbus Schunke & Hutterer, 2005: 327.

Holotype.— 1 ♀, skin, skull, Gueboua (5°59'N, 5°41'W), Ivory Coast, 20.x.1970, coll. L.J.R. Bellier # A9013, ZMA 21.275.
Paratypes.— 8 ♂♂, 5 ♀♀, 34 of unknown sex, skins of 47 and skulls of 45 specimens, Gueboua (5°59'N, 5°41'W), Ivory Coast; 16.x.1970 / 25.xi.1970, coll. L.J.R. Bellier # A2987-A2992, A2996, A9009, A9011, A9012, A9022-A9024, A9043-A9046, A9048, A9096-A9101, A9171, A9172, A9108, A9109, A9113-A9122, ZMA 21.264-21.270, 21.272-21.274, 21.276-21.289, 21.293-21.306; and 18.v.1973, coll. J. Vissault # A9574-A9582, ZMA 21.307-21.315.

Family Hystricidae
Atherurus macrourus (Linnaeus, 1758)

Atherurus retardatus Mohr, 1964: 105, fig. 5.

Paratype.— ♀, skin, skull, bones, [Asia], received by the Amsterdam Zoo via a trader on 6.vi.1959, deceased 22.xi.1962, ZMA 5092.

Notes.— Mohr (1964) refers to this specimen as "Mus. Amsterdam 5292", which should be ZMA 5092.

ORDER SORICOMORPHA

Family Soricidae

Sorex araneus Linnaeus, 1758

Sorex araneus pulcher Zalesky, 1937: 213.

Syntypes.— (all were collected by A.C.V. van Bemmel on the island of Terschelling, The Netherlands)
♂, skin, part of skull, Noordvaarder, 8.vi.1937, # 101/37, ZMA 5262.
♀, skin, skull, Noordvaarder, 18.vi.1937, # 102/37, ZMA 5124.
♀, skin, skull, Noordvaarder, 18.vi.1937, # 103/37, ZMA 5127.
♂, skin, skull, Noordvaarder, 23.vi.1937, # 105/37, ZMA 5128.
♂, skin, skull, Noordvaarder, 22.vi.1937, # 106/37, ZMA 5263.
♀, skin, skull, Noordvaarder, 23.vi.1937, # 107/37, ZMA 5123.
♀, skin, broken and incomplete skull, Noordvaarder, 23.vi.1937, # 108/37, ZMA 5126.
♀, skin, skull, Griltjeplak, Noordvaarder (c. 53°22′N, 05°11′E), Terschelling, The Netherlands, 25.vi.1937, # 112/37, ZMA 5129.
♀, skin, broken and incomplete skull, south of Midsland (53°23′N, 05°17′E), 28.vi.1937, # 118/37, ZMA 5261.

Notes.— For his description Zalesky (1937) used 7 ♀♀ and 4 ♂♂ from the ZMA collection, which he indicated by their field numbers, as the specimens had no proper registration numbers yet. The specimens with field numbers 100/37 and 104/37 cannot be found in the ZMA collection, nor in the Naturhistorisches Museum in Vienna (Dr Anita Gamauf, in lit., 6 December 2010) where Zalesky worked. (Loch's observation in 1977 that the ZMA would hold only three type specimens of *S. a. pulcher* is not correct.) Zalesky did not fix a holotype "[...] da man nur nach einer ganzen Serie von Stücken eine Neubeschreibung durchführen kann."

The island of Terschelling is one in a range of islands (the Wadden Islands) lining the north coast of The Netherlands. Of these, Terschelling is the only island inhabited by *Sorex araneus* Linnaeus, 1758. The close relative *Sorex coronatus* Millet, 1828 does probably not occur there (Lange, van Winden, Twisk, de Laender & Speer, 1986; Mostert, 1992), but the possibility should be kept in mind. On the basis of the specimens' labels the type locality, quoted as "Naturschutzgebiet der Nordseeinsel Terschelling, Holland" (Nature conservation area of the North Sea island of Terschelling) can be narrowed down to the Noordvaarder, West-Terschelling. The Noordvaarder is a small national nature reserve partly covering the western part of the island, while Midsland is a village to the east of the reserve. From after World War II until 1996, a part of The Noordvaarder has been used as a practice-ground by the Dutch Air Force. Only one of the specimens, ZMA 5129, represents a more precise locality within The Noordvaarder, i.e. Griltjeplak, while another, ZMA 5261, was collected near Midsland.

