Horsfield's Flying Squirrel (*Hylomys horsfieldii*) at the end of a glide. from "Malayan Squirrels (including Tree-shrews and the Flying-Lemur)". Harrison.
The Pangolin is a publication of the Nature Society (Singapore) which disseminates current information on the status, distribution and natural history of mammals, reptiles, amphibians and fishes. The geographical area covered is primarily Singapore, but also includes Peninsular and East Malaysia, as well as other Southeast Asian countries.

The following references were consulted for systematic order and nomenclature:

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**Reptiles & Amphibians**

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LATE RECORDS (1993-1994)
compiled by
Rajathurai Subaraj, Kelvin Lim & Robert Teo

SINGAPORE

Mammals

Banded Leaf Monkey
Presbytis femoralis
8 feeding between 1245 & 1315 hrs on 9.2.1994 (Yeo Suay Hwee) & 8 on 21.5.1994 (Yeo Suay Hwee, Tan Mei Ling) at NSSF.

Malayan Colugo
Cynocephalus variegatus
Female with infant in coils of Reticulated Python on 24.12.1993 at Kruing Path, BTNR - infant rescued & kept for over 1 month before dying; 2 chasing each other at Visitor Centre, BTNR on 17.5.1994 (Robert Teo); 1 at forest between Mandai Lake Road & Mandai Road in March 94 (Shirley Pottie); female with infant along South View Path, BTNR on 6.5.1994 (Teo Chan Seng, Joseph Lai); 1 near summit, BTNR at 1915 hrs on 8.5.1994 (Yeo Suay Hwee, Tan Mei Ling); 1 at MacRitchie North on 12.8.1994 (Lee King Li); 2 at Sime Forest on 10.7.1994; 4 at Thomson Ridge from 8-9.10.1994; male at Chestnut Forest on 10.12.1994 (Subaraj Rajathurai et al); juvenile picked up by visitor at BTNR on 1.8.1994 & later released; 1 at Lower Path, BTNR on 5.10.1994; 2 at Seletar North Peninsula on 14.11.1994 (Subaraj Rajathurai).

Common Fruit Bat
Cynopterus brachyotis
At SBGP: 1 mist-netted on 6.11.1994; 1 mist-netted on 18.11.1994 - forearm length: 67 mm (Wang Luan Keng).

Trefoil Horseshoe Bat
Rhinolophus trifoliatus
Male captured at day roost in MacRitchie North on 14.8.1994 (Yeo Suay Hwee) - probably the second record of this forest bat in Singapore.

Blyth’s Horseshoe Bat
Rhinolophus lepidus (formerly refugens)
1 detected at MacRitchie North on 10.8.1994, 6 at Lornie Forest on 10.9.1994 & 1 at Thomson Ridge on 4.10.1994 (Shirley Pottie); 5 at Sime Forest on 13.8.1994; adult female mist-netted at Mandai Range Forest on 12.11.1994 (Subaraj Rajathurai et al); at BTNR, near Simpang Hut: over 300 flying across Main Road at dusk on 8.9.1994 & 1 female hand-netted on 13.9.1994 (Robert Teo); 18 mist-netted on 11.10.1994 (Subaraj Rajathurai et al).
Greater Bamboo Bat
*Tylonycteris robustula*
At SBG: 1 constricted to death by a Paradise Tree Snake in 1992 & 3 roosting in separate bamboo internodes on 17.11.1993 (Robert Teo); 2 at Lornie Forest on 9.9.1994 (Shirley Pottie).

Sunda Pangolin
*Manis javanica*
1 m female photographed on tree along Golf Course Link, MacRitchie on 2.10.1994 (Subaraj Rajathurai et al).

Masked Palm Civet
*Paguma larvata*
1 at 2215 hrs on 13.8.1994 at Kalang Circus, Sime Forest (Andrew Tay).

Three-striped Palm Civet
*Arctogalidia trivirgata*
Juvenile captured at fringe of SBG Jungle on 20.2.1992 (Robert Teo) - it was reared for over 2 months & then donated to SZG.

Lesser Mousedeer
*Tragulus javanicus*
1 at pipeline in NSSF at 1440 hrs on 9.2.1994 (Yeo Suay Hwee).

Sambar
*Cervus unicolor*
1 before dawn on 12.11.1994 at Mandai Track 15 Forest (Lee King Li); tracks of another along reservoir edge at Seletar North Peninsula on 15.9.1994 (Subaraj Rajathurai).

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Sambar
*Cervus unicolor*
1 before dawn on 12.11.1994 at Mandai Track 15 Forest (Lee King Li); tracks of another along reservoir edge at Seletar North Peninsula on 15.9.1994 (Subaraj Rajathurai).
Pink-headed Reed Snake
*Calamaria schlegeli*
3 roadkills between 20 to 36 cm along Old Upper Thomson Road near Upper Peirce Park gate on 4.9.1994 (Subaraj Rajathurai); 1 small example collected at Mandai on 21.2.1994 - underside white, banded with black - identification is tentative (Francis Lim).

Dwarf Reed Snake
*Pseudorabdion longiceps*
1 dead specimen on 23.9.1994 & 2 dead ones on 2.10.1994 at Bt Kalang service road (Subaraj Rajathurai et al); 1 at Thomson Ridge on 9.10.1994 (Subaraj Rajathurai et al).

Painted Bronzeback
*Dendrelaphis pictus*
1 about 50 cm on 6.8.1994 & 1 about 45 cm on 20.10.1994 at Visitor Centre pond, SBNP; 1 m example at Bt Kalang service road on 31.10.1994 (Subaraj Rajathurai).

Elegant Bronzeback
*Dendrelaphis formosus*
110 cm example at Upper Peirce Park service road on 31.7.1994 & 119 cm example found asleep at MacRitchie North on 12.8.1994 (Subaraj Rajathurai et al); 1 at Mandai Lake Road, Track 15 on 2.10.1994 (Yeo Suay Hwee).

Striped Bronzeback
*Dendrelaphis caudolineatus*
1.43 m example caught at SBG on 3.11.1993 & released at BTN & 1 at Sime Forest on 26.11.1993 (Robert Teo). See Keeled Rat Snake (above) for a record from Sime Road Forest.

Paradise Tree Snake
*Chrysopelea paradisi*
Roadkill of about 60 cm at Rifle Range Road on 10.7.1994 (Chew Ping Ting, Lee King Li).

Oriental Whip Snake
*Ahaetulla prasina*
1 at MacRitchie North on 13.8.1994 (Yeo Suay Hwee); 115 cm example at SICC (Island)'s visitor carpark on 9.10.1994 (Subaraj Rajathurai et al); 60 cm example at Jungle Fall Valley, BTN on 25.12.1994 (Subaraj Rajathurai).

Dog-toothed Cat Snake
*Boiga cynodon*
1 at Sime Forest pipeline on 8.7.1994 (Lee King Li et al).

Yellow-ringled Cat Snake
*Boiga dendrophila*
1 photographed at Lower Peirce on 10.4.1993 (Tay Eng Pin).

Dog-faced Water Snake
*Cerberus rynchops*
40 cm example in Sg Buloh Besar, SBNP on 6.8.1994; 2 at Pasir Ris Mangroves on 24.8.1994; 1 dead at SBNP on 17.12.1994 (Subaraj Rajathurai).

Puff-faced Water Snake
*Homalopsis buccata*
Off Mandai Lake Road, Track 15: adult in Upper Seletar Reservoir on 11.11.1994 & juvenile captured along pipeline on 12.11.1994 (Subaraj Rajathurai).

King Cobra
*Ophiophagus hannah*
Juvenile of about 60 cm along Bukit Kalang Service Road at Sime Forest on 22.7.1994 (Subaraj Rajathurai).

Banded Malayan Coral Snake
*Maticora intestinalis*
1 dead 34 cm example at Bt Kalang service road on 26.9.1994; 30 cm example at BTN on 23.12.1994 (Subaraj Rajathurai).
Wagler's Pit Viper
*Tropidolaemus wagleri*
Juvenile at BTNR on 29.8.1994 (Yeo Suay Hwee, Tan Mei Ling); juvenile at Thomson Ridge on 8.10.1994 (Lee King Li); Over 60 cm example at MacRitchie North on 6.11.1994 (Subaraj Rajathurai).

Water Monitor
*Varanus salvator*
Juvenile was chased, caught & killed by a domestic cat at Changi Jetty on 17.7.1994; 2.5 m example at Seletar North Peninsula on 18.7.1994 (Subaraj Rajathurai).

Clouded Monitor
*Varanus nebulosus*
1 in tree at Upper Seletar West on 1.7.1992 & 2 at Golf Course Link, MacRitchie on 28.6.1994 (Robert Teo); 1 near Mosquito Ring, Sime Forest on 9.7.1994 (Subaraj Rajathurai et al).

Green Crested Lizard
*Bronchocephalum cristatella*
1 caught & eaten by a Chestnut-bellied Malkoha at NSSF on 9.2.1994 (Yeo Suay Hwee).

Black-bearded Flying Dragon
*Draco melanopogon*
1 photographed at Thomson Ridge on 1.5.1993 (Tay Eng Pin); 1 at Lower Peirce on 8.6.1994 (Robert Teo); 1 at Lower Peirce on 31.7.1994, 1 at MacRitchie North on 12.8.1994, 1 at Upper Peirce service road on 4.9.1994 & 1 at Seletar North Peninsula on 14.11.1994 (Subaraj Rajathurai); 1 at Golf Course Link, MacRitchie on 2.10.1994 (Subaraj Rajathurai et al).

Earless Agamid
*Aphanotis fuscus*
1 captured at MacRitchie North on 13.8.1994 (Subaraj Rajathurai et al).

Brown Tree Skink
*Dasia cf. grisea*
A 20 cm example in a tree at Golf Course Link, MacRitchie on 20.7.1994 (Subaraj Rajathurai) during the day - the head shape, colouration & markings on the upperparts resemble that of Olive Tree Skink (*Dasia olivacea*), but its underparts were not green. This is the first record of the species in Singapore.

Brown Tree Skink
from “Amphibien & Reptilien Südostasiens”, Manthey & Grossmann

Large Forest Gecko
*Gekko smithii*
At NSSF: 1 heard on 29.7.1994 (Rae Hiscock et al) & 1 heard on 29.10.1994 (Yeo Suay Hwee).

Dwarf Gecko
*Hemipachydactylus typus*
5 cm specimen collected from cleared Resam area at Lower Peirce Reservoir on 5.11.1991 (Robert Teo) & deposited with ZRC. 1 at Lornie Track on 10.9.1994 (Shirley Pottie et al).

Marbled Bent-toed Gecko
*Gonydactylus (formerly Cyrtodactylus ) quadriungulatus*
1 along pipeline at Sime Forest on 10.7.1994 (Benjamin Lee, OwYong Sue Ling).
Banded Bent-toed Gecko  
*Gonydactylus* (formerly *Cyrtoactylus*) *consobrinus*  
1 photographed in cave at BTNR on 9.8.1994 (Tay Eng Pin).

Kendall’s Rock Gecko  
*Cnemaspis kendalli*  
1 in cave at BTNR on 25.12.1994 (Subaraj Rajathurai).

Black Marsh Terrapin  
*Siebenrockiella crassicollis*  
Common at southern part of MacRitchie Reservoir; also off Mandai Lake Road, Track 15 on nights of 11 & 12.11.1994 (Subaraj Rajathurai et al).

Malayan Box Terrapin  
*Cuora amboinensis*  
Common at southern part of MacRitchie Reservoir (Subaraj Rajathurai); 1 at Kent Ridge Park on 25.11.1994 (Alfred Chia et al); one at Mandai Lake Road, Track 15 on 27.11.1994 (Yeo Suay Hwee).

Malayan Flat-shelled Terrapin  
*Notochelys platynota*  
2 possible examples along Golf Course Link, MacRitchie on 19.10.1994 (Subaraj Rajathurai).

Asiatic Soft-shelled Turtle  
*Amyda cartilaginea*  
1 in MacRitchie Reservoir at Lomie Forest (Robert Teo) & 1 possible example under zig-zag bridge at MacRitchie Park on 9.9.1994 (Kieu Kim Sen et al).

Four-ridged Toad  
*Bufo quadriporcatius*  
1 at MacRitchie North on 8.5.1994 (Yeo Suay Hwee, Tan Mei Ling).

Rhinoceros Frog  
*Rana plicatella*  
1 photographed at Taban Valley, BTNR on 20.6.1994 (Robert Teo).

Malayan Giant Frog  
*Limnonectes blythi*  
1 heard at West Bridge & 1 heard at North Bridge, Sime Forest on 5.7.1994 (Subaraj Rajathurai); 10 heard along Golf Course Link, MacRitchie & Mosquito King, Sime Forest on 8.7.1994 (Robert Teo); a few heard in ravine at Sime Forest on 13.8.1994 (Lee King Li); 5 heard at Mandai Lake Road, Track 15 on 12.11.1994 (Subaraj Rajathurai).

Note: The above identifications are based on call & are tentative only.

Malesian Frog  
*Limnonectes* (formerly *Rana*) *malesiana*  

Masked Swamp Frog  
*Limnonectes* (formerly *Rana*) *paramaeodon*  
1 at NSSF on 29.7.1994 (Lee King Li).

