Singapore's First Animals
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Singapore's First Animals at the Natural History Museum in London

Early records of animals and plants from Singapore are an invaluable source of baseline data for studying the biodiversity of the island. In particular, the first animals of Singapore, like the first bird species – the green broadbill – were the earliest of their kind from this locality to be made known to science. This process of incorporating a species into the scientific body of knowledge involves describing its defining characteristics as a unique species and giving it a scientific name. The species– and the scientific name – is defined by the type specimen (or specimens). These specimens are therefore of great important to all branches of study that involve an understanding of biodiversity.

The Natural History Museum in London currently holds the type specimens of at least six of the first animals from Singapore. These species are from diverse groups of animals.

Prologue
31 May to 28 June 1819

Sir Stamford Raffles (1781–1826) with three naturalists, Pierre Médard Diard (1795–1863), Alfred Duvaucel (1793–1824) and William Jack (1795–1822), together with unnamed local collectors and artists, spent about a month collecting animals and plants in Singapore. The specimens of the first primate and bird to be named scientifically from the island were probably collected during this time.

The local context: Although it was not the first time[1] natural history materials were collected from Singapore, this sustained month-long expedition was in effect, Singapore's first biodiversity collecting expedition.

First Bird
25 July 1822

On this day, a drawing of a green bird commonly known as the green broadbill was published in the *Zoological Researches of Java*[2] by Thomas Horsfield (1773–1859). Accompanying the drawing were several pages[3]of text that described the bird and its given scientific name, *Calyptomena viridis*. It was the first bird species from Singapore

[1] https://signifynaturalhistory.sg/stories/earliest-natural-history-material
[2] https://www.biodiversitylibrary.org/page/31112205
[3] https://www.biodiversitylibrary.org/page/31112206

to have this distinction. Although the scientific name was published in Horsfield's book, the actual description was the work of Raffles[4].

The local context: This species was commonly known previously from rainforest habitats covering much of Singapore but was extirpated in 1941. This bird is now classified as a "very rare non-breeding visitor"[5] and has been sighted on three occasions, twice in 2014 and most recently in 2021 on Pulau Ubin. It is likely a visitor from the neighbouring Malaysian state of Johor. Globally, the green broadbill is classified as "near threatened"[6], due to habitat loss.

The drawing of the green broadbill that accompanied its scientific description and naming.
Source: Biodiversity Heritage Library[7]

[4] https://lkcnhm.nus.edu.sg/app/uploads/2017/06/s29rbz237-241.pdf
[5] https://singaporebirds.com/species/green-broadbill/
[6] https://singaporebirds.com/species/green-broadbill/
[7] https://www.biodiversitylibrary.org/page/31112205

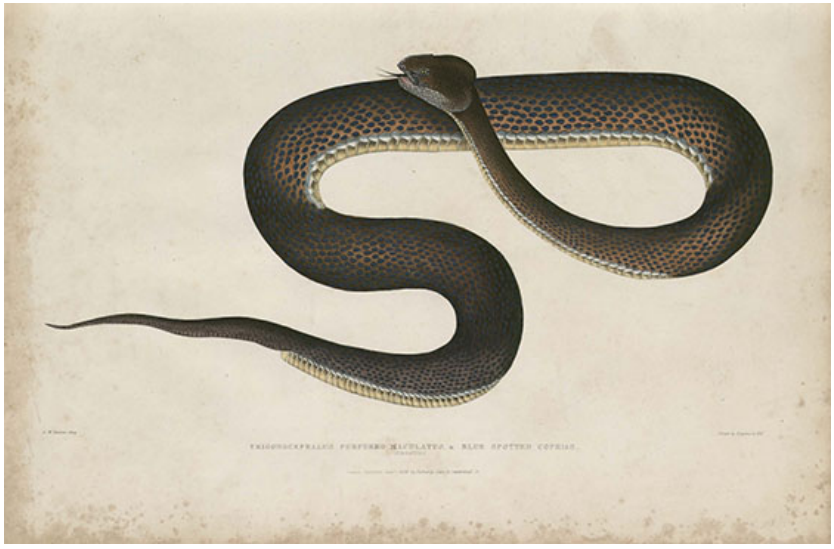
The type specimen of the green broadbill at the Natural History Museum at Tring.
Source: SIGNIFY Specimen[8]

