



Knud Andersen's Contribution to the Study of the World's Chiropteroфаuna

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Abstract: The taxonomic contributions of Knud Andersen to the study of the world fauna of bats, both frugivorous and insectivorous, are briefly presented. His activities at the Royal Natural History Institutions in Sofia (1901-1904) and the British Museum - Natural History (1905-1918) are reviewed. For the first time, a complete list of all species (57) of bats described by him is provided. They belong to 6 families. The most numerous are the described species in the family Rhinolophidae (22 species), followed by those of the Family Pteropodidae (18 species).

Key words: bats, National Museum of Natural History (BAS, Sofia), species description, taxonomy, mammals

Introduction

The name of the Danish chiropterologist Knud Andersen (1867-1918) is widely known among mammalogists. His scientific activity developed most intensively in the second decade of the 20th century. Its geographical scope was incredibly extensive – Faroe Islands (Denmark), Bulgaria, Great Britain, Southeast Asia, Australia (Queensland) and Polynesia (Anonym., 2025). He began his scientific career as an ornithologist (in the Faroe Islands).

Knud Andersen as part of the scientific team of the Royal Natural History Institutions in Sofia

As an ornithologist in 1901 he was appointed by Tsar Ferdinand I to the Royal Natural History Institutions in Sofia. There he held the position of assistant to the director of the “Natural History Museum of His Highness The Tsar of All Bulgarians” – Dr. Paul Leverkühn. Over the next four years, K. Andersen carried out a number of studies on the Bulgarian ornithofauna and especially on migratory birds.

His ornithological contributions to Bulgaria are particularly noted in the publication by Nankinov (2002). This author attaches great importance to the three-year research of K. Andersen on the nocturnal migration of birds in the country. Soon K. Andersen became the curator of the zoological collections in the museum and took an active part in their arrangement and cataloguing (birds and mammals). In this way, he contributed greatly to the publication of the first (and only to this day – 2025) complete catalog of the museum's collections (Graetzer, 1907).

Knud Andersen as part of the scientific team of the British Museum (Natural History) in London

The conditions under which he had to work at the Royal Natural History Institutions in Sofia, provided by Tsar Ferdinand I, did not suit Knud Andersen (Helms, 1943).

Initially (in 1904) he moved to Berlin, where he hoped his condition would improve. When that did not happen either, he accepted an offer to work

as a specialist in mammals at the British Museum (Natural History) in London. In just a few years, he managed to compile a voluminous catalog of bats in the collections of this richest natural history museum in the world (Andersen, 1912). This work is indicative of the enormous scientific potential of Knud Andersen. Under circumstances that remain unclear to this day, he disappeared in June 1918 and his body has not been found.

Knud Andersen and taxonomy of the bats of the world

Bats (Order Chiroptera Blumenbach, 1779) are the most numerous and diverse mammals after rodents. The modern chiropterofauna numbers 1456 species and constitutes 22.12% of all mammals (6580 species) in the world (Lynx Nature Books, 2023). The order is subdivided into 21 modern families, grouped into 2 suborders – fruit bats (Yinpterochiroptera Springer et al., 2001, formerly Megachiroptera) and insectivorous bats (Microchiroptera Dobson, 1875). Although the species of the two suborders have very different morphology, biology and ecology, Knud Andersen left his indelible global contribution to the study of bats from both groups. The species described by him belong to 6 of the 21 families of bats. The most numerous species described by him are in the Family Rhinolophidae (22 species), followed by those of the Family Pteropodidae (18 species). He described six species each in the Family Nycteridae and Family Hipposideridae, four species in the Family Phyllostomidae and one species in the Family Molossidae (See the list of „Chiropterans described by Knud Andersen“, presented below.). Thus, the number of species described by him constitutes 3.91% of all modern bats on Earth – an impressive record.

The first species he described (1904) was the Bushveld Horseshoe Bat (*Rhinolophus simulator*), and in the last year (1918) of his life he described 8 species of bats.