Blue-legged Tree Frog  
*Rhacophorus bimaculatus*  
1 at Lorong Banir stream, NSSF on 30.8.1994 (Robert Teo) was caught, photographed & released – the only other record for Singapore was also from NSSF in the 1960s.
**Fishes**

**Pygmy Rasbora**  
*Boraras* (previously *Rasbora*) *maculatus*  
At least 4 in stream at Lomie Forest on 10.9.1994 (Yeo Suay Hwee); 1 in stream at Thomson Ridge on 7.10.1994 (Yeo Suay Hwee).

**Harlequin Rasbora**  
*Rasbora heteromorpha*  
Over 50 counted at Lorong Banir stream, NSSF on 5.9.1994 (Robert Teo).

**Six-banded Barb**  
*Puntius hexazona* (formerly *johorensis*)  
2 collected at Catchment Pond, BTNR on 20.6.1992 (Andy Ching, Robert Teo).

**Barbeless Chemperas**  
*Cyclocheilichthys apogon*  
1 in Lorong Banir stream, NSSF on 9.9.1994 (Robert Teo); 5 in inlet at MacRitchie Reservoir at Lomie Forest on 10.9.1994 (Yeo Suay Hwee).

**Forest Walking Catfish**  
*Clarias teijsmanni*  
5 in stream at Sime Forest on 8.7.1994 (Yeo Suay Hwee); 2 in stream at Lomie Forest on 10.9.1994 (Subaraj Rajathurai); 1 on 7.10.1994 (Shirley Pottie et al) & 2 on 8.10.1994 (Adrian Khiat et al) at Thomson Ridge.

**Swamp Eel**  
*Monopterus albus*  
30 cm example in a muddy patch along Rifle Range pipeline on 9.7.1994 (Yeo Suay Hwee); juvenile in a stream at Lomie Forest on 10.9.1994 (Subaraj Rajathurai, Robert Teo).

**Two-spot Gouramy**  
*Trichogaster trichopterus*  
6 in rural stream at Lorong Danau on 12.7.1994 (Subaraj Rajathurai).

- **Pikehead**  
*Luciocephalus pulcher*  
1 in Lorong Banir stream, NSSF on 5.9.1994 (Robert Teo).

- **Malayan Leaf Fish**  
*Nandus nebulosus*  
2 collected at Catchment Pond, BTNR on 20.6.1992 (Andy Ching, Robert Teo).
The Nature Reserves Survey Fish List (July to December 1994)

All localities in CCNR; recorded by VSG.

A  Sime Forest-Rifle Range Forest streams, 8-10.7.1994
B  MacRitchie North streams, 12-14.8.1994
C  Lornie Forest, 9-11.9.1994 (s - streams, r - MacRitchie Reservoir)
D  Thomson Ridge streams, 7-9.10.1994
E  Mandal Lake Road, Track 15 streams, 11-13.11.1994
F  Chestnut Forest drain, 9-11.12.1994

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<td>Puntius partipentazona</td>
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<td>Parambassis siamensis</td>
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PENINSULAR MALAYSIA

**Mammals**

**Pig-tailed Macaque**  
*Macaca nemestrina*  
Male at Panti Forest Track, Kota Tinggi, Johor on 3.12.1994 (Subaraj Rajathurai et al).

**Hairy-nosed Otter**  
*Lutra sumatrana*  
Roadkill photographed near peat swamp-forest at Nenasi, Pahang by A. Sebastian in 1994 (reported to N. Sivasothi).

**Herpetofauna**

**Elephant Trunk Water Snake**  
*Acrochordus javanicus*  
Juvenile of 25 cm photographed at night in shallow water on shore of Sungai Tahan near Lata Berkoh, Taman Negara, Pahang in November 1994 (Pierre Brial).

**Dark-headed Cat Snake**  
*Boiga nigriceps*  
2 photographed inside limestone caves of Gua Telinga, Taman Negara, Pahang in November 1994 – the observer also captured one of these snakes eating a bat on film (Pierre Brial).

**Orange-necked Keelback**  
*Macropisthodon flaviceps*  
30 cm juvenile photographed while crossing a trail near Lata Berkoh, Taman Negara, Pahang in November 1994 (Pierre Brial).

**Black Spitting Cobra**  
*Naja sumatrana*  
90 cm individual crossing road at Johor Lama, Johor on 21.8.1994 (Subaraj Rajathurai).

**BORNEO**

**Mammals**

**Proboscis Monkey**  
*Nasalis larvatus*  
Troop of about 5 on riparian trees along Kinabatangan River between Kampung Batu Puteh & Uncle Tan’s Camp at Danau Girang, Sandakan District, Sabah on 10.4.1994 (Kelvin Lim et al); adult male sighted at Telok Delima beach, Bako Park, Kuching, Sarawak, on 1.7.1994 (Kelvin Lim).

**Malay Civet**  
*Viverra tangalunga*  
Dead example at Kampung Batu Puteh along Kinabatangan River, Sandakan District, Sabah on 9.4.1994 (Kelvin Lim et al).

**Bearded Pig**  
*Sus barbatus*  
Large example feeding at rubbish point in Uncle Tan’s Camp at Danau Girang (along Kinabatangan River), Sandakan District, Sabah on 10.4.1994 (Kelvin Lim et al); at least 10 regularly encountered at headquarters of Bako Park, Kuching, Sarawak from 27.6 to 2.7.1994 (Kelvin Lim et al).

**INDONESIA: SUMATRA, RIAU, PULAU BINTAN**

**Mammals**

**Long-winged Tomb Bat**  
*Taphozous longimanus*  
Detected at Pasir Panjang West in August 94 (Shirley Pottie).

**Greater Woolly Horseshoe Bat**  
*Rhinolophus luctus*  
Possible example momentarily restrained in a mist net at Pasir Panjang West on 27.8.1994 (Lee King Li).
Trefoil Horseshoe Bat  
*Rhinolophus trifoliatus*  
3 to 4 detected at Pasir Panjang West in August 1994 (Shirley Pottie).

Banded Leaf Monkey  
*Presbytis femoralis*  
Heard at Pasir Panjang West in August 1994 (Subaraj Rajathurai *et al*).

Sunda Pangolin  
*Manis javanica*  
1 of about 60 cm near Tanjung Sambang on 21.11.1994 (Kieu Kim Sen, Subaraj Rajathurai); tracks at same site on 22.11.1994 (Subaraj Rajathurai).

Shrew-faced Ground Squirrel  
*Rhinosciurus laticaudatus*  
Possible individual at Pasir Panjang West on 27.8.1994 (Subaraj Rajathurai).

Malaysian Wood Rat  
*Rattus tiomanicus*  
1 trapped at Tanjung Tondang on 24.8.1994 (Kieu Kim Seng, Subaraj Rajathurai).

Red Spiny Rat  
*Maxomys surifer*  
10 trapped at Pasir Panjang West from 26 to 29.8.1994 (Subaraj Rajathurai *et al*).

Grey Tree Rat  
*Lenothrix canus*  
1 trapped at Pasir Panjang West on 28.8.1994 (Subaraj Rajathurai *et al*). Was the second known Indonesian locality after the Banyak Islands of Sumatra.

Leopard Cat  
*Prionailurus bengalensis*  
Tracks examined near Tanjung Sambang on 21.11.1994 (Kieu Kim Sen, Subaraj Rajathurai).

Lesser Mousedeer  
*Tragulus javanicus*  
1 at Pasir Panjang West on 26.8.1994 (Lee King Li); footprints near Tanjung Sambang on 23.11.1994 (Kieu Kim Sen, Subaraj Rajathurai).

Common Barking Deer  
*Muntiacus muntjak*  
Tracks at Pasir Panjang West on 28.8.1994 (Subaraj Rajathurai *et al*).

Wild Pig  
*Sus scrofa*  
Footprints & calls at Pasir Panjang West in August 1994 (Subaraj Rajathurai *et al*).

**Herpetofauna**

Reticulated Python  
*Python reticulatus*  
1.8 m example at Pasir Panjang West on 26.8.1994 (Shirley Pottie, Subaraj Rajathurai).

Oriental Whip Snake  
*Ahaetulla prasina*  
1 found killed at Mayang Sari on 23.11.1994 (Subaraj Rajathurai).

Blue-necked Keelback  
*Macropisthodon rhodomelas*  
1 of about 35 cm at Tanjung Sambang on 23.8.1994 (Kieu Kim Sen, Subaraj Rajathurai).

Black Spitting Cobra  
*Naja sumatrana*  
1 kept in cage at CMO on 23.11.1994 (Subaraj Rajathurai).

Mangrove Skink  
*Emoia atrocostata*  
5 to 8 on beach rocks at Pasir Panjang West from 27 to 28.8.1994 (Subaraj Rajathurai *et al*).
SINGAPORE

Mammals

Southeast Asian White-toothed Shrew
_Crocidura c.f. fuliginosa_
2 dead examples in pitfall traps set up by National Parks Board at BTNR: 1 on 27.5.1995 from Fem Valley & 1 from an unspecified locality on 8.6.1995 - the specimens were deposited at the ZRC; 1 trapped in forest near old pumphouse clearing at NSSF on 7.7.1995 (Yeo Suay Hwee et al) & another on 15.8.1995; 1 trapped on 12.8.1995 near southern end of NSSF died apparently from scorpion’s sting; 1 trapped on 13.8.1995 at NSSF; 5 trapped in September (1 on 27.9.1995) at “fauna link” under Bukit Timah Expressway between northern edge of BTNR & Upper Peirce Reservoir.

Banded Leaf Monkey
_Presbytis femoralis_
At NSSF: 5 on 4.3.1995, 4 on 30.4.1995, 6 between ranges & 3 at Lower Peirce side on 24.9.1995 (Yeo Suay Hwee); 1 at southern end on 13.8.1995 (Joseph Lai); 5 at Eastern Trail on 8.12.1995 (VSG).

Long-tailed Macaque
_Macaca fascicularis_
At Sentosa: 43 on 20.7.1995 (Subaraj Rajathurai, Wong Ai Pheng), 41 on 3.8.1995 (Subaraj Rajathurai et al), 48 on 23.8.1995 (Subaraj Rajathurai) at Coralarium, 13 on 2.8.1995 at Underwater World (Subaraj Rajathurai, Wong Ai Pheng); over 10 along Main Road & over 7 at Seraya Hut, BTNR on 9.9.1995 (Robert Teo); carcass on 11.12.1995 (Goh Si Guim) along pipeline at NSSF.

Malayan Colugo
_Cynocephalus variegatus_
One at Sime Forest on 14.1.1995 (Yeo Suay Hwee et al); 2 at Ulu Sembawang Forest on 20.1.1995 (VSG); 1 pair on 21.4.1995 & 1 on 22.4.1995 at Lower Peirce (VSG); 2 on 6.6.1995 (Subaraj Rajathurai et al) & a reddish example on 9.6.1995 (VSG) at Seletar Track, Mandai Forest; 1 on 26.8.1995 & 1 on 22.10.1995 (VSG) at base of BTNR; 1 on “Hill A” on 8.12.1995 (Richard Frazier) & 2 along trail on 9.12.1995 (Lee King Li) at NSSF.

Sunda Pangolin
_Manis javanica_
Roadkill at Mandai Road on 12.6.1995 & deposited at ZRC (O. K. Wong); tracks of 1 at Range II, NSSF on 9.7.1995 (Subaraj Rajathurai et al); 1 at Mandai Forest Track on 8.9.1995 (Chua Ee Kiam et al); 1 along Gangsa Track on 14.10.1995 (VSG); 1 at stream along Chestnut Track on 12.11.1995 (Timothy Pwee).

Large Flying Fox
_Pteropus vampyrus_
1 flew low over Mount Serapong, Sentosa, on 4.8.1995 (Subaraj Rajathurai et al); 2 over first stream at Mandai Forest Track on 8.9.1995 (Shirley Pottie); 1 over Gangsa Track on 13 & 14.10.1995 (VSG); 1 over clearing at Chestnut Track on 11.11.1995 (VSG).

Dusky Fruit Bat
_Penthetor lucasi_
Colony of 50 recently rediscovered at BTNR’s second cave in 1995 (Shirley Pottie); on 26.8.1995, a count revealed a drop in numbers - the roost at BTNR is the only one presently known from Singapore.

Cave Nectar Bat
_Eonycteris spelaea_
Adult male netted at Lower Peirce Forest on 19.5.1995 (VSG).
Naked Bat
*Cheiromeles torquatus*
4 possible examples observed on the wing & catching insects on 23.9.1995 above King Albert Park (Yeo Suay Hwee) - described as being larger than the Pouched Tomb Bat (*Taphozous saeculaimus*) & dark-coloured on both wings & body; 5 above a clearing at Chestnut Track, Mandai Forest, on 10.11.1995 (Shirley Pottie).

Black-bearded Tomb Bat
*Taphozous melanopogon*
1 detected over Serapong Golf Course, Sentosa on 5.8.1995 (Shirley Pottie).

Blyth’s Horseshoe Bat
*Rhinolophus lepidus* (formerly refulgens)
Pregnant female netted at Mandai Range Forest on 12.3.1995 (VSG); 4 detected on 7.7.1995, 1 on 11.8.1995 & 1 on 13.8.1995 (Shirley Pottie) at NSSF; many flying across BTRN main road at dusk on 26.8.1995 (VSG); 2 detected at Mandai Forest Track on 8.9.1995, 2 detected along Gangsa Track on 13.10.1995 & 4 detected along Chestnut Track on 11.11.1995 (Shirley Pottie); adult male netted at Chestnut Track, Mandai Forest on 11.11.1995 (VSG); 1 detected on 9.12.1995 (Shirley Pottie) & 1 female netted each at “Hill A” & Eastern Trail on 9.12.1995 (VSG) at NSSF.