First Snake
14 April 1832

The *Illustrations of Indian Zoology*[9] was a richly-illustrated collaboration between John Edward Gray (1800–1875) and Thomas Hardwicke (1756–1835) that appeared in parts between 1830 and 1835. Gray, who was keeper of zoology at what was then the British Museum (Natural History), is considered the author of the new scientific names in this work[10]. One of these new scientific names was *Trigonocephalus* (now *Trimeresurus*) *purpureomaculatus*, which was accompanied by a drawing[11] of a species of pit viper from Singapore, also known commonly as the mangrove pit viper. This would become the first species of snake from Singapore to be given a scientific name.

The local context: The mangrove pit viper is a venomous species found around coastal forests in large areas of Southeast Asia. Its colouration is rather variable and both light and dark colour morphs[12] can be found throughout its range.

[8] SIGNIFY species page
[9] https://www.biodiversitylibrary.org/bibliography/95127
[10] https://www.euppublishing.com/doi/abs/10.3366/anh.1998.25.3.345
[11] https://www.biodiversitylibrary.org/page/45959841
[12] https://www.ecologyasia.com/verts/snakes/shore_pit_viper.htm



The drawing of the mangrove pit viper that accompanied its scientific description and naming.
Source: Biodiversity Heritage Library[13]

The type specimen of the mangrove pit viper at the Natural History Museum in London.
Source: SIGNIFY Specimen[14]

[13] https://www.biodiversitylibrary.org/page/45959841
[14] SIGNIFY species page

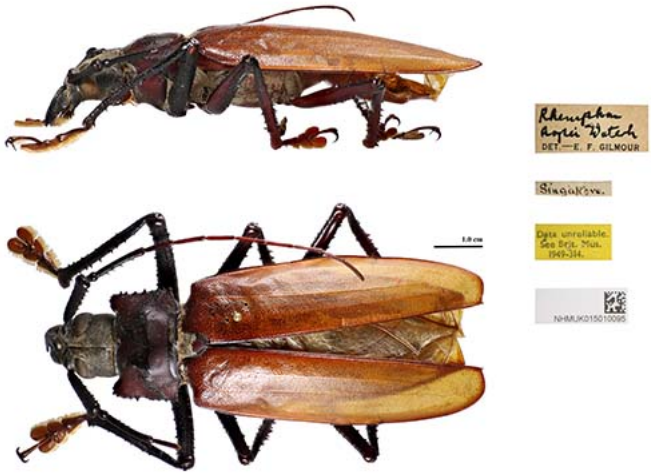
First Insect
October 1835

Hope's longhorn beetle, *Remphan hopei*, was named after the entomologist and collector Frederick William Hope (1797–1862). This was the first species of insect from Singapore to be given a scientific name.

The local context: That such a large beetle was found in Singapore may seem remarkable at first but this becomes less of a surprise when we read the observations[15] of the island by Alfred Russel Wallace (1823–1913) that "insects were exceedingly abundant and very interesting, and every day furnished scores of new and curious forms".

The drawing of Hope's longhorn beetle that accompanied its scientific description and naming.
Source: Biodiversity Heritage Library[16]

[15] https://www.biodiversitylibrary.org/page/33486686
[16] https://www.biodiversitylibrary.org/page/13497333



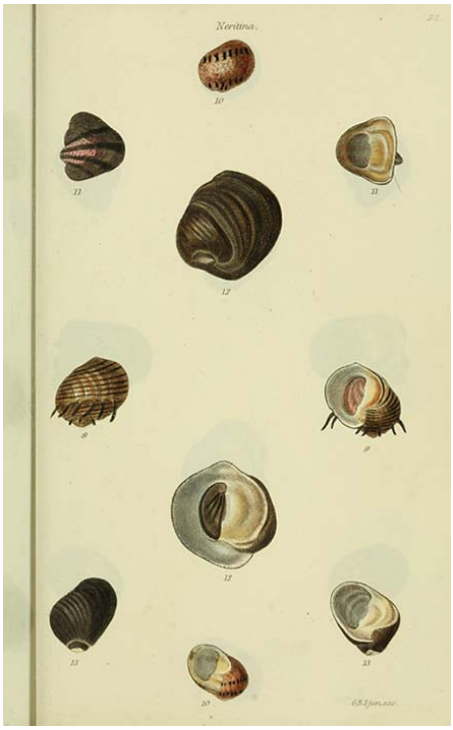
The type specimen of Hope's longhorn beetle at the Natural History Museum in London.
Source: SIGNIFY Specimen[17]

