

Snakes and lizards recorded by Alexander Cross in Singapore from 1942 to 1945

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Introduction:

Fifty-two sheets of type-written and hand-written papers containing lists of snakes and lizards recorded in Singapore during the Second World War were found in the archives of the Lee Kong Chian Natural History Museum (LKC�NHM) at the National University of Singapore. These records were compiled by Alexander Cross, a British personnel who was appointed Assistant Immigration Officer for Singapore in January 1941 (The Singapore Free Press and Mercantile Advertiser, 11 January 1941: 7).

When Singapore fell to Japanese invaders on 15 February 1942, British workers and their families, as well as British and Australian military personnel in Singapore were taken as prisoners-of-war. It can be deduced from the lists that Alexander Cross was first taken to Changi Prison, and then transferred to Sime Road Camp in May 1944. Sime Road Camp was the combined operational headquarters of the British Army and Royal Air Force Operational Headquarters Malaya Command. During the Japanese Occupation, it served as an internment camp for military prisoners-of-war from December 1943 to May 1944, and then for British and European civilians from May 1944 (Faizah, 2011). Alexander Cross remained at Sime Road Camp until the Japanese troops surrendered in August 1945.

Cross's lists include snakes and lizards he recorded at Changi Prison from December 1942 to September 1943, and at Sime Road Camp, as well as from several areas nearby, from May 1944 to August 1945 (see Cross, 2020n). Other internees contributed to this exercise of recording animal diversity in the camps by taking specimens to Cross. Despite the austere and hostile living conditions at the internment camps, the lists were probably compiled as a clandestine form of leisure activity. Despite having limited materials for recording, the documents contain descriptions, detailed measurements, scale counts, gender and even stomach contents of snake and lizard specimens. This suggests that materials were closely examined in the hand, and would be of restrained or dead animals. Although there were attempts at preservation, Cross (2020l) mentioned that 'all the specimens have gone 'busok' [smelly], and that... [he was] taking skin sections whenever possible... for use in later identifications'. If Cross was successful in preserving specimens, none of these material appear to have persisted till the present (personal observations).

Alexander Cross was interned at Sime Road Camp alongside Dr. Carl. A. Gibson-Hill, R. J. Wilkinson, G. H. Sworder, H. M. Pendlebury and E. O. Shebbeare. All of whom had contributed to the documents. Gibson-Hill was appointed to take charge of the Raffles Museum and Library just days before Singapore fell to the Japanese (see Tan, 2015: 95). Wilkinson and Sworder helped identify the reptiles. The former provided Malay names for some of the snakes, the latter had compiled the first checklists of snakes and lizards of Singapore (Sworder, 1923; Sworder, 1925). Pendlebury and Shebbeare identified insects and fish in the stomach contents of the reptiles.

The lists were typed on the back of unused medical sheets with manual type-writers. Some were hand-written. They were sent to Gibson-Hill apparently for compilation. Gibson-Hill was appointed Curator of the Raffles Museum in 1947 (see Tan, 2015: 108), and it is believed that Cross's documents were deposited at the Raffles Museum by him, and subsequently ended up in the LKC�NHM along with the museum's zoological collections (Tan, 2015: 136). However, these documents seem to have been forgotten for the data amassed on these sheets did not appear to have been referenced in later publications on Singapore herpetofauna. Nevertheless, they have historical interest and it is decided to have them published here in their original forms. Scanned images of the original type-written and hand-written compilations are presented as 14 separate entries published as a special issue of Singapore Biodiversity Records (Cross, 2020a-n).

Subjects: 33 (including one extra-limital) species of snakes and lizards (Reptilia: Squamata) were recorded. Refer to Table for full list.

Subjects identified by: Alexander Cross and G. H. Sworder from 1942 to 1945. Verified by K. K. P. Lim in 2020.

Locations & dates: Records are from around six locations on Singapore Island, recorded between December 1942 and August 1945 (Cross, 2020a-n).

- 1) Changi, compound of Changi Prison; December 1942 – March 1943.
 - 2) Sime Road Internment Camp, located at the southern edge of Sime Road; 3 July 1944 – 26 August 1945. A large part of the records is from this location.
 - 3) Dunearn Road; June–August 1944.
 - 4) MacRitchie Forest Reserve, presently the southern part of the Central Catchment Nature Reserve around the MacRitchie Reservoir; February–July 1945.
 - 5) Adam Park, south of Sime Road Camp; January–May 1945.
 - 6) Bukit Timah Golf Course, east of Sime Road Camp; February–June 1945.
- There is one extra-limital record of a *Calliophis bivirgatus* from Sungei Pendas Estate at ‘Scudai’ (= Skudai), in Johor, Peninsular Malaysia (Cross, 2020m).