Trefoil Horseshoe Bat
*Rhinolophus trifoliatus*
Male caught at Seleter Track, Mandai Forest, on 9.6.1995 (VSG); at least 1 detected on 7.7.1995 & 1 on 11.8.1995 at NSSF (Shirley Pottie); male netted at Mandai Forest Track on 9.9.1995 & 1 netted at Chestnut Track on 10.11.1995 (VSG); 3 detected along Chestnut Track on 11.11.1995 (Shirley Pottie); 1 netted at NSSF East on 10.12.1995 (VSG).

Grey Large-footed Bat
*Myotis adversus*
Over 5 at edge of Upper Seletar Reservoir along Mandai Lake Road on 11.2.1995 (VSG); 6 at water edge at Mandai Range Forest on 10.3.1995 & 3 detected at edge of Upper Seletar Reservoir along Gangsa Track on 13.10.1995 (Shirley Pottie).

Greater Bamboo Bat
*Tylokycteris robustula*

Cream-coloured Giant Squirrel
*Ratufa affinis*
At NSSF: 1 on 4.3.1995, 1 on 9.4.1995 & 2 feeding together on a tree on 30.4.1995 – the pair was sighted again at same spot on 1.5.1995; 1 heard at dawn on 8.7.1995 at old pumphouse clearing (Robert Teo).

Horsfield's Flying Squirrel
*Iomys horsfieldii*
1 pair on a Bayas Palm along pipeline, near southern end of NSSF, on night of 12.8.1995 (Lee King Li et al).

from “Malayan Squirrels (including Tree-shrews and the Flying Lemur)”, Harrison
Asian House Mouse
Mus musculus
1 of 60 mm (head-body length) & 75 mm (tail length) trapped at Kranji on 29.9.1995 (Yeo Suay Hwee).

Polynesian Rat
Rattus exulans
Diseased individual at SBNP on 27.7.1995 (Subaraj Rajathurai).

Malaysian Wood Rat
Rattus tiomanicus
1 trapped at Lower Peirce Forest on 23.4.1995 (VSG).

Annandale's Rat
Rattus annandalei
3 trapped at summit of Mount Serapong, Sentosa, on 6.8.1995 (VSG).

Brown Spiny Rat
Maxomys rajah

Common Palm Civet
Paradoxurus hermaphroditus
1 at 0930 hrs along Mandai Range on 8.1.1995 (Yeo Suay Hwee); juvenile caught in the morning & another on the night of 11.3.1995 at Mandai Range Forest (VSG); 3 trapped in roof space of house at Lucky Heights, off Upper East Coast Road, Bedok in October 1994, 21.5.1995 & 29.5.1995 (Straits Times, 2.6.1995: 2, with photo) - the animals were reportedly sent to SZG.

Wild Pig
Sus scrofa
3 at Kampong Bahru, Pulau Ubin photographed in 1986 (Robert Teo); tracks on western bank of Sungei Besar on Pulau Ubin on 8.4.1995 (Subaraj Rajathurai); Shin Min Daily News (18.7.1995: 1 & 3, with photos): 3 wild pigs in grounds of Canadian International School (former Toh Tuck Secondary School) off Toh Tuck Terrace - a large individual escaped into the adjacent forest, another large one of about 25 kg was killed by a security guard when it dashed into a nearby condominium & a small individual was caught alive & promptly put down by staff from Primary Production Department for public health reasons. From the colour picture published, the small pig was hairy, with a relatively long snout, dark-greyish brown above & pale below, with a broad blackish stripe on the cheek below the eye. It did not look like a domesticated animal by comparison. The origin of these pigs has not been ascertained.

Lesser Mousedeer
Tragulus javanicus
Tracks of single individual at Range II, NSSF on 9.7.1995 (Subaraj Rajathurai et al); 1 at Mandai Forest Track on 8.9.1995 (Chua Ee Kiam et al).
## Herpetofauna

Records of snakes contributed by Ray Hiscock:

<table>
<thead>
<tr>
<th>Species</th>
<th>Location Information</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red-tailed Pipe Snake</strong></td>
<td>Cylindrophis rufus&lt;br&gt;Dead 40 cm Island Country Club Road between Thomson Road &amp; clubhouse, where a stream crosses underneath</td>
<td>24.6.1995</td>
</tr>
<tr>
<td><strong>Reticulated Python</strong></td>
<td>Python reticulatus&lt;br&gt;Dead 77 cm along Old Upper Thomson Road near shops</td>
<td>8.3.1995</td>
</tr>
<tr>
<td><strong>Sunbeam Snake</strong></td>
<td>Xenopeltis unicolor&lt;br&gt;Dead 53 cm along Island Club Road&lt;br&gt;Dead 76 cm inside Upper Peirce Reservoir Park, on road</td>
<td>26.2.1995, 26.2.1995</td>
</tr>
<tr>
<td><strong>Orange-bellied Ringneck</strong></td>
<td>Liopeltis balioideirus&lt;br&gt;Dead 36 cm Rifle Range Road by Telecoms Satellite Station&lt;br&gt;Dead 41 cm Upper Peirce Reservoir Park&lt;br&gt;Dead 30 cm Island Country Club Road</td>
<td>29.4.1995, 6.5.1995, 17.6.1995</td>
</tr>
<tr>
<td><strong>Pink-headed Reed Snake</strong></td>
<td>Calamaria schlegeli&lt;br&gt;Dead 36 cm Old Upper Thomson Road past gate</td>
<td>24.6.1995</td>
</tr>
<tr>
<td><strong>Dwarf Reed Snake</strong></td>
<td>Pseudorhabdion longiceps&lt;br&gt;Dead 2 of 16.5 cm each, found very close together&lt;br&gt;Old Upper Thomson Road near shops</td>
<td>17.6.1995</td>
</tr>
<tr>
<td><strong>Barred Kukri Snake</strong></td>
<td>Oligodon signatus&lt;br&gt;Dead 28 cm Rifle Range Road by Chartered Industries</td>
<td>29.4.1995</td>
</tr>
<tr>
<td><strong>Common Wolf Snake</strong></td>
<td>Ophites aulicus&lt;br&gt;Slough of 50 cm Jalan Suasa&lt;br&gt;Dead 43 cm Island Country Club Road</td>
<td>9.5.1995, 17.6.1995</td>
</tr>
<tr>
<td><strong>Elegant Bronzeback</strong></td>
<td>Dendrelaphis formosus&lt;br&gt;Alive ca. 75 cm Ulu Sembawang Track 1&lt;br&gt;Dead 142 cm along Mandai dual carriageway&lt;br&gt;Dead 80 cm Upper Thomson Road near junction with Old Upper Thomson Road north end&lt;br&gt;Dead 46 cm Rifle Range Road near SAF ammunition camp&lt;br&gt;Dead 44 cm Mandai Lake Road just beyond Track 15 junction&lt;br&gt;Dead 80 cm Rifle Range Road between Telecoms Satellite Station &amp; Chartered Industries&lt;br&gt;Dead 110 cm Old Upper Thomson Road beyond gate&lt;br&gt;Dead 96 cm Road to Upper Peirce Reservoir Park near gate&lt;br&gt;Dead 114 cm Old Upper Thomson Road near shops</td>
<td>7.3.1995, 7.3.1995, 8.3.1995, 25.4.1995, 29.4.1995, 17.6.1995, 17.6.1995, 17.6.1995, 24.6.1995</td>
</tr>
<tr>
<td>Species</td>
<td>Length</td>
<td>Location</td>
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<td>-------------------------------</td>
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</tr>
<tr>
<td>Painted Bronzeback</td>
<td>79 cm</td>
<td>Old Upper Thomson Road near park entrance</td>
</tr>
<tr>
<td>Striped Bronzeback</td>
<td>83 cm</td>
<td>Island Country Club Road</td>
</tr>
<tr>
<td></td>
<td>28 cm</td>
<td>Island Country Club Road</td>
</tr>
<tr>
<td></td>
<td>74 cm</td>
<td>Island Country Club Road</td>
</tr>
<tr>
<td>Oriental Whip Snake</td>
<td>27 cm</td>
<td>along Ulu Sembawang Track 1</td>
</tr>
<tr>
<td>Paradise Tree Snake</td>
<td>23 cm</td>
<td>with red dorsal markings</td>
</tr>
<tr>
<td>Yellow-ringed Cat Snake</td>
<td>54 cm</td>
<td>Old Upper Thomson Road between gate &amp; shops</td>
</tr>
<tr>
<td>Blue-necked Keelback</td>
<td>40.5 cm</td>
<td>Old Upper Thomson Road between gates &amp; shops</td>
</tr>
<tr>
<td>Spotted Keelback</td>
<td>58 cm</td>
<td>Rifle Range Road between Telecoms Satellite Station &amp; Chartered Industries</td>
</tr>
<tr>
<td>Banded Malayan Coral Snake</td>
<td>48 cm</td>
<td>Rifle Range Road halfway up hill</td>
</tr>
<tr>
<td></td>
<td>26 cm</td>
<td>Rifle Range Road near Telecoms Station</td>
</tr>
<tr>
<td></td>
<td>46 cm</td>
<td>Rifle Range Road near Telecoms Station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This specimen was found within a foot of the Orange-bellied Ringneck mentioned above. The observer suspected that the coral snake was attempting to eat the other snake when both were run over by a vehicle.</td>
</tr>
<tr>
<td></td>
<td>33 cm</td>
<td>Old Upper Thomson Road near park entrance</td>
</tr>
<tr>
<td>Reticulated Python</td>
<td></td>
<td>&amp; Balestier Road - caught by the Police &amp; handed to SZG. 2 m example spotted on bush at Istana on 3.12.1995 (Goh Si Guim).</td>
</tr>
<tr>
<td>Sunbeam Snake</td>
<td></td>
<td>83 cm example in drain along Upper Peirce Park service road on 20.5.1995 (VSG).</td>
</tr>
</tbody>
</table>
File Snake
_Acrochordus granulatus_
5 young specimens of about 32 cm mud lobster mounds in mangroves of Sungei Mandai Kechil on 27.12.1995 (Tan Swee Hee et al).

Indo-Chinese Rat Snake
_Ptyas korros_
1.4 m example found dead near entrance of SBNP on 22.7.1995 by O.K. Wong.

Keeled Rat Snake
_Ptyas carinatus_
Roadkill in late October 1995 in BTNR on Main Road near summit (National Parks Board staff).

Red-tailed Racer
_Gonyosoma oxycephala_
1 at Executive Golf Course at Upper Seletar Reservoir Park on 15.11.1995 (National Parks Board staff); 1 in a tree near North View Hut, BTNR on 26.8.1995 (VSG).

Malayan Brown Snake
_Xenelaphis hexagonotus_
1 possible example on 19.9.1995 at about 1030 hrs (Goh Si Guim) - observed near a stream along Dairy Farm Path off the edge of BTNR - described as uniform, dull brown above, & pale below.

Striped Bronzeback
_Dendrelaphis caudolineatus_
Juvenile of 30.5 cm in building on Kent Ridge Campus, on 6.9.1995 (Alvin Wong); roadkill of about 60 cm along Neo Tiew Road on 21.9.1995 (Subaraj Rajathurai).

Elegant Bronzeback
_Dendrelaphis formosus_
1 possible example of about 1.8 m at Golf Course Link, MacRitchie on 1.11.1995 (Subaraj Rajathurai).

Painted Bronzeback
_Dendrelaphis pictus_
45 cm roadkill at BTNR on 16.8.1995 (Subaraj Rajathurai); juvenile at Visitor Centre, SBNP in November 1995 (Kelvin Lim et al).

Black-headed Collared Snake
_Sibynophis melanocephalus_
1 of over 20 cm on Main Road, BTNR on 6.1.1995 (Robert Teo).

Common Wolf Snake
_Ophites aulicus_
2 small examples found separately in a semi-detached house at Seletar Air Base in September 1995 (Lena Chan).

Note change in generic name from _Lycodon_. The type species of _Lycodon_ is morphologically different from the wolf snakes to which the genus was generally applied. _Ophites_ is the next available name for the wolf snakes (see Zhao & Adler, 1994. Herpetology of China).

Orange-bellied Ringneck
_Liopeltis baliodeirus_
15 cm example in drain along Bukit Kalang Service Road 19.11.1995 (Subaraj Rajathurai).

Striped Kukri Snake
_Oligodon octolineatus_
2 in treehole along Jalan Ulu Sembawang with a few large reptilian eggs on 21.1.1995 (Robert Teo); 45 cm roadkill on Rifle Range Road, 8.10.1995 (Subaraj Rajathurai); 1 at NSSF on 9.12.1995 (Lee King Li, Yeo Suay Hwee).

Barred Kukri Snake
_Oligodon signatus_
1 at Seletar Track, Mandai Forest, on 11.6.1995 (Benjamin Lee, Lee King Li).

Variable Reed Snake
_Calamaria lumbricoidea_
Roadkill at Mandai Lake Road on 11.2.1995 (VSG).
Pink-headed Reed Snake
*Calamaria schlegeli*
33.5 cm dead example along pipeline at NSSF in August 1995 (Chua Sek Chuan); 25 cm roadkill at Rifle Range Road on 30.4.1995 (Subaraj Rajathurai).

Dwarf Reed Snake
*Pseudorabdion longiceps*
Roadkill along Lorong Gangsa on 7.10.1995 (National Parks Board staff).