There is some discrepancy between these data and the data of Anonym. (2025), where only 49 species described by Knud Andersen are reported, which is 8 species less.

The merits of this remarkable scientist in the study of bats around the world were appreciated in his time, soon after the publication of some of his more significant publications. In 1914 and 1916, two species of bats were named after Knud Andersen. (See the list of „Chiropterans named after Knud Andersen“, presented below.).

Unfortunately, the early death of K. Andersen (only 51 years old) probably deprived us of the

discovery and description of other bats from at least Southeast Asia and Northern Australia. Despite the vicissitudes of fate, the fact that part of the life and scientific career of a world-class specialist like Knud Andersen took place at the National Museum of Natural History in Sofia, Bulgaria, is undoubtedly a matter of pride. It is a testament to the prestige of this scientific institution in the first decades after its establishment (1889).

Chiropterans described by Knud Andersen

Family Pteropodidae

- Greater Dawn Bat – *Eonycteris major* Andersen, K., 1910
- Sulawesi Fruit Bat – *Pilonycteris celebensis* (Andersen, K., 1907)
- Sierra Leone Collared Fruit Bat – *Myonycteris leptodon* Andersen, 1908
- Greater Long-tongued Blossom Bat – *Macroglossus sobrinus* Andersen, K., 1911
- Sulawesi Naked-backed Fruit Bat – *Dobsonia exoleta* Andersen, K., 1909
- New Britain Naked-backed Fruit Bat – *Dobsonia praedatrix* Andersen, K., 1909
- Halmahera Naked-backed Fruit Bat – *Dobsonia crenulata* Andersen, K., 1909
- Solomons Naked-backed Fruit Bat – *Dobsonia inermis* Andersen, K., 1909
- Round-eared Tube-nosed Fruit Bat – *Nyctimene cyclotis* Andersen, K., 1910
- Mountain Tube-nosed Fruit Bat – *Nyctimene certans* Andersen, K., 1912
- Lesser Tube-nosed Fruit Bat – *Nyctimene minutus* Andersen, K., 1910
- Bougainville Monkey-faced Fruit Bat – *Pteralopex anceps* Andersen, K., 1909
- Talau Flying Fox – *Acerodon humilis* Andersen, K., 1909
- Philippine Gray Flying Fox – *Pteropus speciosus* Andersen, K., 1908
- Palau Flying Fox – *Pteropus pelewensis* Andersen, K., 1908
- Makira Flying Fox – *Pteropus cognatus* Andersen, K., 1908
- Lyle's Flying Fox – *Pteropus lylei* Andersen, K., 1908
- †Large Palau Flying Fox – *Pteropus pilosus* Andersen, K., 1908. Extinct around 1874 (Bonaccorso et al. 2019). K. Andersen described the species 34 years after its extinction from a single specimen from the Godeffroy Museum in Hamburg, which subsequently became the property of the British Museum in London.

Family Hipposideridae

- Makira Leaf-nosed Bat – *Hipposideros demissus* Andersen, K., 1909
- Fierce Leaf-nosed Bat – *Hipposideros dinops* Andersen, K., 1905
- Benito Leaf-nosed Bat – *Hipposideros beatus* Andersen, K., 1906
- Andersen's Leaf-nosed Bat – *Hipposideros gentilis* Andersen, K., 1918
- Pomona Leaf-nosed Bat – *Hipposideros pomona* Andersen, K., 1918
- Malayan Leaf-nosed Bat – *Hipposideros nequam* Andersen, K., 1918