This latter locality was not noted by Zalesky. According to their labels, the collector of the syntype series would not be A.C.V. van Bemmel, as Zalesky (1937) wrote, but the State Forestry Service (Dutch: Staatsbosbeheer). However, the collectors produced a report based on zoological inventories of the Wadden Islands (Ter Pelkwijk, van Bemmel & Mörzer Bruyns, 1937), during which this series was collected. The report states that A.C.V. van Bemmel and M.F. Mörzer Bruyns made an inventory of the fauna of Terschelling. At the time, Van Bemmel was a student assisting the ZMA mammal department. Hence, Zalesky's statement on the collector of this series can be accepted as correct.

Zalesky (1937) based his description on fur colours, fur colour pattern, and tooth pigmentation. In 1948 he published a revision of *Sorex araneus* in North and Central Europe in which he repeats his description of *S. a. pulcher* and elaborates on the fur, with emphasis on differences between summer and winter fur. Husson (1962) wrote that the status of *S. a. pulcher* is in need of confirmation on the basis of more extensive material than the type series. Van Laar (1964) critically examined Zalesky's results and studied *Sorex* from Terschelling in the collections of the ZMA and the Rijksmuseum van Natuurlijke Historie in Leiden, and collected new material on Terschelling. His preliminary conclusions were that *S. a. pulcher* may not differ significantly from the mainland form in body and skull measurements and in winter fur, but it may differ in summer fur. He recommended this as a subject for further research.

Other authors have touched on the subject but did not tackle this problem. Loch (1977), who examined many specimens of *Sorex araneus* from The Netherlands, saw three of the syntypes and concluded that in two the characters agreed with those of karyotype B - one of the karyotypes encountered on the mainland - while in the third he found the characters to be less clear. Hausser, Hutterer & Vogel (1990) refrained from recognizing subspecies within *Sorex araneus* and stated that a satisfying division of *S. araneus* into subspecies should rest on geomorphological variation, the distribution of karyotypes, and biochemical criteria, suggesting that available data were not sufficient. Mostert (1992) identified all *Sorex* from Terschelling as *S. araneus*.

ORDER CHIROPTERA

Family Pteropodidae

Chironax tumulus Bergmans & Rozendaal, 1988

Chironax melanocephalus tumulus Bergmans & Rozendaal, 1988: 46, figs 11a-e, 13; Simmons, 2005: 316.

Holotype.— ♂, alcohol, skull, Sungei Moinakom (0°40'N, 124°04'E), Dumoga-Bone National Park, North Sulawesi, Indonesia, altitude 625 m, 25/26.i.1983, collector F.G. Rozendaal, # 104, ZMA 22.101.
Paratypes.— ♀, alc., upper tributary of Sungei Mauk (0°41'N, 124°2'E) , Dumoga Bone National Park, North Sulawesi, Indonesia, alt. 960 m, 22.x.1981, collectors K.D. Bishop, F.G. Rozendaal and W.F. Rozenburg, ZMA 21.638. ♂, alc., skull, Sungei Moinakom (0°40'N, 124°04'E), Dumoga Bone National Park, North Sulawesi, Indonesia, altitude 625 m, 25/26.i.1983, collector F.G. Rozendaal, ZMA 22.102.

Notes.— Paratype ZMA 21.639 mentioned in the original description has subsequently been deposited in the Museum Zoologicum Bogoriense (MZB) at Cibinong, Indonesia, with registration number M14510.

On the basis of the clear morphological differences with the nominate taxon, extensively described and figured by Bergmans & Rozendaal (1988) and of biogeographical considerations, the author is convinced that *Chironax tumulus* should stand as an independent species.

Dobsonia beauforti Bergmans, 1975: 3, figs 2-9.

Holotype.— ♀, skin, skull, collected from a cave near Nja-njef (c. 0°20'S, 130°43'E), Waigeo Island, West Papua, Indonesia, 25.xii.1909, collector L.F. de Beaufort, ZMA 16.476.

Paratypes.— 11 specimens from the same locality, collecting date and collector as the holotype: 3 adult ♂♂, skins, skulls (ZMA 16.473, 16.478 and 16.479, respectively), 1 juvenile ♂, skin, skull (ZMA 16.482), 6 ♀♀, skins, skulls (ZMA 16.472, 16.474, 16.475, 16.480, 16.481 and 16.483, respectively; each with one embryo, preserved in alcohol and numbered as 16.547-16.552, respectively). 1 juvenile ♀, skin and skull (ZMA 16.477).