Oriental Whip Snake
*Ahaetulla prasina*
1.2 m example on a bush along Jalan Anak Bukit opposite Bukit Timah Shopping Centre, on 23.9.1995 (Goh Si Guim); juvenile at Sime Forest on 14.1.1995 (Yeo Suay Hwee et al); 1.26 m roadkill at Mandai Lake Road on 11.2.1995 (VSG); 1 along Tiup Tiup Path, BTNR on 19.12.95.

Speckle-headed Whip Snake
*Ahaetulla fasciolata*
45 cm example along Main Road, BTNR on 17.12.1995 (Goh Si Guim).

Paradise Tree Snake
*Chrysopelea paradisi*
103 cm dead specimen at edge of Palm Valley Road, SBG, on 26.1.1995 (Robert Teo); 90 cm example climbing Coconut Palm at Pulau Ubin on 19.2.1995 & 1 along mangrove boardwalk at SBPN on 9.5.1995 (Subaraj Rajathurai); 1 of about 1 m on mangrove boardwalk at SBPN on the late morning of 23.2.1995 (Kelvin Lim, Dennis Murphy); 1 on mangrove boardwalk & 1 on Papaya Tree behind Visitor Centre, SBPN in November 1995 (Kelvin Lim et al); 1 of about 75 cm at Mount Serapong, Sentosa on 20.7.1995 (Subaraj Rajathurai, Wong Ai Pheng); 1 of about 90 cm at entrance of Corallarium, Sentosa on 3.8.1995 (Subaraj Rajathurai, Shamla Subaraj); 1 at Pulau Ubin on 28.7.1995 (Subaraj Rajathurai).

Twin-barred Tree Snake
*Chrysopelea pelias*
Roadkill at Upper Seletar Reservoir Park on 9.6.1995 (VSG).

Yellow-ring Cat Snake
*Boiga dendrophila*
1 in garden of house at Hindhede Drive in Aug 1995 (Oliver Chia).

Dog-faced Water Snake
*Cerberus rynchops*
1 at Sungei Ubin ponds, Pulau Ubin on 2.1.1995 (Robert Teo); 1 in Sungei Buloh Besar on 19.5.1995 & 2 at Pasir Ris Mangroves on 26.7.1995 (Subaraj Rajathurai).

Puff-faced Water Snake
*Homalopsis buccata*
1 at Lorong Gambas on 22.1.1995 (Andrew Tay); 3 at Lower Peirce Forest on 22.4.1995 (VSG).

Crab-eating Water Snake
*Fordonia leucobalia*

Triangle Keelback
*Xenochrophis trianguligerus*
66 cm roadkill along Upper Peirce Service Road on 20.5.1995 (VSG).

Spotted Keelback
*Xenochrophis maculatus*
Roadkill on Upper Peirce Reservoir Park Road on 20.5.1995 (National Parks Board staff).

Blue-necked Keelback
*Macropisthodon rhodomelas*
1 at Mandai Range Forest on 12.3.1995 (VSG).
Blue Malayan Coral Snake
*Maticora bivirgata*
1 of about 75 cm along Main Road, BTNR on 31.3.1995 (Subaraj Rajathurai); a 25 cm juvenile at summit of BTNR on 19.11.1995 (Subaraj Rajathurai).

Banded Malayan Coral Snake
*Maticora intestinalis*
National Parks personnel found a dead example in stream at Dairy Farm Quarry on 13.9.1995; roadkill along Rifle Range Road on 14.1.1995 (Subaraj Rajathurai); 1 at Lower Peirce Forest on 22.4.1995 (VSG); 1 of over 30 cm found dead on Main Road, BTNR on 2.5.1995 (Subaraj Rajathurai); 1 dead at Bukit Kalang Service Road drain on 21.9.1995 (Subaraj Rajathurai).

Black Spitting Cobra
*Naja sumatrana*
1 of about 1.2 m in drain, in Christian cemetery opposite Youngberg Hospital at Upper Serangoon Road, on 30.7.1995 (Goh Si Guim) at about 0900 hrs. 1 at Dairy Farm Quarry on 13.12.1995 (reported to National Parks Board).

Wagler’s Pit Viper
*Tropidolaemus wagleri*

Clouded Monitor
*Varanus nebulosus*
1 at NSSF on 9.4.1995 (Yeo Suay Hwee); 1 of 60 cm at MacRitchie Reservoir Park on 19.4.1995 (Subaraj Rajathurai); roadkill along Old Upper Thomson Road on 22.4.1995 (VSG); 1 of 45 cm at MacRitchie Reservoir Park on 30.4.1995 (Subaraj Rajathurai); 2 at Bukit Kalang on 4.5.1995 (Ng Bee Choo, Subaraj Rajathurai); 2 at Sime Forest on 21.5.1995 (Subaraj Rajathurai); 60 cm individual along Upper Peirce Reservoir service road on 31.5.1995 (Subaraj Rajathurai); 1 at southern end of NSSF on 12.8.1995 (Robert Teo); 2 at Sime Forest on 8.10.1995 (Subaraj Rajathurai); 1 along Island Club Road on 22.10.1995 (Subaraj Rajathurai et al).

Water Monitor
*Varanus salvator*
At least 10 of sizes ranging from 40 cm to 2 m at SBNP on the morning of 23.2.1995 (Kelvin Lim, N. Sivasothi); 2 about 2 m at SBNP on 9.5.1995 (Subaraj Rajathurai).

Mangrove Skink
*Emoia atrocostata*
Observed to be common in mangrove at Pulau Buloh on 6.6.1995 (Kelvin Lim, N. Sivasothi).

Yellow-striped Skink
*Lipinia cf. vittigera*
Caught (& subsequently released) while crossing Main Road, BTNR on 31.5.1995 (Shirley Pottie et al) & photographed by Benjamin Lee. A small skink with a yellow stripe on its back, stretching from the tip of its snout to the tip of its tail & fanked by 2 bold black stripes flank on each side. Tentatively identified as the said species from the photographs, this is the first record for Singapore; another example was photographed by Tan Tze. Siang near Kruiing Hut, BTNR, on 29.6.1995.

Yellow-striped Skink
From “A Photographic Guide to Snakes and Other Reptiles Peninsular Malaysia, Singapore and Thailand”, Cox et al.
Brown Tree Skink
Dasia cf. grisea
Seen about 1.5 m up a tree trunk at NSSF on 3.3.1995 & on 9.4.1995 in the same area (Yeo Suay Hwee). The observer described the lizard as having a smaller head compared to Common Sun Skink (Mabuya multifasciata), with black bands on the back from neck to half-way down the tail. The body colour is chestnut brown, head paler, pale at the “brow”, grey on the throat, & the legs are brown.

Black-bearded Flying Dragon
Draco melanopogon
Male at Seletar North Peninsula on 23.1.1995 (Subaraj Rajathurai); 1 at Sime Forest on 17.6.1995 (Ng Bee Choo, Subaraj Rajathurai).

Spotted House Gecko
Gekko monachus
1 caught inside HDB apartment along Yishun Ring Road on 11.2.1995 (Kelvin Lim); 1 at Lower Peirce East on 22.4.1995 (VSG); one at Lower Peirce Forest west on 19.5.1995 (VSG); 9 in forest at Upper Seletar Reservoir Park on 9.6.1995 (VSG); 2 on pipeline between ranges at NSSF on 7.7.1995 (Robert Teo); 46 on nights of 4 & 5.8.1995 in southern half of Sentosa (VSG).

Large Forest Gecko
Gekko smithii
10 cm example seen near eastern boundary of BTNR on 26.8.1995 (VSG); 1 heard near old Jalan Kutu, BTNR on 2.11.1995 (Subaraj Rajathurai); 4 cm example on tree trunk along Catchment Path, BTNR on night of 26.8.1995 (Robert Teo).

Tokay Gecko
Gekko gekko
This rare gecko was commonly heard & seen on walls of military structures at Pulau Senang in 1995 (reported to Robert Teo by Benjamin Tay).

Flat-tailed Gecko
Cosymbotes platyurus
Over 30 at Pulau Ubin on 2.1.1995 (Robert Teo); 2 in underground drain at Ulu Sembawang on 20.1.1995 (VSG); 1 at SBNP Visitor Centre on 15.3.1995 (Subaraj Rajathurai); common on Sentosa, with 72 counted on nights of 4 & 5.8.1995 (VSG).

Four-clawed Gecko
Gehyra mutilata
4 on pipeline at NSSF on 7.7.1995 (VSG); observed at Mount Serapong, Sentosa between 4 & 5.8.1995 (VSG).

Marbled Bent-toed Gecko
Gonydactylus quadrivirgatus
1 at Lower Peirce Forest on 20.5.1995 (VSG); 1 along Upper Peirce Reservoir service road on 20.5.1995 (VSG); 1 at Upper Seletar Reservoir Park on 9.6.1995 (VSG); 2 on 7.7.1995 & 1 on 12.8.1995 on pipeline at NSSF (VSG); 1 at Cave Path, BTNR on 26.8.1995 (VSG); 1 at Mandai Forest Track, NSSF on 8.9.1995 (Chua Ee Kiam et al).

Kendall’s Rock Gecko
Cnemaspis kendalli
1 at Seletar Track, Mandai Forest on 11.6.1995 (Benjamin Lee, Lee King Li); 2 on pipeline at NSSF on 7.7.1995 (Subaraj Rajathurai); 1 at Cave Path, BTNR on 26.8.1995 (Robert Teo); 1 at NSSF on 9.12.1995 (Lee King Li et al).

Spiny Terrapin
Heosemys spinosa
1 at MacRitchie Nature Trail on 11.1.1995 (Tan Hang Chong); 1 on 20.1.1995 & 1 on 22.1.1995, in stream at Ulu Sembawang Forest (VSG); 1 at Seletar North Peninsula on 11.2.1995 (VSG); 1 between ranges at NSSF on 9.7.1995 (Goh Yue Yun, Yeo Suay Hwee); 2 trapped at Gangsa Track on 15.10.1995 (VSG).
Malayan Box Terrapin
*Cuora amboinensis*
1 feeding on dead freshwater crab at NSSF on 28.1.1995 (Yeo Suay Hwee); 1 on 5.8.1995 (Lyndon Gan et al) & 1 on 23.8.1995 (Subaraj Rajathurai), on edge of Serapong Golf Course, Sentosa. 3 along MacRitchie Nature Trail on 11.1.1995 (Tan Hang Chong), 2 of which were in the reservoir.

Estuarine Crocodile
*Crocodylus porosus*
1 between 1.5 to 1.8 m seen for at least 4 days prior to 22.5.1995 in Johor Straits along Johor-Woodlands Causeway (Lianhe Wanbao, 22.5.1995: 1, 2, with pictures); 2 m example seen for at least 3 months by members of the public in Punggol Estuary off Punggol Track 13. A reporter of Shin Min Daily News photographed 1 at the same locality on the night of 15.7.1995, at 2045 & 2110 pm (Shin Min Daily News, 17.7.1995: 1 & 3, with photos); Lianhe Wanbao (21.7.1995: 1 & 10, with photos) reported the capture of a female of about 2 m & between 20 to 30 kg at Punggol Estuary. It was first sighted on Pulau Seletar and was believed to be the same one reported in Shin Min Daily News (17.7.1995). The specimen was sent to the Singapore Crocodilarium at the East Coast Parkway.

Juvenile crocodilian, possibly a caiman (exact identity undetermined), was a surprise find in a shallow pond at Central Beach, Sentosa, on night of 22.7.1995 (VSG). Probably an escapee, it was handed over to Sentosa Development Corporation.

Malayan Horned Toad
*Megophrys nasuta*
4 heard on 8.9.1995 (Kieu Kim Sen, Subaraj Rajathurai) & 2 heard on 9.9.1995 (VSG) at Mandai Forest Track, NSSF; 1 heard at Chestnut Track on 11.11.1995 (VSG).

Black-eyed Litter Frog
*Leptobrachium nigrops*
5 heard at Catchment Pond, BTNR, on night of 26.8.1995 (Robert Teo).

Four-ridged Toad
*Bufo quadriporatus*
1 at Lower Peirce East on 22.4.1995 (VSG); 1 at NSSF on 8.7.1995 (VSG).

Malayan Giant Frog
*Limnonectes blythi*
1 at Seletar North Peninsula on 10.2.1995 (VSG); 2 at Lower Peirce Forest on 22.4.1995 (VSG); 1 at edge of NSSF at Upper Seletar Reservoir Park on 9.6.1995 (VSG); 1 inside second cave along Cave Path, BTNR on 26.8.1995 (VSG); 1 at confluence of streams, at junction of Lasia Track & Senapang Road, on 26.8.1995 (Robert Teo). Note: following records are based on call & are tentative: 1 at swampy stream at Seletar North Peninsula on 11.2.1995 (Lee King Li); 1 at edge of Upper Seletar Reservoir off Mandai Lake Road on 12.2.1995 (Lee King Li); 3 at Lower Peirce Reservoir on 22.4.1995 (VSG); 1 at MacRitchie Forest on 21.9.1995 (Subaraj Rajathurai).