Family Rhinolophidae

- Bushveld Horseshoe Bat – *Rhinolophus simulator* Andersen, K., 1904
 Eloquent Horseshoe Bat – *Rhinolophus eloquens* Andersen, K., 1905
 Darling's Horseshoe Bat – *Rhinolophus darling* Andersen, K., 1905
 Yellow-faced Horseshoe Bat – *Rhinolophus virgo* Andersen, K., 1905
 Madura Horseshoe Bat – *Rhinolophus madurensis* Andersen, K., 1918
 Sulawesi Horseshoe Bat – *Rhinolophus celebensis* Andersen, K., 1905
 Robinson's Horseshoe Bat – *Rhinolophus robinsoni* Andersen, K., 1918
 Anamban Horseshoe Bat – *Rhinolophus nereis* Andersen, K., 1905
 Okinawa Horseshoe Bat – *Rhinolophus pumilus* Andersen, K., 1905
 Yaeyama Horseshoe Bat – *Rhinolophus perditus* Andersen, K., 1918
 Shortridge's Horseshoe Bat – *Rhinolophus shortridgei* Andersen, K., 1918
 Formosan Horseshoe Bat – *Rhinolophus monoceros* Andersen, K., 1905
 Andaman Horseshoe Bat – *Rhinolophus cognatus* Andersen, K., 1906
 Glossy Horseshoe Bat – *Rhinolophus refulgens* Andersen, 1905
 Philippine Forest Horseshoe Bat – *Rhinolophus inops* Andersen, K., 1905
 Small Rufous Horseshoe Bat – *Rhinolophus subrufus* Andersen, K., 1905
 Lesser Brown Horseshoe Bat – *Rhinolophus steno* Andersen, K., 1905
 Chinese Rufous Horseshoe Bat – *Rhinolophus sinicus* Andersen, K., 1905
 Thomas's Horseshoe Bat – *Rhinolophus thomasi* Andersen, K., 1905
 Lesser Woolly Horseshoe Bat – *Rhinolophus sedulus* Andersen, K., 1905
 Andersen's Woolly Horseshoe Bat – *Rhinolophus foetidus* Andersen, K., 1918
 Beddome's Woolly Horseshoe Bat – *Rhinolophus beddomei* Andersen, K., 1905

Family Nycteridae

- Dwarf Slit-faced Bat – *Nycteris nana* (Andersen, K., 1912)
 Dja Slit-faced Bat – *Nycteris major* (Andersen, K., 1912)
 Malayan Slit-faced Bat – *Nycteris tragata* Andersen, K., 1912
 Andersen's Slit-faced Bat – *Nycteris aurita* Andersen, K., 1912
 Wood's Slit-faced Bat – *Nycteris woodi* Andersen, K., 1914
 Gambian Slit-faced Bat – *Nycteris gambiensis* Andersen, K., 1912

Family Phyllostomidae

- Hairy Fruit-eating Bat – *Artibeus hirsutus* Andersen, K., 1906
 Ecuadorian Fruit-eating Bat – *Artibeus aequatorialis* Andersen, K., 1906
 Aztec Fruit-eating Bat – *Dermanura azteca* (Andersen, K.,

1906)

- Bogota Fruit-eating Bat – *Dermanura bogotensis* Andersen, K., 1906

Family Molossidae

- Sumatran Little Mastiff Bat – *Mormopterus doriae* Andersen, K., 1907.
 Besides these recognized and valid species today, Knud Andersen also described three more species, which, unlike the above 57 species, are now synonymized:
Rhinolophus javanicus Andersen, 1918 - now – *Rhinolophus celebensis javanicus* Andersen, K., 1918
Rhinolophus klossi Andersen, 1918 - now *Rhinolophus robinsoni klossi* K. Andersen, 1918
Artibeus turpis Andersen, 1906 – now *Artibeus phaeotis phaeotis* (Miller, 1902).
 One of the described subspecies is also valid: *Artibeus planirostris grenadensis* Andersen, 1906,

Chiropterans named after Knud Andersen

Family Pteropodidae

- Andersen's Naked-backed Fruit Bat – *Dobsonia anderseni* Thomas, 1914. Now it is synonymized with *Artibeus anderseni* (Osgood, 1916).

Family Phyllostomidae

- Andersen's Fruit-eating Bat – *Dermanura anderseni* Osgood, W. H., 1916
 Andersen's Horseshoe Bat - *Rhinolophus anderseni* (Cabrera, 1909) is no longer a valid taxon. The subspecies *anderseni* is today considered synonym of the species *Rhinolophus arcuatus* Peters, 1871.

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