Notes.— The original description (Bergmans, 1975) erroneously mentioned 13 paratypes, whereas there were only 12, one of which in the collection of the then Rijksmuseum van Natuurlijke Historie in Leiden.

Paratype ZMA 16.475 and its embryo ZMA 16.549 have been exchanged with the Australian Museum, where its collection number is AM M9996 (Dr S. Ingleby, in lit., 25.x.2010).

Dobsonia peronii (E. Geoffroy, 1810)

Dobsonia peronii grandis Bergmans, 1978: 6, fig. 1.

Paratype.— ♀, alcohol, skull in alc., cave along the Sadrap River, Komodo Island, Indonesia, 13.iv.1977, collector A.P.M. van der Zon, ZMA 19.428.

Note.— Sadrap River or Wae Sadrap is the largest river on Komodo Island, adjacent to Komodo village (c. 8°35′S, 119°30′E). The specimen was collected not far from the village (Dr A.P.M. van der Zon, in lit., 9.xii.2010).

Dobsonia emersa Bergmans & Sarbini, 1985: 185.

Paratype.— ♀, skin, skull, Owii Island (1°12′S, 136°4′E), Indonesia, altitude 30 m, 11.viii.1976, collector NAMRU-2 Detachment, ZMA 22.461.

Notes.— The holotype and other paratype specimens, together with the rest of the collection of small mammals of the United States Naval Medical Research Unit (NAMRU) in Jakarta of which they were a part, have been deposited in the West Australian Museum in Perth.

Epomophorus anselli Bergmans & Van Strien, 2004: 258, figs 1-3.

Holotype.— ♂, alcohol, skull in alc., Lisanthu (13°0′S, 33°10′E), Kasungu National Park, Malawi, altitude 1000 m, 19.iii.1982, collector H. Jachmann, # 25, ZMA 21.693b.
Paratype.— ♀, nearly adult, skin, skull, Lifupa Camp (13°5′S, 30°8′E), Kasungu National Park, Malawi, altitude 1050 m, 19.v.1988, collector N.J. van Strien, # 162, ZMA 26.105.

Lissonycteris angolensis (Bocage, 1898)

Lissonycteris angolensis goliath Bergmans, 1997: 46.

Paratype.— ♀, skin, skull, Gleneagles (18°15'S/18°30'S, 32°45'/33°0'E), Inyanga, Zimbabwe, altitude 6000' (1830 m), 19.iii.1970, collector S. Irwin, # T1853, ZMA 24.719.

Notes.— This taxon was raised to specific rank by Cotterill (2001), under the Evolutionary Species Concept, which was followed by Van Cakenberghe & Seamark (2008), but not by Simmons (2005).

Lissonycteris angolensis petraea Bergmans, 1997: 44.

Paratype.— ♂, alcohol, skull in alc., 10 km from Agaro (7°50'N, 36°38'E), at the road to Jimma (7°39'N, 36°47'E), Ethiopia, altitude 1650 m, 10/13.vi.1968, collectors J. Dorst and party, ZMA 25.180.

Notes.— This taxon was raised to specific rank by Cotterill (2001), under the Evolutionary Species Concept, which was followed by Van Cakenberghe & Seamark (2008) but not by Simmons (2005).

Nyctimene (Paranyctimene) tenax Bergmans, 2001

Nyctimene (Paranyctimene) tenax tenax Bergmans, 2001: 146, figs 3A-E.

Holotype.— ♀, alcohol, skull in alc., upstream of Anadea (about 7°36′S, 146°37′E), 32 km SSW of Wau, Morobe Province, Papua New Guinea, altitude 850 m, 10.viii.1978, collector B.M. Beehler, ZMA number 25.360.

Notes.— Bergmans (2001) analysed the morphological and colour differences between the genera *Nyctimene* and *Paranyctimene* as claimed by the describer of the latter (Tate, 1942), and concluded that the latter genus differed from the former in a gradual sense, warranting subgeneric distinction only. Simmons (2005) did not accept this, pending phylogenetic studies of relationships of these taxa. She referred to Donellan, Reardon & Flannery (1995), whose electrophoretic work suggested the two genera to be reciprocally monophyletic. The present author prefers to await the outcome of DNA analyses, maintaining his appreciation of *Paranyctimene* as a subgenus of *Nyctimene* for now.