Malesian Frog
*Limnonectes malesiana*
1 in stream at Ulu Sembawang Forest on 20.1.1995 (Robert Teo); 1 at Seletar North Peninsula on 10.2.1995 (VSG); 4 at Lower Peirce Forest on 22 & 23.4.1995 (Kieu Kim Sen, Yeo Suay Hwee); 1 at Lower Peirce West on 20.5.1995 (VSG); 2 at Golf Course Link, MacRitchie Forest on 24.6.1995 (Subaraj Rajathurai et al); 3 on 11.8.1995 & 1 on 12.8.1995 at NSSF (VSG); 1 in first stream of Mandai Forest Track, NSSF on 8.9.1995 (VSG); 1 large example at Chestnut Track on 11.11.1995 (VSG); 2 at NSSF on 9.12.1995 (Lee King Li et al).
Masked Swamp Frog
*Limnonectes paramacrodon*
1 at NSSF on 7.7.1995 (VSG); 1 in first stream at Mandai Forest Track, NSSF on 8.9.1995 (VSG); 2 at Mandai Forest Track, NSSF on 9.9.1995 (VSG); 1 at stream along Chestnut Track on 10.11.1995 (Lee King Li) was the first to be recorded outside NSSF.

Crab-eating Frog
*Rana cancrivora*
1 at Lower Peirce Forest on 22.4.1995 (VSG).

Rhinoceros Frog
*Rana plicatella*
1 at Cave Path, BTNR on 26.8.1995 (VSG).

Masked Rough-sided Frog
*Rana baramica*
4 seen & 3 heard at Seletar North Peninsula on 10.2.1995 (VSG); 1 heard at Mandai Lake Road on 11.2.1995 (VSG); 4 at edge of NSSF at Upper Seletar Reservoir Park on 9.6.1995 (VSG).

Black-spotted Sticky Frog
*Kalophrynus pleurostigma*
1 at Three-Stone Hill, NSSF on 3.7.1995 (Oliver Chia et al); 1 near North View Hut, BTNR on 26.8.1995 (VSG).

Forest Walking Catfish
*Clarias teijsmanni*
5 at Lower Peirce West on 20.5.1995 (VSG); 1 possible example each in two different streams at Chestnut Track stream on 11.11.1995 (Timothy Pwee, Andrew Tay) & 1 on 12.11.1995 (Yeo Suay Hwee).

Black Marlin
*Makaira indica*
The Straits Times (1 July 1995: 1, with picture) reported a 3 m example of 50 kg, found trapped in a kelong off Punggol on 29.6.1995.

Banded Chromide
*Etropius suratensis*
The presence of Banded Chromide in Singapore was observed by Kelvin Lim, Wang Luan Keng & N. Sivasothi on 6 June 1995 in Sungei Buloh Besar, just behind the SBNP Visitor Centre. There appears to be a large population of this fish in the river. These are easily viewed at low tide from the main bridge. Examples of at least 20 cm total length were observed in small groups of 5 or 6 individuals. They are distinguished from the syntopic Tilapia (*Oreochromis mossambicus*) by their slightly smaller size, rounded body shape, shorter fins, dark vertical bars with pearly spots on the sides & a black blotch at the base of the pectoral fin. The fishes were seen about 500 m from the river mouth, in saltwater, over mud bottoms. They were seen scattered along the edge of the river, amongst clumps of mussels & alongside Tilapia. Banded Chromide is native to India & Sri Lanka, & the population in here is believed to be of feral origin. It is sometimes offered for sale as a freshwater aquarium fish locally. The observation of courting behaviour of pairs of these fishes, & their large numbers at Sungei Buloh suggests that they might have become established. Their occurrence in other nearby drainages have not been
recorded. It is not known if the fishes have been deliberately released, or if they had escaped from aquaculture.

**Malayan Leaf Fish**

*Nandus nebulosus*


**Brown Gudgeon**

*Oxyeleotris urophthalmia*

1 adult in tide pool along Sungei Buloh Besar, near SBNP Visitor Centre in 11.1995 (Wang Luan Keng); juvenile of about 4 cm regurgitated by a File Snake (*Acrochordus granulatus*) found inside a mudlobster mound in mangroves of Mandai Kechil on 27.12.1995 (Tan Swee Hee).

**Pikehead**

*Luciocephalus pulcher*

1 in stream at Chestnut Track on 11.11.1995 (VSG).

**Two-spot Gouramy**

*Trichogaster trichopterus*

Several in pipeline pool at NSSF on 8.7.1995 (Kieu Kim Sen, Yeo Suay Hwee); a few in small, freshwater pond at SBNP on 19.10.1995 (Subaraj Rajathurai, Shamla Subaraj).

**Toman or Giant Snakehead**

*Channa micropeltes*

At least 1 in Sungei Buloh Besar, SBNP, on 19.5.1995 (Subaraj Rajathurai).
## The Nature Reserves Survey Fish List (January to December 1995)

All localities in CCNR; recorded by VSG.

### Species

<table>
<thead>
<tr>
<th>Species</th>
<th>Localities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-spot Rasbora</td>
<td>Rasbora elegans</td>
</tr>
<tr>
<td>Einthoven's Rasbora</td>
<td>Rasbora einthovenii</td>
</tr>
<tr>
<td>Harlequin Rasbora</td>
<td>Rasbora heteromorpha</td>
</tr>
<tr>
<td>Common Barb</td>
<td>Puntius binotatus</td>
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<tr>
<td>Malayan Tiger Barb</td>
<td>Puntius partipentazona</td>
</tr>
<tr>
<td>Sumatran Tiger Barb</td>
<td>Puntius tetrazona</td>
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<tr>
<td>Six-banded Barb</td>
<td>Puntius hexazona</td>
</tr>
<tr>
<td>Barbeless Chemperas</td>
<td>Cyclocheilichthys apogon</td>
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<tr>
<td>Grey-banded Loach</td>
<td>Nemacheilus selangoricus</td>
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<tr>
<td>Spotted Eel-loach</td>
<td>Pangio shelfordii</td>
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<tr>
<td>Leaf Catfish</td>
<td>Silurichthys cf. Schneideri</td>
</tr>
<tr>
<td>Forest Walking Catfish</td>
<td>Clarias teijsmanni</td>
</tr>
<tr>
<td>Pygmy Halfbeak</td>
<td>Dermogenys cf. pushula</td>
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<tr>
<td>Forest Halfbeak</td>
<td>Hemirhamphodon pogonognathus</td>
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<tr>
<td>Whitespot</td>
<td>Aplocheilus panchax</td>
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<tr>
<td>Mosquitofish</td>
<td>Gambusia holbrookii</td>
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<tr>
<td>Swamp Eel</td>
<td>Monopterus albus</td>
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<tr>
<td>Buff-backed Spiny Eel</td>
<td>Macronathus maculatus</td>
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<tr>
<td>Pikehead</td>
<td>Luciocephalus pulcher</td>
</tr>
<tr>
<td>Climbing Perch</td>
<td>Anabas testudineus</td>
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<tr>
<td>Forest Betta</td>
<td>Betta pugnax</td>
</tr>
<tr>
<td>Two-spot Gouramy</td>
<td>Trichogaster trichopterus</td>
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<tr>
<td>Common Snakehead</td>
<td>Channa striata</td>
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<tr>
<td>Dwarf Snakehead</td>
<td>Channa gachua</td>
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<tr>
<td>Black Snakehead</td>
<td>Channa melasoma</td>
</tr>
<tr>
<td>Forest Snakehead</td>
<td>Channa lucius</td>
</tr>
<tr>
<td>Giant Snakehead</td>
<td>Channa micropeltes</td>
</tr>
<tr>
<td>Marbled Gudgeon</td>
<td>Oxyselotris marmorata</td>
</tr>
<tr>
<td>Pond Goby</td>
<td>Rhinogobius cf. giurinus</td>
</tr>
<tr>
<td>Glassfish</td>
<td>Parambassis siamensis</td>
</tr>
<tr>
<td>Tilapia</td>
<td>Oreochromis mossambicus</td>
</tr>
</tbody>
</table>

### Localities

- B: Seletar North Peninsula & reservoir edge, 10-12.2.1995
- C: Lower Peirce East & reservoir edge, 21-23.4.1995
- D: Lower Peirce West, 19-21.5.1995
- E: Upper Seletar Reservoir Park streams, 9-10.6.1995
- F: NSSF (range area), 7-9.7.1995
- H: Mandai Forest Track, 8-10.9.1995
- I: Gangsa Track streams & Upper Seletar Reservoir edge, 13-15.10.1995
- J: Chestnut Track, 10-12.11.1995
PENINSULAR MALAYSIA

Mammals

Moonrat

*Echinosorex gymnurus*

1 on night of 29.1.1995 in primary forest at Pasoh Forest, Negeri Sembilan (Robert Teo et al).

Common Tree Shrew

*Tupaia glis*

1 with a greyish tail on golf course at Awana Country Resort, Genting Highlands, Pahang on 10.10.1995 (Robert Teo).

White-handed Gibbon

*Hylobates lar*

At Kota Tinggi, Johor: 5 at Panti Forest Bunker Trail on 22.1.1995 (Subaraj Rajathurai et al); small troop at Panti Forest Track on 4.4.1995 & small troop at Panti Forest Bunker Trail on 5.4.1995 (Lim Kim Chuah, Subaraj Rajathurai).

Siamang

*Hylobates syndactylus*

3 between 9 & 10 am, at rubbish dump on Fraser’s Hill, Pahang, on 3.9.1995 (Alvin Wong); 2 along a jungle trail near Awana Country Resort at Genting Highlands, Pahang on 10.1995 (Robert Teo).

Dusky Leaf Monkey

*Trachypithecus obscurus*

Over 6 on Gunung Raya, Langkawi Island, Kedah on 4.1.1995 (Subaraj Rajathurai, Shamla Subaraj); 10 in logged forest at Pasoh Forest, Negeri Sembilan on 1.2.1995 (Robert Teo, Lee King Li); over 3 at Kukup, Johor on 17.3.1995 (Subaraj Rajathurai); 6 at Kukup, Johor on 3.4.1995 (Lim Kim Chuah, Subaraj Rajathurai); several along lower Benut River, western Johor on 29.5.1995 (Jon Sigurdsson).

Banded Leaf Monkey

*Presbytis femoralis*

3 grey-coloured forms at Awana Country Resort, Genting Highlands, Pahang on 10.10.1995 (Robert Teo).

Long-tailed Macaque

*Macaca fascicularis*

Individuals along the lower Benut River, western Johor on 29.5.1995 (Jon Sigurdsson).

Pig-tailed Macaque

*Macaca nemestrina*


Sunda Pangolin

*Manis javanica*

1 m example at rubbish dump at Pasoh Forest HQ, Negeri Sembilan on 2.2.1995 (Ng Bee Choo, Robert Teo); roadkill on Cha’ah-Yong Peng Road, Johor on 24.5.1995 (Tan Koh Siang & Serena Teo); female with young riding on back at Parit Semaah in Pontian, Johor (reported to Eric Alfed) in late July 1995.

Lesser Sheath-tailed Bat

*Emballonura monticola*

6 roosting under office & 2 under resthouse at Pasoh Forest HQ, Negeri Sembilan on 29.1.1995 (Robert Teo).

Pouched Tomb Bat

*Taphozous saccolaimus*

At least 2 possible examples roosting in eaves of house at Johor Lama, Johor on 29.4.1995 (Subaraj Rajathurai).

Large Roundleaf Bat

*Hipposideros larvatus*

Cream-coloured Giant Squirrel  
*Ratufa affinis*  
1 at Pasoh Forest HQ, Negeri Sembilan on 1.2.1995 (Lee King Li); 3 in fruiting tree at Panti Forest Bunker Trail, Kota Tinggi, Johor on 5.4.1995 (Lim Kim Chuah, Subaraj Rajathurai); 1 crossing road at Kampung Lurut, Johor on 11.10.1995 (Subaraj Rajathurai); 1 at Panti Forest Bunker Trail, Kota Tinggi, Johor on 4.11.1995 (Subaraj Rajathurai et al).

Black-banded Squirrel  
*Callosciurus nigrovittatus*  
1 at Pasoh Forest HQ, Negeri Sembilan on 30.1.1995 (Robert Teo).

Grey-bellied Squirrel  
*Callosciurus caniceps*  
2 at Pulau Singa Besar off Langkawi Island, Kedah on 3.1.1995 (Subaraj Rajathurai, Shamla Subaraj).

Prevost's Squirrel  
*Callosciurus prevostii*  
1 in primary forest at Pasoh Forest “Plot 1”, Negeri Sembilan on 1.2.1995 (Lee King Li).

Three-striped Ground Squirrel  
*Lariscus insignis*  
1 trapped at Pasoh Forest HQ, Negeri Sembilan on 30.1.1995 (Robert Teo et al).

Himalayan Striped Squirrel  
*Tamiops macelellandii*  
1 at Awana Country Resort, Genting Highlands, Pahang on 10.10.1995 (Robert Teo).

Long-tailed Giant Rat  
*Leopoldamys sabanus*  

Malaysian Wood Rat  
*Rattus tiomanicus*  

Malayan Porcupine  
*Hystrix brachyura*  
Roadkill on Cha’ah-Yong Peng Road, Johor on 24.5.1995 (Tan Koh Siang & Serena Teo); about 20 with Wild Pigs & Long-tailed Macaques at about 7 pm (Eric Alfred) on Pulau Keladi along lower Sungai Pahang near Pekan in April 1995.

Brush-tailed Porcupine  
*Atherurus macrourus*  
1 at night in a kampung garden off Tekek Bay, north of airstrip, on Pulau Tioman, Pahang in August 1995 (Eric Alfred).

Malayan Sun Bear  
*Helarctos malayanus*  
Tracks of an individual at Panti Forest Bunker Trail, Kota Tinggi, Johor on 5.4.1995 (Lim Kim Chuah, Subaraj Rajathurai).