Habitats: The habitat of nearly all the locations was apparently sub-urban, relatively exposed spaces with low buildings, largely cleared of trees and dense vegetation. MacRitchie Forest Reserve, to the east of Sime Road Camp would have been lowland dipterocarp forest.

Observers: Alexander Cross and fellow internees.

Observations: Refer to Cross (2020a-n).

Remarks: In the absence of physical specimens or photographic evidence, the identification of the specimens listed by Cross cannot be confirmed. However, thanks to his diligence with providing written descriptions and scale counts, it is possible to discover that some of the subjects were misidentified. Most notable are: *Psammodynastes pictus*, which descriptions match *Sibynophis melanocephalus*; *Elaphe melanura*, which descriptions and lepidosis fall within that of large *Lycodon subcinctus*; and *Elaphe radiata*, which description matches that of *Coelognathus flavolineatus* (personal observations, see attached Table). Some errors regarding the identity of some snakes in earlier lists were acknowledged by Cross, and these were corrected by G. H. Sworder in May 1945 (Cross, 2020l).

The author has known of these lists since 1988 and once referred to them in a short note on *Psammodynastes pictus* (Lim, 1991). Had he paid attention to the descriptions provided on the lists, he would have noticed that Cross’s *Psammodynastes pictus* are mis-identified *Sibynophis melanocephalus*. Such a careless oversight has contributed incorrect information regarding the status of *Psammodynastes pictus* in Singapore. Thankfully these descriptions allow such mistakes to be corrected. Without them, errors like these would have been perpetuated in ignorance.

Of the snakes and lizards observed by Cross and his fellow internees, most of the species can typically be found in suburban environments (see Baker & Lim, 2012). The exceptions are *Oligodon purpurascens*, *Oligodon signatus*, *Rhabdophis rhodomelas*, *Lycodon subcinctus*, *Calamaria lumbricoidea*, *Boiga cynodon* and *Chrysopelea pelias*, which are largely confined to forest. However, it should not be surprising for the Camp is next to the MacRitchie Forest Reserve where a *Tropidolaemus wagleri* was found. The author finds it extremely odd that certain species that are presently common in urbanized areas are absent from the lists. These include the reticulated python (*Malayopython reticulatus*) and the Malayan water monitor lizard (*Varanus salvator*). Although it is highly likely that these large reptiles had been heavily exploited for food during the War, they would have been recorded regardless. It is also interesting to note that Cross had obtained two specimens of the olive tree skink (*Dasia olivacea*) at Changi. This species, presently regarded as uncommon in Singapore, was not known to occur in the Changi area (Figueroa et al., 2020: 81).

Apart from reptiles, it appears that other fauna such as butterflies and birds had also been recorded by the prisoners (as noted in Cross, 2020d, f, i). However, these records have apparently not been found in the LKCNHM archives. It is of interest to note that Guy C Madoc, a former member of the Malayan Police, wrote the book ‘An Introduction to Malayan Birds’, while he was interned during the War (see Tan, 2015: 102). The content of the book was based on a small fraction of Madoc’s bird notes that he managed to save, his memory, and the memories of members of the ‘Changi Ornithological Study Group’. The first edition of that book ‘... was written in Changi Gaol, and the edition, limited to one copy, was published in May, 1943. Lacking printing facilities, it was neatly typed on paper stolen from the Japanese commandant’s office. It was most professionally bound in red leatherette. Subsequently it had a considerable but clandestine circulation both in the Men’s and Women’s Camps’ (Madoc, 1992: iii).

Note: The author is grateful to Martyn E. Y. Low for his help in uncovering what little is known of Alexander Cross.

References:

- Baker N & Lim KKP (2012) Wild Animals of Singapore. A Photographic Guide to Mammals, Reptiles, Amphibians and Freshwater Fishes. Updated edition. Draco Publishing and Distribution Pte. Ltd. and Nature Society (Singapore). 180 pp.
- Cross A (2020a) Some notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during May and June 1944. Singapore Biodiversity Records, 2020 Special Issue (1): 7 pp.
- Cross A (2020b) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during July 1944. Singapore Biodiversity Records, 2020 Special Issue (2): 3 pp.
- Cross A (2020c) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during August 1944. Singapore Biodiversity Records, 2020 Special Issue (3): 1 pg.
- Cross A (2020d) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during September 1944. Singapore Biodiversity Records, 2020 Special Issue (4): 3 pp.
- Cross A (2020e) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during October 1944. Singapore Biodiversity Records, 2020 Special Issue (5): 2 pp.
- Cross A (2020f) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during November 1944. Singapore Biodiversity Records, 2020 Special Issue (6): 4 pp.
- Cross A (2020g) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during December 1944. Singapore Biodiversity Records, 2020 Special Issue (7): 3 pp.
- Cross A (2020h) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during January 1945. Singapore Biodiversity Records, 2020 Special Issue (8): 7 pp.
- Cross A (2020i) Notes on the species of Ophidia and Lacertilia obtained at Sime Road Internment Camp, Singapore, during February 1945. Singapore Biodiversity Records, 2020 Special Issue (9): 4 pp.
- Cross A (2020j) Notes on the species of Ophidia and Lacertilia obtained in Sime Road Internment Camp, Singapore, during March 1945. Singapore Biodiversity Records, 2020 Special Issue (10): 1 pg.
- Cross A (2020k) Notes on the species of Ophidia and Lacertilia obtained in Sime Road Internment Camp, Singapore, during April 1945. Singapore Biodiversity Records, 2020 Special Issue (11): 2 pp.
- Cross A (2020l) Belated reports on the species of Ophidia and Lacertilia obtained in Sime Road Internment Camp, Singapore, for March and April 1945. Singapore Biodiversity Records, 2020 Special Issue (12): 1 pg.
- Cross A (2020m) Notes on the species of Ophidia and Lacertilia obtained in Sime Road Internment Camp, Singapore, between 1st May and 25th August 1945. Singapore Biodiversity Records, 2020 Special Issue (13): 6 pp.
- Cross A (2020n) Compilation of Ophidia and Lacertilia recorded in Singapore from 1942 to 1945. Singapore Biodiversity Records, 2020 Special Issue (14): 8 pp.
- Faizah Zakaria (2011) Infopedia: Sime Road Camp. National Library Board, Singapore. [Accessed on 30 November 2020] https://eresources.nlb.gov.sg/infopedia/articles/SIP_1769_2011-02-14.html
- Figuroa A, Tan C, Tan J & Teo KM (2020) Recent observations of brown and olive tree skinks, with a review of records from Singapore. Singapore Biodiversity Records, 2020: 78-82.
- Lim KKP (1991) A note on the painted mock viper, *Psammodynastes pictus* (Reptilia: Squamata: Colubridae) in Singapore. The Pangolin [bulletin on the vertebrates (except birds) of Singapore and the surrounding region, by the Singapore Branch of the Malayan Nature Society], 4 (2): 11-12.
- Madoc GC (1992) An Introduction to Malayan Birds. Fourth edition. The Malayan Nature Society, Kuala Lumpur. viii + 227 pp.
- Sworder GH (1923) A list of the snakes of Singapore Island. The Singapore Naturalist, 2: 55-73.
- Sworder GH (1925) The lizards of Singapore Island. The Singapore Naturalist, 5: 61-68.
- Tan KYL (2015) Of Whales and Dinosaurs. The Story of Singapore's Natural History Museum. NUS Press, Singapore. xix + 265 pp.

Table. List of snakes and lizard species recorded by Alexander Cross from Singapore from 1942 to 1945

Present identification	Identification on lists	Locations (listed in Cross, 2020a-n)
Family Typhlopidae		
<i>Indotyphlops braminus</i> Brhaminy blind snake	Typhlops braminus	Sime Road Camp (Cross, 2020e, h, n); Bukit Timah Golf Course (Cross, 2020m); Changi (Cross, 2020n).
Family Cyliodrophiidae		
<i>Cylindrophis ruffus</i> Red-tailed pipe snake	Cylindrophis rufus	Sime Road Camp (Cross, 2020g, h, i, k, n); Bukit Timah / Dunearn Road (Cross, 2020a, n); Changi (Cross, 2020a, n).
Family Xenopeltidae		
<i>Xenopeltis unicolor</i> Sunbeam snake	Xenopeltis unicolor	Sime Road Camp (Cross, 2020b, c, d, e, f, g, i, k, m, n); Bukit Timah Golf Course (Cross, 2020m); Changi (Cross, 2020b, n).
Family Colubridae		
<i>Coelognathus flavolineatus</i> Common Malayan racer	Elaphe radiata	Sime Road (Cross, 2020a, n); Changi (Cross, 2020n).
<i>Lycodon capucinus</i> House wolf snake	Lycodon aulicus	Sime Road Camp (Cross, 2020a, b, d, e, f, g, h, i, j, k, m, n); Changi (Cross, 2020n).
<i>Lycodon subcinctus</i> Banded wolf snake	Lycodon sp. Elaphe ? melanura	Sime Road Camp (Cross, 2020j). Sime Road Camp (Cross, 2020f, n).
<i>Sibynophis melanocephalus</i> Black-headed collared snake	Psammodynastes pictus	Sime Road Camp (Cross, 2020a, f, g, n); Bukit Timah Golf Course (Cross, 2020m).
<i>Ahaetulla prasina</i> Oriental whip snake	Passerita prasina	Sime Road Camp (Cross, 2020i); Adam Park (Cross, 2020h, m, n); MacRitchie Forest Reserve (Cross, 2020m).
<i>Dendrelaphis caudolineatus</i> Striped bronzeback	Dendrelaphis caudolineatus	Sime Road Camp (Cross, 2020b, g, I, m, n); Changi (Cross, 2020b, n).
<i>Dendrelaphis formosus</i> ? Elegant bronzeback	Ahaetulla formosa	Changi (Cross, 2020n).
<i>Dendrelaphis pictus</i> Painted bronzeback	Ahaetulla picta Ahaetulla formosa	Sime Road Camp (Cross, 2020a, b, c, d, e, n); Dunearn Road (Cross, 2020n). Sime Road Camp (Cross, 2020k, m).
<i>Chrysopelea paradisi</i> Paradise gliding snake	Chrysopelea peleas	Sime Road Camp (Cross, 2020j, m, n); Dunearn Road (Cross, 2020b, n).
<i>Chrysopelea pelias</i> Twin-barred gliding snake	Chrysopelea chrysochlora	Sime Road Camp (Cross, 2020k).
<i>Boiga cynodon</i> Dog-toothed cat snake	Boiga cynodon	Sime Road Camp (Cross, 2020m); MacRitchie Forest Reserve (Cross, 2020m).
<i>Oligodon octolineatus</i> Striped kukri snake	Holarchus octolineatus	Sime Road Camp (Cross, 2020b, I, m, n); Bukit Timah Golf Course (Cross, 2020i).