Nyctimene (Paranyctimene) tenax marculus Bergmans, 2001: 148.

Holotype.— ♀, alcohol, skull, 200 m from Rumei River, c. 10 km E of Urbinasopen village (0°22′S, 131°13′E) and c. 7 km upstream, Waigeo Island, West Papua, Indonesia, altitude 200-250 m, 13.x.1993, collector Marc Argeloo, # 7, ex-ZMA 25.428, MZB M26626.

Notes.— The date of collection is 13 October 1993, not 13 March 1993 as stated in the original description. After having been published as the holotype and part of the ZMA collection (Bergmans, 2001), for which reason it has been included here, the specimen was subsequently deposited in the Museum Zoologicum Bogoriense (MZB) at Cibinong, Java, Indonesia, where it is registered under number M26626. See the notes on the valuation of *Paranyctimene* under the preceding subspecies.

Rousettus obliviosus Kock, 1978: 208, figs 1-2.

Paratype.— ♀, immature, alc., skull, Anjouan Island (12°15′S, 44°25′E), Comoros, 11.x.1903, collector A. Voeltzkow, # 94, ZMA 20.903.

Notes.— This specimen has been received in exchange from the Zoological Museum of Berlin, where it was registered as ZMB 58196.

Family Nycteridae
Nycteris javanica E. Geoffroy, 1813

Nycteris javanica bastiani Bergmans & Van Bree, 1986: 332.

Paratypes.— 2 ♂♂, 5 ♀♀, alcohol, skull of 1 ♀ (ZMA 22.493) extracted, Gua Ainkuan (c. 6°53'S, 115°32'E), desa Torjek, Kangean Island, Indonesia, 19/21.i.1984, collector B.E. van Helvoort, # 43, 46, 48, Y62, 78, 79, 83, ZMA 22.487-22.493.

Family Vespertilionidae
Murina suilla (Temminck, 1840)

Murina (Murina) suilla canescens O. Thomas, 1923
Murina canescens O. Thomas, 1923b: 254.

Paratype.— ♂, alcohol, Gunung Sitoli (1°16'N, 97°34'E), Nias Island, Indonesia, 1910, collector J.P. Kleiweg de Zwaan, ZMA 17.352.

Pipistrellus (Pipistrellus) tenuis sewelanus Oei, 1960

Pipistrellus sewelanus Oei, 1960: 27

Holotype.— ♀, alc., skull in alc., Sewela (= Swela, 8°32'S, 116°35'E), Lombok, Indonesia, iii.1939, coll. J.P. Kleiweg de Zwaan, ZMA 1565.
Paratypes.— 2 ♀♀, 1 ♂, alc., skulls in alc., Sewela (= Swela, 8°32'S, 116°35'E), Lombok, Indonesia, iii.1939, coll. J.P. Kleiweg de Zwaan, ZMA 1566, 1567, 1568.

Notes.— In his description, Oei (1960) did mention neither ZMA numbers, nor the date of collection, nor the collector's initials. The order of registration numbers is the same as the order of specimens in his Table 4. See also Van Bree, 1961.

Tylonycteris pachypus (Temminck, 1840)

Tylonycteris pachypus bhaktii Oei, 1960

Holotype.— 1 ♀, alc., skull in alc., Sewela (= Swela, 8°32'S, 116°35'E), Lombok, Indonesia, iii.1939, coll. J.P. Kleiweg de Zwaan, ZMA 2876.
Paratypes.— 2 ♀♀, alc., skulls in alc., Sewela, Lombok, Indonesia, iii.1939, coll. J.P. Kleiweg de Zwaan, ZMA 2877, 2878.

Notes.— In his description, Oei (1960) did mention neither ZMA numbers, nor the date of collection, nor the collector's initials. The order of registration numbers is the same as the order of specimens (T_1, T_2 and T_3) in his Table 2. See also Van Bree, 1961.

Family Rhinolophidae
Rhinolophus tatar Bergmans & Rozendaal, 1982: 170, figs 1-5.

Holotype.— 1 ♀, alc., skull, Moinakom River at 0°41'N, 124°3'E, Cagar Alam Dumoga, Sulawesi, Indonesia, alt. 525 m, coll. K.D. Bishop, F.G. Rozendaal & W.F. Rodenburg 27/28.x.1981, ZMA 21.838.
Paratypes.— 5 ♀♀, 1 ♂, alc., skulls of 3 ♀♀ and ♂ extracted, Moinakom River at 0°41'N, 124°3'E, Cagar Alam Dumoga, Sulawesi, Indonesia, alt. 525 m, coll. K.D. Bishop, F.G. Rozendaal & W.F. Rodenburg 27/28.x.1981, ZMA 21.839-21.844.

