

U Minh Thuong National Park Vietnam

Amphibian and Reptile Survey



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WAR
WILDLIFE AT RISK

U Minh Thuong National Park – Kien Giang Province, Vietnam

Amphibian and Reptile Survey

7th - 21st September

Research Team

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Introduction

U Minh Thuong National Park (UMTNP) is situated in the Mekong Delta in southern Vietnam, in the province of Kien Giang, 365km south west of Ho Chi Minh City. The park is divided into a freshwater

wetland core zone, which covers 8,509 ha, surrounded by a buffer zone, which comprises of 13,291 ha. The core zone of UMTNP consists of large open swamps and narrow well vegetated man-made canals, amongst patches of *Melaleuca* swamp forests, which include various species of grasses and sedge. The entire area is very flat averaging 0.5m above sea level. It had



been recognised as an important conservation area and became a Nature and Historical Relics Reserve in 1993 and then a National Park in 2002. Making it the largest protected area in the Mekong Delta. The surrounding buffer zones were estimated in year 2000 to have approximately 3,200 households comprising of 15,427 people. The buffer zones are largely unprotected. Primarily based on agriculture, consisting of cultivated paddy fields with small patches of replanted *Melaleuca* forests and Banana Tree plantations amongst many human residents.

The park is an important wetland area, which inhabits endangered species that appear in the IUCN Red Data Book, which include 18 species of reptiles, over eight species of birds and is also the home of the Hairy Nosed Otter (*Lutra sumatrana*), which only exists in one other

location in Thailand. UMTNP is the only significant area of peat-based swamp ecosystems remaining in Vietnam. The peat deposits allow the *Melaleuca* trees to thrive creating swamp forests which make suitable habitats for wildlife. UMTNP has been classified as one of three most important wetland sites for biodiversity conservation in the Mekong Delta.

The first scientific survey on amphibians and reptiles in UMTNP was conducted in October –November, 2000, implemented by CARE International - Vietnam and in partnership with the Department of Agriculture and Rural Development (DARD) of Kien Giang Province, Vietnam. The survey recorded 34 species of reptiles representing 10 families. Of the 34 reptiles species, 4 species were only recorded in trade shops, 13 species were recorded only in the field, and 17 species were recorded in both the field and in trade shops. The survey also identified seven species of amphibians representing three families.



Since the survey in 2000 a large forest fire has swept through UMTNP in April 2002. The fire occurred during the prolonged dry season which caused the vegetation and peat to become very dry creating a detrimental source of fuel. The fire swept through a large percentage of the park destroying most of the Melaleuca forests. The ecological impacts the fire caused have not been assessed but are presumably high. After the fires a decision had been made by DARD and UMTNP Management Committee to keep the entire national park constantly flooded to prevent any further fire risks. Although this decision has been beneficial to the fishing industry, it has caused a huge impact on the re-growth of the Melaleuca forests, as it is constantly underwater. This has also prevented wildlife species that are not adaptable to aquatic life to be pushed out into the buffer zones, which in return makes them unprotected and more vulnerable to be collected for the food, medicine and pet trade.



Reptiles and amphibians have long been utilized by people in Vietnam for food, medicine, magical-religious rituals, leather, pets and ingredients of cosmetics (Somaweera & Somaweera, *in review*). Most local markets and wildlife trade shops with in close proximity to UMTNP had reptiles available for purchase. A total of 26 species of herpetofauna, amounting to approximately 2000 individual reptiles were found being traded on this recent survey. Turtles, snakes and lizards are being constantly hunted, not only to supply the local communities but there are bigger demands throughout Vietnam and neighboring countries. Many specimens are also regularly being exported to markets in China. The current harvesting practices in and around UMTNP will not be sustainable for these reptile species for very long.