Tiger  
*Panthera tigris*  

Leopard Cat  
*Prionailurus bengalensis*  
1 in primary forest in Pasoh Forest, Negeri Sembilan on 1.2.1995 (Petri Hottola); roadkill along Yong Peng-Segamat Road, Johor on 24.5.1995 (Tan Koh Siang & Serena Teo); 1 at Panti Forest Bunker Trail, Kota Tinggi, Johor on 4.11.1995 (Subaraj Rajathurai et al).
Masked Palm Civet
*Paguma larvata*
Dark brown example at about 0700 hrs, outside Aubyn House at Fraser's Hill, Pahang on 3.9.1995 (Alvin Wong).

Three-striped Palm Civet
*Arctogalidia trivirgata*
1 feeding on *Eugenia tumida* fruits at Pasoh Forest HQ, Negeri Sembilan on night of 30.1.1995 (Robert Teo, Ng Bee Choo).

Oriental Small-clawed Otter
*Amblonyx cinereus*
3 on bund at Kukup mangrove, Johor on 3.4.1995 (Lim Kim Chuah, Subaraj Rajathurai); 3 to 4 possible examples on 29.5.1995 along lower Bentus River, western Johor - disappeared into mangrove when approached (Jon Sigurdsdson); roadkill photographed on 15.5.1995 on road next to Nipah forest, 11 km from Pekan, Pahang (Tan Heok Hu P & al).

Smooth-coated Otter
*Lutrogale perspicillata*
1 possible example on rocky shore south of Pantai Tenang, Langkawi Island, Kedah on 3.1.1995 (Subaraj Rajathurai, Shamla Subaraj); 2 sunning on rock along Tembeling River near Kuala Tembeling, Pahang on 11.12.1995 (Subaraj Rajathurai).

Rorqual Whale
*Balaenoptera sp.*
5 m example found stranded on beach in Kedah village on 26.9.1995 & eventually dying from injuries despite efforts by villagers to free it (Sunday Times, 1.10.1995: 21, with pictures).

Asian Elephant
*Elephas maximus*
From Kota Tinggi, Johor: footprints at Panti Forest Bunker Trail on 22.1.1995 (Subaraj Rajathurai et al) & Panti Foothills Track on 3.4.1995 (Lim Kim Chuah, Subaraj Rajathurai); 1 killed after 2 shots from a shotgun, when it ran amok & attacked people in village at Jeli, Kelantan - the animal was reported to have appeared frequently in the village to plunder crops (Straits Times, 17.11.1995: 33, with picture).

Malayan Tapir
*Tapirus indicus*
1 crossing East Coast highway at night, between Pekan & Kuantan, Pahang (Eric Alfred) in late July 1995 - road was lined with oil palm.

Wild Pig
*Sus scrofa*
1 possibly feral example on Pulau Singa Besar off Langkawi Island, Kedah on 3.1.1995 (Subaraj Rajathurai, Shamla Subaraj); 2 at Panti Forest Bunker Trail, Kota Tinggi, Johor on 22.1.1995 (Subaraj Rajathurai et al); at Pasoh Forest, Negeri Sembilan, 4 herds totalling over 10 animals on 31.1.1995 & 5 on 1.2.1995 (Petri Hottola) & 1 on 2.2.1995 (Robert Teo); female with 8 piglets at Bishop's Trail, Fraser's Hill, Pahang on 3.9.1995 (See Swee Leng et al); 1 at Panti Forest Bunker Trail, Kota Tinggi, Johor on 4.11.1995 (Lim Kim Chuah et al).

Mousedeer
*Tragulus sp.*
1 in logged forest at Pasoh, Negeri Sembilan on 30.1.1995 (Lee King Li).

Common Barking Deer
*Muntiacus muntjak*
Footprints noted at Panti Forest Bunker Trail, Kota Tinggi, Johor on 22.1.1995 (Subaraj Rajathurai et al).

Sambar
*Cervus unicolor*
Feral herd of about 8 on Pulau Singa Besar off Langkawi Island, Kedah on 3.1.1995 (Subaraj Rajathurai, Shamla
Subaraj); tracks of 3 at Panti Foothills Trail, Kota Tinggi, Johor on 3.4.1995 (Lim Kim Chuah, Subaraj Rajathurai).

Herpetofauna

Reticulated Python

*Python reticulatus*

6.65 m example found trying to swallow a man after apparently having killed him by constriction about 20 km down Tenang-Segamat Road, near Segamat, Johor. Policemen killed it when it tried to escape after having regurgitated the victim’s head, apparently frightened by the commotion caused by a crowd of onlookers. The snake, which weighed about 140 kg & measured some 25 cm in diameter was claimed by the Wildlife Department. The specimen, which has since been skinned, was estimated to be about 40 years of age, & had a squirrel in its gut. Its skin will be mounted & put on display (Straits Times, 7.9.1995: 18, with photograph of python trying to swallow man; 8.9.1995: 28, 9.9.1995: 25; Lianhe Wanbao, 9.9.1995: 4); the Butterfly & Reptile Park at Ayer Keroh, Malacca holds a python in its collection which measures 7.32 m in length, caught from an unspecified locality some 3 years before (Lianhe Wanbao, 22.9.1995: 1 & 2 with pictures); near Kuala Lipis, Pahang a 5.34 m (35 kg) example was caught swallowing a chicken behind a house at 5 km, Kuala Lipis-Raub Road, on night of 19.9.1995 (Lianhe Wanbao, 22.9.1995: 2); near Ayer Hitam, Johor, 1 about 4 m (30 kg) was found behind a house, having devoured 6 chickens on 19.9.1995, at about 4 am (Lianhe Wanbao, 22.9.1995: 2); 5 m example at Kampung Pong Selatan in Alor Star, Kedah found shortly after it had devoured a pig, on 3.10.1995 (Straits Times, 5.10.1995, with picture); 7 m specimen caught on 7.10.1995 resting in a drain in an unspecified village in Perak, after having swallowed a wild pig - the 180 kg python was taken to Taiping Zoo (Straits Times, 9.10.1995, with picture).

Elephant Trunk Water Snake

*Acrochordus javanicus*

1.37 m female of about 8 kg was found stuck in a pipe used to drain a fish pond near Bahau, Negeri Sembilan on 22.9.1995, at about 5 pm. Captured, it gave birth to 50 juveniles within 30 minutes. The mother snake died shortly thereafter, & the farmers released the babies back to the wild (Lianhe Wanbao, 25.9.1995: 2, with pictures).

Striped Cave Racer

*Elaphe taeniura*

Freshly sloughed example of 1.5 m inside Gua Telinga, Taman Negara, Pahang on 12.12.1995 (Subaraj Rajathurai).

Elegant Bronzeback

*Dendrelaphis formosus*

88 cm example behind Paya Beach Resort, Pulau Tioman (Peter Ng et al, 16.9.1995.)

Malayan Mountain Reed Snake

*Macrocalamus lateralis*

19.5 cm example on road to Richmond House at Fraser’s Hill, Pahang on 5.9.1995 (Alvin Wong).

Pink-headed Reed Snake

*Calamaria schlegeli*

Juvenile of about 12 cm found dead in a drain along road to Richmond House at Fraser’s Hill, Pahang on 4.9.1995 (Alvin Wong) - the specimen was a uniform dark grey above & white below, there being a sharp line of demarcation between the two colours, and the top of the head was not pink.

Speckle-bellied Keelback

*Rhabdophis chrysargus*

Roadkill on Fraser’s Hill, Pahang at 1200 m. in November 1995 (Leong Tzi Ming).
Black Spitting Cobra
*Naja sumatrana*
Dead example at Johor Lama, Johor on 10.9.1995 (Subaraj Rajathurai).

Clouded Monitor
*Varanus nebulosus*
1 at Pulau Dayang Bunting off Langkawi Island, Kedah on 3.1.1995 (Subaraj Rajathurai, Shamla Subaraj); 1 of about 30 cm in tree hole outside resthouse at Pasoh Forest, Negeri Sembilan on 29.1.1995 (Robert Teo et al).

Water Monitor
*Varanus salvator*
2 m, 60 Kg example killed after it was caught devouring a cat near Kampung Paya, Kuala Terengganu, Terengganu on 6.9.1995 (Straits Times, 8.8.1995: 28, with picture).

Indonesian Worm-lizard
*Dibamus novaeguineae*
106 mm (92 mm in snout-vent length) male on Pulau Tioman on 16.9.1995 with 23 scales round midbody, 45 subcaudal scales & 221 ventral scales from chin to anus (Tan Heok Hui & Tan Swee Hee). This is the first record of this genus of legless, burrowing lizards from Pulau Tioman & represents the second known individual from Peninsular Malaysia. The species was previously recorded from the Gua Musang Area in Kelantan in 1939.

Black-bearded Flying Dragon
*Draco melanopogon*
1 at Johor Lama, Johor on 10.9.1995 (Subaraj Rajathurai).

Large Forest Gecko
*Gekko smithii*
Several seen & heard at Pasoh Forest, Negeri Sembilan between 29.1.1995 & 2.2.1995 (Robert Teo et al); 1 heard at Panti Forest Track, Kota Tinggi, Johor, on 4.4.1995 (Lim Kim Chua, Subaraj Rajathurai); several large geckoes were found living in a house in an unspecified locality in Johor Bahru, Johor (Lianhe Wanbao 8.8.1995: 9, with picture) – a 35 cm example was caught & featured in the accompanying picture, from where the identification was made.

Four-clawed Gecko
*Geckya mutilata*
1 in rest house at Pasoh Forest, Negeri Sembilan on 31.1.1995 (Robert Teo, Ng Bee Choo).

Marbled Bent-toed Gecko
*Gonydactylus quadriungulatus*
1 along “Nature Trail” at Pasoh Forest, Negeri Sembilan on 1.2.1995 (Robert Teo, Lee King Li).

Banded Bent-toed Gecko
*Gonydactylus consobrinus*
1 in primary forest at Pasoh Forest, Negeri Sembilan on 29.1.1995 (Robert Teo).

Broad-banded Bent-toed Gecko
*Gonydactylus pulchellus*
3 along Tekek-Juara trail, Pulau Tioman, Pahang on night of 16.9.1995 (Lim Liang Jim); 25 cm example caught in a cave at Telok Bahang Forest Reserve, Penang on 13.11.1995 (Lianhe Wanbao, 15.11.1995: 1 & 2, with pictures).

Kendall's Rock Gecko
*Cnemaspis kendalli*

Malayan Flat-shelled Terrapin
*Notochelys platynota*
Juvenile with bright yellowish-green carapace & bright orange plastron, egg-tooth still visible at the tip of its snout, carapace length 6 cm - at foot of Gunung Pulai, Johor in August 1995 (Tan Heok Hui et al).
Giant Stream Toad
*Bufo asper*

Crab-eating Frog
*Rana cancrivora*
1 at Delima Resort, Langkawi Island, Kedah on 5.1.1995 (Subaraj Rajathurai, Shamla Subaraj).

Malayan Cricket Frog
*Rana nicobariensis*

Cascade Greenback
*Rana hosii*
1 inside Gua Telinga, Taman Negara, Pahang on 12.12.1995 (Subaraj Rajathurai).

Two-spotted Tree Frog
*Rhacophorus bipunctatus*
Roadkill from Fraser’s Hill (about 1200 m asl), Pahang in November 1995 (Leong Tzi Ming).

Jade-green Tree Frog
*Rhacophorus promianus*
Roadkill from Fraser’s Hill (about 1200 m asl), Pahang in November 1995 (Leong Tzi Ming).

Wallace’s Flying Frog
*Rhacophorus nigropalmatus*
1 on soft earth along forest trail at Awana Country Resort, Genting Highlands, Pahang on 10.10.1995 (Robert Teo).

Reinwardt’s Tree Frog
*Rhacophorus reinwardti*
A pair in amplexus on soft earth along forest trail at Awana Country Resort, Genting Highlands, Pahang on 10.10.1995 (Robert Teo).

Frilled Tree Frog
*Rhacophorus appendiculatus*
Over 6 recorded in logged forest at Pasoh, Negeri Sembilan on 30.1.1995 (Robert Teo et al).

Cryptic Tree Frog
*Theodorana horridum*
1 of 4 cm snout-vent length on April 1995, on tree trunk at Ulu Kinchin, Endau-Rompin Park, Pahang (Alvin Wong).

Brown Bull Frog
*Kaloula baleata*
1 in ditch within logged forest at Pasoh, Negeri Sembilan on 1.2.1995 (Robert Teo, Lee King Li).

Black-spotted Sticky Frog
*Kalophrynus pleurostigma*
1 in primary forest at Pasoh Forest, Negeri Sembilan on 29.1.1995 (Robert Teo, Lee King Li).

Fishes

Forest Walking Catfish
*Clarias teijsmanni*
A dead one in a fish trap in a stream at Pasoh Forest, Negeri Sembilan on 30.1.1995 (Robert Teo et al).

Kissing Gouramy
*Helostoma temminckii*
2 in a pond at Pasoh Forest, Negeri Sembilan on 30.1.1995 (Robert Teo, Lee King Li).

BORNEO

Mammals

Lesser Gymnure
*Hylomys suillus*
1 in garden with the fake *Rafflesia* bloom at Kinabalu Park, Sabah on 21.1.1995 (Kelvin Lim).
Prevost's Squirrel  
*Callosciurus prevostii pluto*
1 falling from tree canopy after apparently missing a branch, & landing on the forest floor with a loud ‘thud’, on 21.1.1995, at Poring Hot Springs, Kinabalu Park, Sabah - the squirrel did not seem to be hurt & quickly climbed up the nearest tree trunk a few seconds after fall (Kelvin Lim).