Notes.— Bergmans & Rozendaal (1982) thought that the affinities of *Rhinolophus tatar* were with *Rhinolophus arcuatus* Peters, 1871. Hill (1983) placed it in the synonymy of the narrowly related *R. euryotis*, as a subspecies, which was followed by Csorba, Ujhelyi & Thomas (2003) and Simmons (2005). However, regardless of its affinities with other species, the difference in size between typical *euryotis* and *tatar* is considerable, especially in body measurements, and the present author prefers to await the results of DNA analyses before accepting a change in taxonomic position.

Family Hipposideridae
Hipposideros sumbae Oei, 1960

Hipposideros larvatus (Horsfield, 1823); Oey & Van der Feen, 1958: 232, fig. 1.
Hipposideros larvatus sumbae Oei, 1960: 28.

Paralectotype.— ♀, alcohol, Karoeni (9°26'S, 119°19'E), West Sumba, Indonesia, viii/ix.1932, collector L.P. Krijger, ZMA 1536.

Notes.— The spelling of the name Oey in taxonomic literature is inconsistent. The spelling Oey was used by Oey himself from at least 1951 to 1958. Between 1958 and 1960 he started spelling his name as Oei. Chinese people who migrated from Indonesia to The Netherlands in the 1940s and 1950s sometimes changed their names to make them look Dutch, which may be an explanation. Van Bree (1961) spelled the name as Oei, also when quoting Oey & Van der Feen (1958).

Oei (1960) based his description on 3 specimens in the Naturhistorisches Museum in Basel (NMB) and 1 in the ZMA. He did not designate a holotype. Van Bree (1961) choose as lectotype a ♂ (NMB 5651/10157), called the other two NMB types (NMB 5649, 5650) paratypes - which should have been paralectotypes - and the ♀ type specimen ZMA 1536 allotype. The allotype concept is not generally accepted (e.g. Gloyd, 1982) and in spite of multiple cases of sexual dimorphism is rarely if ever (apart from the present case) applied to mammals. The present author regards all syntypes of *Hipposideros sumbae* except the lectotype as paralectotypes.

ORDER ARTIODACTYLA

Family Bovidae
Bubalus quarlesi (Ouwens, 1910)

Anoa quarlesi Ouwens, 1910: 7.

"Syntypes".— 1 immature specimen, skin, skull, sex unknown, "Nat. in Buitenzorg # 115", bred by P.A. Ouwens, no date, ex Museum Buitenzorg 2016, ZMA 9288. 1 immature specimen, skin, skull, sex unknown, "Nat. Buitenzorg", leg. P.A. Ouwens, no date, ex Museum Buitenzorg 2366, ZMA 9289. 1 immature specimen, skin, skull, ♀, "Nat. Buitenzorg", leg. P.A. Ouwens # 1, no date, ex Museum Buitenzorg 2365, ZMA 9295.

Notes.— The type status of these specimens is refuted on grounds explained below. On the 5th of September 1910 in Makassar, Ouwens (1910, 1911) received a male and a

female anoa from the governor of Sulawesi, Mr A.J. baron Quarles de Quarles. (Later that same year these two specimens would become the basis for Ouwens' description of *Anoa quarlesi*.) He took them by boat to Java, and brought them to Buitenzorg (now: Bogor). The animals were not very shy and were led to the boat walking on a leash. At the request of the governor, they had been obtained for him by order of the district officer (Dutch: assistent resident) Mr Boer at Palopo (2°59'39''S, 120°11'5''E). In his turn, Mr Boer had commissioned the civil authorities of Palopo, Malili (2°38'3''S, 121°5'48''E) and Kolaka (3°40'54''S, 121°25'59''E) to try and obtain living anoa (see Ouwens, 1910, 1911). (It has not been feasible to consult relevant administrative archives of that period, which possibly contain data on the more exact provenance of the two animals.) Ouwens (1910, 1911) quoted Boer who wrote to the governor on the 20th of March 1910 that he was going to commission the mentioned authorities. Thus, the animals were obtained after the 20th of March and before the 5th of September 1920. In Makassar, Ouwens was told (his report does not say by whom) that the two animals were about 2.5 years old. This was confirmed upon his arrival with the animals in Buitenzorg following examination by the Chief Inspector of the Veterinary Service there.