The Amphibian and Reptile Survey

Wildlife At Risk (WAR) decided to conduct the first amphibian and reptile survey at UMTNP since the devastating 2002 fires. This would be the second only herpetofauna survey carried out in UMTNP. The main aim of this survey is to see what species still occur in UMTNP. Nyugen Vu Khoi (WAR) coordinated the project and an external research team carried out the survey work, which included reptile specialists from Melbourne Zoo - Herpetofauna Department, Free The Bears - Cambodia, WAR Staff, scientists from University of Sydney - Tropical Ecology Research Facility and UMTNP advisors. The survey was for a two-week period during the start of the wet season, 7th – 21st September. The main technique used for locating reptiles and amphibians was active searching during the daytime and at night. Searches were conducted within the core of UMTNP by using motorboat and canoes as the means of transport to observe any activity along the banks of the canals. There was no accessible dry land to survey within the park, as the seasonal floodplains were completely submerged and the few remaining pockets of land were too compacted with vegetation to gain access.



A total of ten turtle traps and four bait nets were set along the banks of the NP canal, hidden amongst the vegetation and half submerged. The traps were baited using pieces of fish and eels. Plans for setting up pit traps in the NP became a difficult and impossible task, due to having no access to dry land. Using drift nets to capture aquatic species was also impossible with the amount of vegetation and snags in the canals. Considering the core of the park's habitat and flooded conditions was proving very difficult to conduct a sufficient survey. The decision was made to mainly concentrate on searching the buffer zones and record what species were being traded at local markets, wildlife trade shops and private households.