First Mollusc
1 January 1836

On a plate of drawings[18] in the *Conchological Illustrations* that was published on this day, George Brettingham Sowerby I (1788–1854) gave the scientific name *Neritina* (now *Clithon*) *faba* to a nerite snail that inhabits brackish habitats. This was the first mollusc from Singapore to be given a scientific name.

The local context: This species is still found in Singapore, and as illustrated by the four type specimens at the Natural History Museum in London, shows a great amount of variation in the colours and patterns of the shell.

[17] SIGNIFY species page
[18] https://www.biodiversitylibrary.org/page/35432422



The drawing of the nerite snail that accompanied its scientific description and naming.
Source: Biodiversity Heritage Library[19]

The type specimens of the nerite snail at the Natural History Museum in London.
Source: SIGNIFY Specimen[20]

[19] https://www.biodiversitylibrary.org/page/35432412
[20] SIGNIFY species page

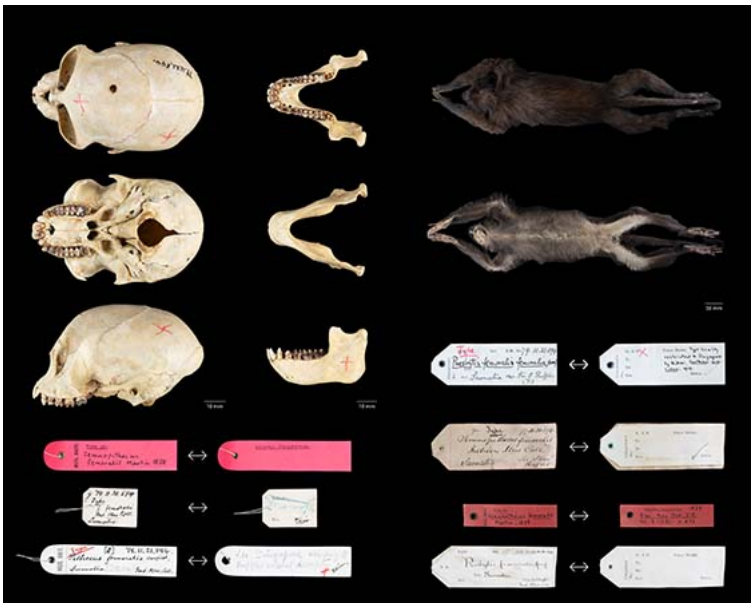
First Primate
1 August 1838

William Charles Linnaeus Martin (1798–1864) published the name *Semnopithecus* (now *Presbytis*) *femoralis*[21] based on several specimens at the Natural History Museum in London[22]. One of these specimens was collected by Raffles from Singapore. Today known commonly as Raffles's banded langur, this species was the first primate from Singapore to be given a scientific name. An illustration[23] of this monkey, possibly based on a taxidermised specimen, was published in the *Zoological Researches of Java* and appeared in July 1822. This drawing lacks the diagnostic white fur on the chest and on the inside of its thighs[24].

The local context: The species is endemic to Singapore and southern Peninsular Malaysia, and nearly went extinct in Singapore. Today, a population of about 60 to 70 individuals can be found in the central forests of the island. It remains critically endangered throughout its range[25].