**Sperm Whale**  
*Physeter macrocephalus*
17 m individual stranded & died on Matu Daro Beach near Kuching, Sarawak on 28.9.1995. The Sarawak Museum had plans to preserve its skeleton (Straits Times, 4.10.1995: 20, with picture).

**Herpetofauna**

**Reticulated Python**  
*Python reticulatus*
A motorcyclist tripped over a python of over 7 m in outskirts of Sibu, Sarawak at about 2000 hrs, in September 1995. He sought help from his village nearby, & returned to find the python coiled round the vehicle, damaging it with its constriction - it was shot in the head. It weighed over 100 kg (Lianhe Wanbao, 25.9.1995: 1 & 2, with pictures).

Following records from Poring Hot Springs, Kinabalu Park, Sabah from 18 to 21.1.1995 (Kelvin Lim et al):

**White-spotted Cat Snake**  
*Boiga drapiezii*
1 of about 1 m near the restaurant.

**Twin-barred Tree Snake**  
*Chrysopelea pelias*
1 of about 60 cm near canopy walkway.

**Kinabalu Bent-toed Gecko**  
*Gonydactylus baluensis*

**Lowland Large-eyed Litter Frog**  
*Leptobrachium abbotti*

**Malayan Horned Frog**  
*Megophrys nasuta*

**Bornean Giant River Toad**  
*Bufo juxtasper*

**Hole-in-the-head Frog**  
*Huia cavitympanum*

**Sabah Torrent Frog**  
*Meristogenys orphocnemis*

**Kuhl’s Creek Frog**  
*Limnonectes kuhlii*
Common in ditch outside old hostel.

**Spotted Stream Frog**  
*Rana signata*

**Black-spotted Sticky Frog**  
*Kalophrynus pleurostigma*

**Pothole Narrow-mouthed Frog**  
*Microhyla petriigena*
2 from forest floor near end of canopy walkway.

**INDONESIA: SUMATRA, RIAU, PULAU BINTAN**

**Mammals**

**Lesser Sheath-tailed Bat**  
*Emballomura monticola*
2 detected near Tanjung Tondang on 25.3.1995 (Shirley Pottie).

**Lesser False Vampire**  
*Megaderma spasma*
Female netted near Tanjung Tondang on 25.3.1995 (Subaraj Rajathurai et al).

**Slow Loris**  
*Nycticebus coucang*
Captive example seen at village near Tanjung Sambang on 10.6.1995 (Subaraj Rajathurai et al).
Banded Leaf Monkey
*Presbytis femoralis*
2 at opposite old gambier mill along east-west trunk road on 26.4.1995 (Subaraj Rajathurai).

**Malaysian Wood Rat**
*Rattus tiomanicus*
1 trapped near Tanjung Said on 8.11.1995 (Kieu Kim Sen, Subaraj Rajathurai); 1 trapped near road to Pasir Lagoi on 9.11.1995 (Kieu Kim Sen, Ng Bee Choo).

**Ricefield Mouse**
*Mus caroli*
1 trapped in grassland, 1 km from Tanjung Said on 8.11.1995 (Subaraj Rajathurai *et al*) – possibly Bintan’s first record.

**Three-striped Palm Civet**
*Arctogalidia trivirgata*
1 near road to Pasir Lagoi on 8.11.1995 (Kieu Kim Sen).

**Oriental Small-clawed Otter**
*Amblonyx cinereus*
1 at rocky headland on north-west corner of Tanjung Tondang on 26.3.1995 (David Fitzsimons); tracks of one on beachfront of mangroves near Tanjung Tondang on 26.3.1995 (Ng Bee Choo, Subaraj Rajathurai).

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**Herpetofauna**

**Sunbeam Snake**
*Xenopeltis unicolor*
Roadkill at Pasir Lagoi on 9.11.1995 (Subaraj Rajathurai, Shamla Subaraj).

**Malayan Racer**
*Elaphe flavolineata*
Juvenile caught & released on 4.3.1995 (Subaraj Rajathurai *et al*) at Tanjung Tondang.

**Paradise Tree Snake**
*Chrysopelea paradisi*
45 cm example near Tanjung Tondang on 26.3.1995 (Subaraj Rajathurai *et al*).

**Black Spitting Cobra**
*Naja sumatrana*
1 kept in cage at CMO on 23.11.1994 (Subaraj Rajathurai); roadkill enroute to Tanjung Said on 7.11.1995 (Subaraj Rajathurai *et al*).

**Clouded Monitor**
*Varanus nebulosus*
1 at Banyan Tree Resort at Tanjung Said on 20.11.1995 (Subaraj Rajathurai).

**Spiny Terrapin**
*Heosemys spinosa*
1 along track, 1 km from Tanjung Said on 8.11.1995 (Subaraj Rajathurai *et al*).

**Black-eyed Litter Frog**
*Leptobrachium nigrops*
1 heard near east-west road on 7.11.1995 (Subaraj Rajathurai).
NEW SOUTHEAST ASIAN VERTEBRATES DESCRIBED

Vu Quang Ox or Saola  *Pseudoryx nghetinhensis* Dung *et al.*, 1993

This exciting discovery was made in northern Vietnam on the forest cordillera along the Lao-Vietnam border, in 1992. A member of the mammalian order Bovidae, this animal resembles an antelope with very long, almost straight horns which are almost circular in cross-section. The body is reddish-brown with bold markings of black & white, a blackish brown narrow stripe down the middle of the back to the tail. There are whitish to buff stripes above & below the eye, white patterns on side of face, chin, & throat, & white sock markings on the limbs above the small hoofs. Total length from nose to anus 2 metres, shoulder height about 0.9 metre.

Little is known of the habits of this animal. The Vu Quang Ox lives in montane forest dominated by conifers & lowland evergreen dipterocarp forest. Apparently a browsing herbivore that keeps to the highlands in summer, it descends to the low areas in winter when the upland streams become dry. It is said to travel in groups of two to seven. The Vu Quang Ox is also recorded from Laos, & has been listed in CITES Appendix I since November, 1994.

References:

A SURVEY OF THE VERTEBRATE FAUNA OF PULAU UBIN, SINGAPORE

R. Subaraj  
Veterbrate Study Group, Nature Society (Singapore)

INTRODUCTION

In 1993, an island-wide bird survey of Pulau Ubin was initiated by the Nature Society (Singapore) Bird Group. In conjunction with this project, a study of the rest of the vertebrate fauna of that island was also carried out. This project was undertaken by interested members of the Nature Society, and was co-ordinated by Yeo Suay Hwee and myself. The project brought together many members who were interested in mammals, reptiles, amphibians and fish, as well as birds.

The vertebrate study of Pulau Ubin was carried out between April and November, 1993, with four night sessions and several day visits. Data collected from these visits are presented in this report, along with records gathered outside of the survey period. The nocturnal sessions were conducted in four zones of the island, namely the southeastern zone (Kampong Melayu), the northeastern zone (Sungei Besar/Kampung Noordin), the southwestern zone (Bukit Tinggi) and the northwestern zone (Bukit Tajam).

Due to the experimental approach with survey methods and the short period of study, the findings of this report should be considered highly preliminary. The term “vertebrate” in use here does not include birdlife.
METHODS & MATERIALS

During this project, the methodology has been altered time and again to maximise its effectiveness, despite manpower and time constraints. Therefore, the results gathered are by no means complete. Despite the many shortcomings, the methods that were employed have proven successful to some extent, and this has resulted in some interesting findings.

The general survey methodology is composed of the following:

Nocturnal survey

Pulau Ubin was divided into zones, but due to time restrictions, only four areas were covered at night. Each of these were surveyed during one overnight session. These were held on weekends, from 1700 hrs on Saturdays to 0900 hrs on Sunday mornings. The choice of survey sites was based on prior knowledge of the island, recce trips during day-time bird surveys, accessibility and the presence of quality habitat. During each night survey, several techniques were deployed by our members. These are:

A. Mist-netting - Mist nets were erected by dusk at two to three pre-selected spots. Both low and high nets were used. Nets were left open throughout the night and regularly checked. Captures were carefully processed and identified before release.

B. Small mammal trapping - Seven to 16 small traps were set along one to two transects, and baited with a variety of food (e.g. banana, papaya, mango, dried fish, cuttlefish). The traps were left baited and open through the night, and checked the following morning. Captures were identified and released.

C. Transect survey - One or two fixed routes of up to two kilometres were surveyed twice during the night. Strong torches were used for spot-lighting. Animals observed or heard were noted.

D. Casual survey - During the night, all animals that were encountered within the zone occupied by our field workers whether during their own personal explorations or while manning mist nets, were also noted.

E. Other methods - Chicken bones were laid out on two nocturnal surveys to attract animal life. Fishing was carried out on one night survey.

Diurnal survey

All other vertebrates encountered during the day-time birding sessions were noted.

Roadkill survey

The roads and tracks of Pulau Ubin were surveyed by members on mountain bicycles for roadkills, especially of snakes. Mr. Rae Hiscock kindly contributed many of these roadkill records.

Additional visits

As Pulau Ubin is regularly visited by members of the Nature Society, many records have been obtained over the years. These additional data are included here.

THE RESULTS

Excluding birdlife, 63 vertebrate species have been recorded thus far. This includes 15 mammals, 20 reptiles, 7 amphibians and 21 fishes. Many more are expected to occur, especially the marine fishes. The few interesting records from the island seem to reflect on the importance of mangrove, secondary woodland and rural country habitats for vertebrate life.
One species of bat was rediscovered in Singapore after 70 years, while the presence of three species of forest-dependant snakes seem to reflect on the fairly recent loss of rainforest on Pulau Ubin.

**Mammals:** 15 mammalian species have been recorded on Pulau Ubin. The most exciting thus far seems to be the Long-tongued Nectar Bat (*Macroglossus minimus*). Three individuals were mist-netted on two of the four night sessions. The last reliable record of this species in Singapore is of a specimen collected at Bukit Timah in 1923 (specimen at the Zoological Reference Collection of the National University of Singapore). A male was caught at the Kampung Melayu mangroves on 8 April 1993, while a female and another male were obtained at the base of Bukit Tajam at predawn hours on 12 September 1993.

The Malayan Flying Fox (*Pteropus vampyrus*), possibly the world’s largest surviving bat, appears to be a regular visitor from Malaysia. It is especially visible in the durian orchards when the trees are in flower. Despite its importance to local fruit tree pollination, it is often hunted for its meat. Five other species of bats are also recorded on Pulau Ubin.

Other locally threatened mammal species that have been recorded from Pulau Ubin are the Malayan Pangolin (*Manis javanica*), the Common Palm Civet (*Paradoxurus hermaphroditus*) and the Wild Pig (*Sus scrofa*). While the pangolin has only been reported once, the civet appears to be an uncommon resident there. The Wild Pig appears to have re-colonised Pulau Ubin from Johor a few years ago, and at the time of the survey, seems to be restricted to the eastern half of the island, where there was an estimated 50 individuals.

The Asian Elephant (*Elephas maximus*) deserves mention, for a member of this internationally endangered species visited the island a few years ago by swimming across the Johor Straits from Johor. It was probably forced to do so by deforestation. This animal was immediately captured and sent back to Malaysia.

**Reptiles:** Eleven species of snakes, eight species of lizards and one species of crocodile make up the diversity of reptiles recorded from Pulau Ubin so far. Five of these appear to be threatened locally.

Three of these threatened reptiles are snakes, namely the Twin-barred Tree Snake (*Chrysopelea pelias*), the Keel-bellied Whip Snake (*Dryophiops rubescens*), and the Dog-toothed Cat Snake (*Boiga cynodon*). They have all been recorded only once from Pulau Ubin. However, even once is most surprising for these three species as they appear to be forest dependant animals, and that there is probably no longer any original forest left on the island. These snakes have probably adapted to life in woodland or rural country habitats. Eight other snakes have also been recorded, of which seven are considered common in Singapore. The last one is the Marbled Sea Snake (*Aipysurus eydouxi*), of which one specimen was washed ashore at Kampung Babru in 1990.

Of the eight lizards recorded, five are very common. Of the remaining three, the Green Crested Lizard (*Bronchocoelus cristatellus*) appears to be declining in numbers locally, apparently due to competition from the introduced Changeable Lizard (*Calotes versicolor*). The final two are geckos, and the occurrence of either on Pulau Ubin are not confirmed. The Tokay Gecko (*Gekko gecko*) is very rare, and its present status in Singapore is quite unknown, while the Maritime Gecko (*Lepidodactylus lugubris*) has not been satisfactorily identified.

The Estuarine Crocodile (*Crocodylus porosus*) has been recorded with certainty once, from the northwestern coast of Pulau Ubin. Human persecution has very likely caused its present scarcity.

**Amphibians:** All the seven amphibian species recorded on Pulau Ubin adapt readily to disturbed habitats, and are all considered common in Singapore.

**Fishes:** The 21 species of fish recorded thus far represent merely a tiny fraction of the actual diversity which occurs in the stream drainages and coastal waters of Pulau Ubin. The Whitespot (*Aplocheilus panchax*) and the Pygmy Halbeak (*Dermogenys pusilla*) are common in streams, and two introduced species, the Tilapia (*Oreochromis mossambicus*) and the Molly (*Poecilia sphenops*) are also found in ponds and quarry pools.
DISCUSSION

This survey has provided us with an important introduction to the vertebrate fauna of Pulau Ubin. It has given us a better understanding of the island’s vertebrate fauna diversity, and more importantly, of particular wildlife habitats there. While this understanding is by no means complete, it does provide us with a fairly good basis to identify the important wildlife areas on Pulau Ubin, and emphasize their conservation value.