Present identification	Identification on lists	Locations (listed in Cross, 2020a-n)
<i>Oligodon purpurascens</i> Brown kukri snake	Holarchus purpurascens	Sime Road Camp (Cross, 2020m, n).
<i>Oligodon signatus</i> Barred kukri snake	Holarchus purpurascens	Sime Road Camp (Cross, 2020g, k).
Family Calamariidae		
<i>Calamaria lumbricoidea</i> ? Variable reed snake	Calamaria sp.	Sime Road Camp (Cross, 2020m).
<i>Pseudorabdion longiceps</i> Dwarf reed snake	Pseudorhabdium longiceps	Sime Road Camp (Cross, 2020a, d, n).
Family Natricidae		
<i>Rhabdophis rhodomelas</i> Blue-necked keelback	Macrophistodon rhodomelas	Sime Road Camp (Cross, 2020f, g, h, n).
Family Elapidae		
<i>Naja sumatrana</i> Equatorial spitting cobra	Naja naja	Sime Road Camp (Cross, 2020d, e, f, g, h, k, m, n); Changi (Cross, 2020n).
<i>Calliophis bivirgatus</i> Blue Malayan coral snake	Maticora bivirgata	*Sungei Pendas Estate, Scudai, Johor, Malaysia (extra-limital record; Cross, 2020m).
<i>Calliophis intestinalis</i> Banded Malayan coral snake	Maticora intestinalis	Sime Road Camp (Cross, 2020a, d, e, h, j, m, n)
Family Viperidae		
<i>Tropidolaemus wagleri</i> Wagler's pit-viper	Trimeresurus wagleri	MacRitchie Forest Reserve (Cross, 2020i).
Family Scincidae		
<i>Dasia olivacea</i> Olive tree skink	Lygosoma olivaceum	Changi (Cross, 2020n).
<i>Eutropis multifasciata</i> Many-lined sun skink	Mabuia multifasciata	Sime Road Camp (Cross, 2020a, b, c, d, I, j, n); Changi (Cross, 2020a, n).
<i>Lygosoma bowringii</i> Garden supple skink	Lygosoma bowringii	Sime Road Camp (Cross, 2020a, b, c, d, e, g, h, I, n); Changi (Cross, 2020a, n).
Family Agamidae		
<i>Bronchocela cristatella</i> Green crested lizard	Calotes cristatellus	Sime Road Camp (Cross, 2020a, b, c, g, h, n); Adam Park (Cross, 2020h); Changi (Cross, 2020a, n).
<i>Draco sumatranus</i> Sumatran flying dragon	Draco volans	Sime Road Camp (Cross, 2020a, c, g, h, I, j, m, n); Changi (Cross, 2020n).
Family Gekkonidae		
<i>Gehyra mutilata</i> Four-clawed house gecko	Gehyra mutilata	Sime Road Camp (Cross, 2020f, g, k, n).

Present identification	Identification on lists	Locations (listed in Cross, 2020a-n)
<i>Gekko monarchus</i> Spotted house gecko	Gecko monarchus	Sime Road Camp (Cross, 2020k).
<i>Hemidactylus frenatus</i> Spiny-tailed house gecko	Hemidactylus frenatus	Sime Road Camp (Cross, 2020a, b, c, d, e, n); Changi (Cross, 2020n).
<i>Hemidactylus platyurus</i> Flat-tailed house gecko	Hemidactylus platyurus	Changi (Cross, 2020n).