Both the fact that their age was known in Sulawesi and their tame behaviour suggest that they may not have been wild any more when given to Ouwens, and had been kept in captivity for some time already. According to Burton, Hedges & Mustari (2005), sexual maturity in anoas in captivity is attained in the second to third year. Ouwens finished his second paper on anoas (1911; mostly a Dutch translation of his first) on the 5th of July 1911 and explicitly mentions that his two specimens of *Anoa quarlesi* were alive at that time. Their age was then about 3 years and 3 months, indicating sexual maturity. The immature ZMA "syntype" skulls (with many open sutures in all three, 1 upper molar not yet present in ZMA 9288 and 2 upper molars absent in ZMA 9295) obviously represent other specimens. They have nevertheless been quoted as (alleged) syntypes since Groves published his paper on *Anoa* systematics in 1969. Groves (1969), who studied them in the ZMA, had already observed that ZMA 9295 "is probably not a type".

Unfortunately, it is not clear what "Nat. Buitenzorg" means, but it may refer to the birth of the animals in Buitenzorg. If they were born in Buitenzorg (which appears to be so for ZMA 9288, which according to the ZMA register was bred by Ouwens), it is another argument against the type status for any of these three ZMA specimens.

The three skulls formed part of a larger sending of specimens of *Bubalus depressicornis* (H. Smith, 1827) and *Bubalus quarlesi* (Ouwens, 1910) from the museum at Buitenzorg to the ZMA, but were the only ones among them donated to the Buitenzorg museum by P.A. Ouwens. (They may well be descendants of the two original animals.) This must have confused the responsible ZMA curator, the late P.J.H. van Bree. However, neither the specimens' labels nor the ZMA register mention that these specimens are syntypes. That is only mentioned in the ZMA card index (in fact a systematically arranged copy of the register). This means that the idea that syntypes were involved rose only later on. The assistant curator at the time, L.J.K. Kleijn, who registered the specimens, does not remember whether he copied the labels from other (MZB) labels or from a document like a letter or list (L.J.K. Kleijn, in lit., 2.ii.2011).

Of the two colleagues consulted to try and locate the true type specimens, Dr A. Suyanto of the Museum Zoologicum Bogoriense (MZB) at Cibinong informed the author (in

lit., 8.ii.2011) that there is no type material of this species in the MZB, and C. Smeenk of the Leiden Museum (Naturalis) wrote (on 8 February 2011) that the skin of the ♂ type specimen is preserved in that collection, registered under RMNH 10606.

ORDER CETACEA

Family ? Eurhinodelphinidae Abel, 1901
† *Vanbreenia trigonia* Bianucci & Landini, 2002: 189, figs 2-4, 5B, 6.

Holotype.— Incomplete skull, sex unknown, Middle Miocene, Miste Bed, Miste (51°58'N, 6°44'E), The Netherlands, 2/8.viii.1975, coll. D.J. Mol and Mr von der Hocht, don. D.J. Mol, ZMA 17.943.

Discussion

The number of mammalian type specimens in the ZMA is incredibly modest when one realizes that this institution was firmly established as a scientific taxonomical collection during the last quarter of the 19th and the first decades of the 20th century, in a country governing and studying one of the richest mammal regions in the world, i.e. the Dutch East Indies (present-day Indonesia). Indeed, this modest number of mammal types is not due to a lack of collecting and acquisitional efforts, but largely to two exceptional conditions prevailing in the first half of the 20th century.

Firstly, professor Dr Max W.C. Weber, director of the ZMA from 1898 to 1922, and his successor Dr L.F. de Beaufort, ZMA director from 1922 to 1949, exchanged many unidentified mammals newly acquired from the Dutch East Indies for fish specimens with the British Museum (Natural History) in London. There, Mr. Oldfield Thomas described the new species among them and, as can be expected with exchanges, only seldom sent a specimen back. Secondly, although sometimes Weber and De Beaufort themselves undertook taxonomical and biogeographical work on mammals (e.g. Weber, 1890-1891; De Beaufort, 1911), prior to 1945 there has never been a taxonomist on the ZMA staff who was explicitly responsible for the maintenance and study of the mammal collections. This lack of a curator of mammals is one of the underlying causes enabling the liberal use of mammals as material for exchange, and the ensuing serious impoverishment of the ZMA mammal collection.

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