From this project, it is found that the important wildlife habitats on Pulau Ubin are the mangroves, the woodlands and some rural areas. Together, they support nearly all the recorded land vertebrates on the island.

The most important mangrove areas on Pulau Ubin are to be found at Sungei Besar, Kampung Melayu and Sungei Asam. These areas support a host of animals which are dependant on the mangrove habitat, including the Long-tongued Nectar Bat.

Important woodland areas include those surrounding Kampung Melayu and Kampung Noordin, as well as the hills of Bukit Tajam and Bukit Tinggi. The former two woodland host the small population of Wild Pig on the island. The woodlands also support a variety of other animals including a few forest-specific species which seem to have survived the loss of original forest cover. The Twin-barred Tree Snake, the Keel-bellied Whip Snake and the Dog-toothed Cat Snake are examples.

The rural landscape covers much of Pulau Ubin, and of the various types of agricultural areas, the fruit orchards appear to support the largest variety of wildlife. These include the Malayan Flying Fox and the Common Palm Civet. More mature fruit orchards were to be found around the northern and central sectors, as well as Kampung Melayu.

Ten species of the vertebrate fauna on Pulau Ubin including five mammals and five reptiles are considered locally threatened with extinction in Singapore. Of these, the Long-tongued Nectar Bat is presently known only from Pulau Ubin, while Singapore’s Wild Pig population is confirmed to reside only on Pulau Ubin and nearby Pulau Tekong. The Wild Pig is Singapore’s largest resident land mammal. It is important, therefore, to preserve sufficient areas of each of these three habitat types to ensure the continued survival of the locally threatened animals found on Pulau Ubin.

CONCLUSION

Future surveys of Pulau Ubin are bound to reveal more about her vertebrate fauna. However, on present records alone, it is clear that some of the more mature habitats on the island need to be preserved and protected as reserve areas.

Besides the survival of the resident species, the preservation of key areas on the island provides a sanctuary for visitor species like the Malayan Flying Fox. Pulau Tekong and Pulau Ubin are our last natural linkages to the core areas of Peninsular Malaysia, from where some of Singapore’s extinct fauna may still return naturally. The Wild Pig is a very good example of a once locally extinct mammal that has successfully recolonised Singapore.

It is, therefore, hoped that despite the future development plans drawn up for Pulau Ubin, sufficient areas of those key habitats discussed here will be set and aside, and preserved for the island’s wildlife.

ACKNOWLEDGEMENTS

I would like to record my sincere thanks to each and every member of the Nature Society who helped in the nocturnal surveys on Pulau Ubin. They include Yeo Suay Hwee, Lee King Li, Shirley Pottie, Robert Teo, Ng Bee Choo, Alan OwYong, Kelvin Lim, Sutari Supari, Rae Hiscock, Ruthie Hiscock, Tay Joe Boy, Lyndon Thomas, Felix Wong, Fong Chee Wai, Taib Ali, Fauziah, Lyndon Gan, Ho Hua Chew, OwYong Sue Lin, Alfred Chia, Kenneth Kee, Karen, Ali, James, Benjamin Lee, Clive Briffett, Ong Eng Eng, Cindy Leong,
Maggie Chong, Richard Frazier, Robert Frazier, Calum, Derek, Craig, Lisa, Lim Kim Keang and Sunny Yeo. Thanks to Lt. Col. Winston Lim and the Outward Bound School for allowing the use of their premises for our third nocturnal survey. And finally, to those who supplied additional records from Pulau Ubin to aid in this study.

LIST OF VERTEBRATES RECORDED FROM PULAU UBIN

* - dependant on woodland habitat, # - dependant on mangrove habitat, @ - dependant on at least rural country settings, R - resident, V - visitor, c - common, u - uncommon, s - scarce, + - considered a threatened species in Singapore, ? - presence unconfirmed. The status of the animals mentioned here are applicable only to the populations on Pulau Ubin.

### Mammals

<table>
<thead>
<tr>
<th>No.</th>
<th>Species</th>
<th>Habitat</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Malayan Flying Fox</td>
<td></td>
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</tr>
<tr>
<td>2.</td>
<td>Short-nosed Fruit Bat</td>
<td></td>
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</tr>
<tr>
<td>3.</td>
<td>Long-tongued Nectar Bat</td>
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<td>4.</td>
<td>Pouched Tomb Bat</td>
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<tr>
<td>5.</td>
<td>Grey Large-footed Bat</td>
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<tr>
<td>6.</td>
<td>Pipistrelle</td>
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<td>7.</td>
<td>Yellow House Bat</td>
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<td>9.</td>
<td>Malay Panolin</td>
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<tr>
<td>10.</td>
<td>Plantain Squirrel</td>
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<tr>
<td>11.</td>
<td>House Rat</td>
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<tr>
<td>12.</td>
<td>Malaysian Wood Rat</td>
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<td>13.</td>
<td>Common Palm Civet</td>
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<td>14.</td>
<td>Asian Elephant</td>
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<tr>
<td>15.</td>
<td>Wild Pig</td>
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<td>+#uR</td>
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Unrecorded, but expected to occur:

- House Shrew
- Whiskered Bat
- Polynesian Rat

### Reptiles

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<thead>
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<th>Species</th>
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<td>2.</td>
<td>Common Malayan Racer</td>
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<td>3.</td>
<td>Painted Bronzeback</td>
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<td>4.</td>
<td>Paradise Tree Snake</td>
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<td>Twin-barred Tree Snake</td>
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<td>6.</td>
<td>Oriental Whip Snake</td>
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<td>7.</td>
<td>Keel-bellied Whip Snake</td>
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<td>8.</td>
<td>Dog-toothed Cat Snake</td>
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<td>9.</td>
<td>Dog-faced Water Snake</td>
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<td>10.</td>
<td>Black Spiting Cobra</td>
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<td>11.</td>
<td>Marbled Sea Snake</td>
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<td>12.</td>
<td>Malay Water Monitor</td>
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<td>Green Crested Lizard</td>
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<td>18.</td>
<td>Flat-tailed Gecko</td>
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</tr>
</tbody>
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19. Maritime Gecko
20. Estuarine Crocodile

**Amphibians**

1. Asian Toad
2. Crab-eating Frog
3. Common Greenback
4. Field Frog
5. Common Tree Frog
6. Banded Bull Frog
7. Dark-sided Chorus Frog

Unrecorded, but expected to occur:

**Painted Chorus Frog**

**Fishes of the shore and stream drainages**

(-preliminary list compiled by Kelvin Lim & R. Subaraj)

- Mangrove Moray Eel
- Mangrove Snake Eel
- Marine Catfish
- Eel Catfish
- Pygmy Halibreak
- Estuarine Halibreak
- Garfish
- Whitespot
- Common Molly
- Javanese Ricefish
- Grey Mullet
- Kops' Glassfish
- Highfin Glassfish
- Copperband Butterflyfish
- Banded Archerfish
- Common Tilapia
- Snakehead Gudgeon
- Knight Goby
- Javanese Fatnose Goby
- Giant Mudskipper
- Goldspotted Mudskipper

- Gymnothorax tile
- Pisodonophis boro
- Arius sp.
- Plotosus canius
- Dermogenys pusilla
- Zanarchopterus buffonis
- Strongyura sp.
- Aplocheilus panchax
- Poecilia sphenops
- Oryzias javanicus
- family Mugilidae, genus not identified
- Ambassis kopsi
- Ambassis interrupta
- Chelmon rostratus
- Toxotes jaculatrix
- Oreochromis mossambicus
- Ophiocara porocephala
- Stigmogobius sadanundio
- Pseudogobius javanicus
- Periophthalmus chrysopterus
- Periophthalmus chrysopterus
One Friday, I came to know that someone was donating a mole to our museum. Mole? But moles don’t exist in Singapore. The nearest place where moles could be found is at Cameron Highlands in Malaysia. I figured that a shrew is possibly the closest thing that would be mistaken for a mole. That wasn’t a tough guess.

Our shrew originated from a certain lady’s garden at Pasir Panjang Hill. It was a common House Shrew, scientifically known as Suncus murinus. This animal is abundant throughout Asia where it characteristically lives in and about human habitations.

Before this, my encounters with House Shrews had been of the extremely brief kind. They were common in my neighbourhood, where, when they got accosted by cats or people, make their presence known to everyone else by their extremely loud alarm shriek. I sometimes had glimpses of them snuffling about the edges of drains or among fallen leaves on the HDB lawns, usually in semi-darkness. Once, I even saw one sneak into a shop house at Clementi.

The local Chinese call the House Shrew the “Chni Cher” (Hokkien) or “Cian Su” (Mandarin). These translate as “Money Mouse”. I’ve not figured why anyone would want to associate this creature with wealth and fortune. It appears to be a popular Chinese belief that one has to be well off to have mice in their house. Would a poor family leave uneaten food around to attract these rodents? But then again, shrews are not rodents. They have a row of small, sharp teeth, and lack the enlarged incisor teeth that are characteristic of mice and rats.

The shrew was left in a small pet box for the night. It had looked miserable, and it stank! I had wanted to freeze it, but my colleague said he would rather keep it as a pet. I told him that it probably needs to be fed everyday, is probably vicious in temperament, and could even die of fright. It was a Saturday. My colleague
left a dish of fish pellets and a large vial of drinking water for his new charge over the weekend. Come Monday, the shrew proved me wrong by staying alive.

When disturbed, the shrew shrieked and discharged this strong musky odour. Another colleague said the alarm call sounds like “ick!” This was how Ick got its name. Ick moved into a five-gallon plastic tank with a layer of wood shavings lining the floor.

With this captive animal, I finally had a good look at a House Shrew. To me, the most interesting aspect of this mouse-like mammal is perhaps its quaint, long, flexible snout that twirled this way and that as it investigates its immediate surroundings. Small, beady eyes; soft, short, grey fur; short limbs and a rubbery-looking tail also characterize the animal. I thought the whole combination gives the shrew a rather sinister appearance, but my colleagues thought it was cute.

My friend Alvin has the immensely good fortune of observing a mother shrew with her brood at the NUS Kent Ridge campus next to a bus stop, one rainy evening. To ensure that the family does not become separated, the mother shrew literally tows her babies about like a little furry train. The first baby hangs onto its mother by gripping her hindquarters with its teeth, and the subsequent babies do the same to the sibling in front.

A couple of days later, Francis came by to photograph a couple of snakes. I asked if he might as well shoot the shrew. Francis obliged readily and set about focusing his lens on Ick wandering about on the wood shavings. However, Ick was so sensitive to the noise made by the camera, that it leapt about six inches high in the air even before the flash went off. Twice it happened, and we decided to leave it alone.

We constructed a large pipe out of cardboard paper, and Ick took instantly to it for concealment. This also made maintenance easier, as all we needed to do was to lift the pipe out with the shrew inside and leave this temporarily in another container while the soiled wood shavings were being replaced with fresh ones.

About a month later, the lady, who gave us Ick, called again and left a message for one of us to collect another “mole” from her house at Pasir Panjang. Strangely, she refused to reveal her name and telephone number. She complained that the “moles” were making condominiums in her home, and offered to trap more of these animals for us. We told her to stop.

I decided to name our new acquisition Ack. My colleague had wanted to keep Ack and Ick together, to keep each other company. However, I cautioned him that they might fight. I think he gave up that idea of his later, and decided to keep them apart after all. Ack was housed in another five-gallon plastic tank.

I’ve always assumed that since shrews are insectivores (they belong in the order Insectivora), they should adhere to eating insects and perhaps, other small animals. So at first I purchased crickets to feed Ick. But Yeo had already left pieces of biscuits and bread in the tank, and these have disappeared overnight. Later, Yeo even successfully fed his shrews with tropical fish pellets. To make sure they are getting enough protein, I bought several small cans of gourmet cat food, which the shrews seem to relish.
When feeding crickets to the shrews, we tend to stick around and observe for a while. I’ve seen Ick emerge from its tube and went straight for the kill. Although the eyes are small, they can detect movement by sight. Should Ick be buried in wood shavings, the cricket will only be taken if it should wander over Ick’s snout. I’ve yet to see a shrew notice a cricket by smell, although I suspect their sense of smell should be pretty good. Ick crunches the cricket in its jaws before swallowing the insect whole.

One day, I saw my colleague put his finger before the shrew. I was afraid to look on as I had this uncomfortable feeling that it might bite, but it didn’t. Although its movements were deliberate and jerky, it just touched the finger and retreated, and went sniffing, sniffing. It did not utter its alarm cry. Perhaps it had come to associate his hand with food, and had somehow become docile. Talk about taming of the shrew! My assumption that shrews were predatory animals does not seem to apply to the House Shrew. Which is probably why it could adapt to the urban environment, and also why it could easily be caught in mousetraps.

My colleague said he even bathed the shrews sometimes by letting them wade in a container of water, while he cleaned the cages. Ick even proved to be a hygienic shrew. It defaecated only in one corner of its cage. All we needed to do was to place sheets of newspaper in that corner, and simply remove the soiled layers. Ack, however, continued to do its business everywhere.

It had been almost two months, and the shrews were still alive. My colleague said he could leave them to wander on the toilet floor during cage cleaning sessions. All he did later was to place the cardboard pipe in front of the shrew, who then readily entered. He then lifted up the pipe and transferred it to the cage. I wondered if there would come a day when he could train his shrews to respond to their names. But then again, he apparently didn’t give them names, and unless he reads this article, know of the names I gave to them.