The drawing of the Raffles's banded langur published in the *Zoological Researches of Java* before it was recognised as a new species. Source: Biodiversity Heritage Library[26]

[21] https://www.biodiversitylibrary.org/page/2297223
[22] https://lkcnhm.nus.edu.sg/wp-content/uploads/sites/10/app/uploads/2017/04/2015nis069-071.pdf
[23] https://www.biodiversitylibrary.org/page/31111873
[24] https://www.ecologyasia.com/verts/mammals/raffles-banded-langur.htm
[25] https://www.speciesonthebrink.org/species/raffles-banded-langur/
[26] https://www.biodiversitylibrary.org/page/31111872



The type specimen of the Raffles's banded langur at the Natural History Museum in London.
Source: SIGNIFY Specimen[27]

First Amphibian
20 April 1960

William Montgomerie (1797–1856) was the island's first surgeon as well as Raffles's physician. In 1843, he collected a specimen of a very unusual amphibian from the unlikeliest of places – his garden! The specimen was first identified as a species already known to science and sat amongst the unimaginable multitude of other specimens at what is today the Natural History Museum in London. Over a century after it was first collected, Edward Harrison Taylor (1889–1978) studied this and other specimens of caecilians, which are legless amphibians that resemble snakes. Taylor concluded that this was a new species and named it *Ichthyophis singaporensis*[28] from whence the specimen originated. It is commonly known as the Singapore caecilian.

The local context: This species has never been seen alive and virtually everything about its habits and existence on the island is a mystery. Work is already in progress to harness modern technologies such as computed tomography (CT) scanning to better understand this enigmatic species.

[27] SIGNIFY species page
[28] https://www.biodiversitylibrary.org/page/4377057

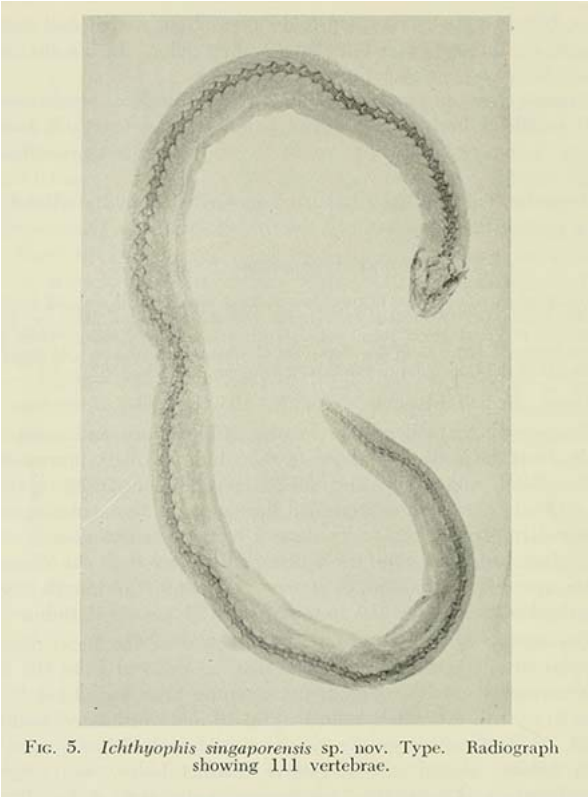


FIG. 5. *Ichthyophis singaporensis* sp. nov. Type. Radiograph showing 111 vertebrae.

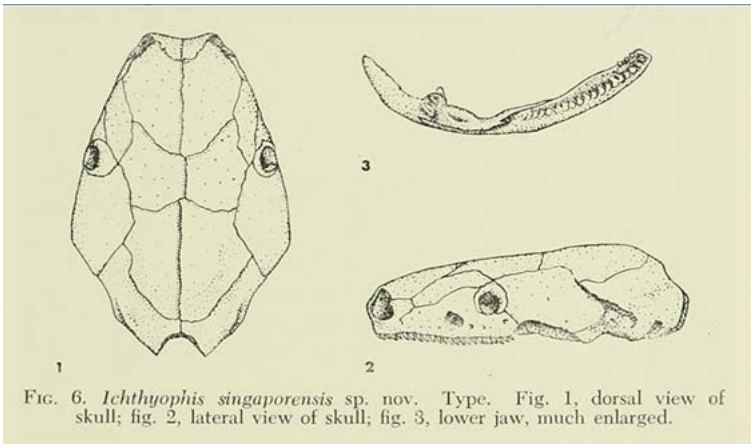


FIG. 6. *Ichthyophis singaporensis* sp. nov. Type. Fig. 1, dorsal view of skull; fig. 2, lateral view of skull; fig. 3, lower jaw, much enlarged.

The radiograph and drawings of the Singapore caecilian that accompanied its scientific description and naming. Source: Biodiversity Heritage Library[29]

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[29] https://www.biodiversitylibrary.org/page/4377058