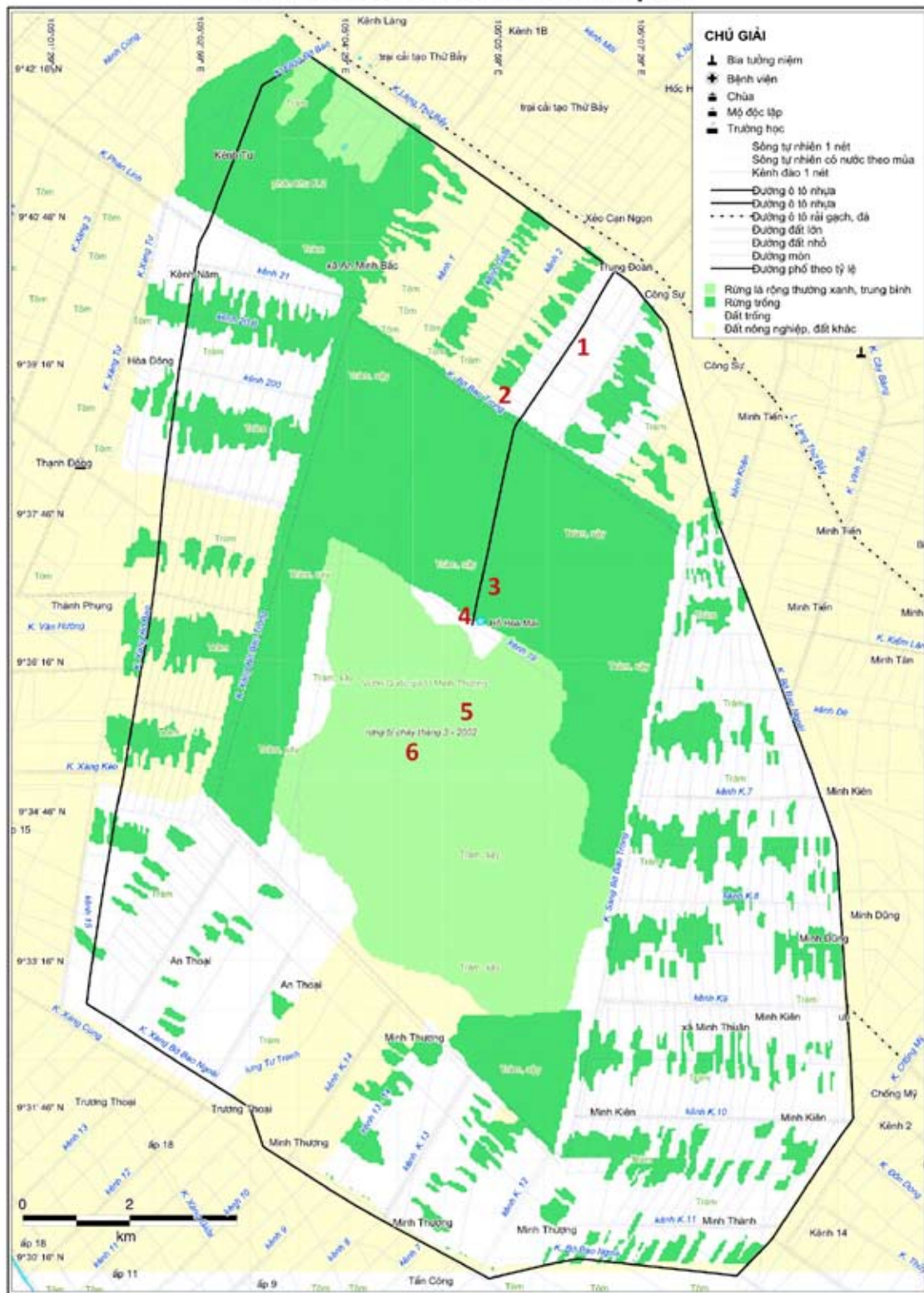


The survey identified a total of nine species of amphibians representing 4 families. Of the nine amphibian species, eight were found in the field and only two recorded in the trade shops. There was a total of 35 species of reptiles representing 11 families recorded. Of the 35 species, 11 species were only found in the field, 17 were only recorded in the trade shops and seven were found in both the field and the trade shops. GPS co-ordinates were recorded for most of the species locations in the field and the trade shops. Photographs were also taken of each species for identification records. The results from this survey over the two-week period are of no means an estimate of the population for each species; it is only a guide to identify what species occur in and around UMTNP. To gain an understanding of what the population status is for each species, longer survey periods are required and conducted over several consecutive years.



U Minh Thuong National Park

VƯỜN QUỐC GIA U MINH THƯỢNG



UMTN MAIN SURVEY SITES

1. Base (Directors House): N 9°39'29.21" E 105° 6'49.14"
2. UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"
3. UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"
4. UMTNP (Boat Shed): N 9°36'39.31" E 105° 5'45.91"
5. UMTNP (Bait Trap-Cobra): N09°36'06.3" - E105°05'38.7"
6. UMTNP (Bait Trap – Tentacle Snake): N09°36'36.9" - E105°05'45.4"

Markets & Trade Shops

Kien Giang Local Market: N09°40'17.0" - E105°07'33.7"
 Kien Giang Trade Shop #1: N09°38'55.1" - E105°08'49.3"
 Kien Giang Trade Shop #2: N09°40'15.0" - E105°07'32.9"
 Vinh Thuan Market #1: N09°30'46.9" - E105°15'31.9"
 Vinh Thuan Market #2: N09°30'46.9" - N105°15'32.6"
 Vinh Thuan Trade Shop #1: N09°30'33.3" - N105°15'20.7"
 Vinh Thuan Trade Shop #2: N09°31'11.1" - E105°14'54.1"
 An Minh Trade Shop: N09°37'06.1" - E104°56'40.2"
 An Minh Markets #1: N09°36'58.2" - E105°02'27.3"
 An Minh Markets #2: N09°36'57.6" - E105°02'29.6"
 Private Houses (Burmese Pythons): N09°40'16.8" - E105°07'33.1"
 N09°34'58.0" - E105°07'37.0"
 N09°39'39.5" - E105°07'26.0"

U Minh Thuong National Park - Vietnam
Amphibian and Reptile Survey
7th - 21st September 2009

Species found in U Minh Thuong N.P and Buffer Zones

Species	Location	GPS Coordinates	Numbers Found	Conservation Status
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AMPHIBIANS

Bufonidae				
Asian Common Toad <i>Duttaphrynus melonostictus</i>	UMTNP Buffer Zones- Around Houses, Banana Plantations & Road sides	N 9°39'29.21" E 105° 6'49.14" N 9°38'40.05" E 105° 6'11.16"	9	
Dicroglossidae				
Marsh Frog <i>Fejervarya cancrivora</i>	UMTNP Buffer Zones - Directors House, beside water bodies and in mud puddles	N 9°39'29.21" E 105° 6'49.14" N 9°38'40.05" E 105° 6'11.16" N 9°36'39.31" E 105° 5'45.91"	1	
Grass Frog <i>Fejervarya limnocharis</i>	UMTNP Buffer Zones - Around water bodies and perching on tall grass.	N 9°38'40.05" E 105° 6'11.16"	3	
Poilon's Frog <i>Limnonectes poilani</i>	UMTNP Buffer Zones- Directors House, beside water bodies	N 9°39'29.21" E 105° 6'49.14"	1	
Martens' Floating Frog <i>Occidozyga martensii</i>	UMTNP Buffer Zones - Mud puddles and beside water bodies	N 9°38'40.05" E 105° 6'11.16"	1	
Ranidae				
Green Paddy Frog <i>Hylarana erythraea</i>	UMTNP Buffer Zones- Banana Plantations, beside water bodies, on aquatic plants & perching on tall grass and plants.	N 9°38'40.05" E 105° 6'11.16" N 9°36'41.89" E 105° 5'47.41" N 9°36'39.31" E 105° 5'45.91"	17	
Rhacophoridae				
Small Rough Armed Treefrog <i>Kurixalus verrucosus</i>	UMTNP - Lake Restaurant, beside water bodies, under scrap wood.	N 9°36'41.89" E 105° 5'47.41"	1	
Four-lined Treefrog <i>Polypedates leucomystax</i>	UMTNP - on walls of Boat Launch Hut	N 9°36'39.31" E 105° 5'45.91"	3	

REPTILES

Turtles				
Geoemydidae (Asian Freshwater Turtles)				
Malayan Snail-eating Turtle <i>Malayems subtrijuga</i>	UMTNP Buffer Zones- Directors House- in water bodies.	N 9°39'29.21" E 105° 6'49.14"	2	IUCN - VU VRDB - VU
Lizards				
Agamidae (Dragons)				
Garden Fence Lizard <i>Calotes versicolor</i>	UMTNP - Lake Restaurant & NP Lookout, basking on tall grass.	N 9°36'41.89" E 105° 5'47.41"	2	
Geckonidae (Geckos)				
Common House Gecko <i>Hemidactylus frenatus</i>	UMTNP Buffer Zones- Climbing on walls of households & huts	N 9°39'29.21" E 105° 6'49.14"	40+	
Garnot's House Gecko <i>Hemidactylus garnotii</i>	UMTNP Buffer Zones- Climbing on walls of households & huts	N 9°36'41.89" E 105° 5'47.41"	10+	
Flat-tailed House Gecko <i>Hemidactylus platyurus</i>	UMTNP Buffer Zones- Climbing on walls of households & huts	N 9°36'39.31" E 105° 5'45.91"	4	
Scincidae (Skinks)				

Many-lined Sun Skink <i>Eutropis multifasciata</i>	UMTNP & Buffer Zones - amongst grass patches & Banana plantations	N 9°39'29.21" E 105° 6'49.14" N 9°36'41.89" E 105° 5'47.41"	10+	
Short-limbed Supple Skink <i>Lygosoma quadrupes</i>	UMTNP Buffer Zones- Directors House under scrap wood.	N 9°39'29.21" E 105° 6'49.14"	1	
Snakes				
Cylindrophidae (Pipe Snakes)				
Red-tailed Pipe Snake <i>Cylindrophis ruffus</i>	UMTNP Buffer Zones- Directors House in pond beside banana plantation.	N 9°39'29.21" E 105° 6'49.14"	1	
Colubridae (Typical Snakes)				
Long-nosed Whip Snake <i>Ahaetulla nasuta</i>	UMTNP Buffer Zones- Roosting at night on top of tall grass.	N 9°38'40.05" E 105° 6'11.16"	13	
Radiated Ratsnake <i>Coelognathus radiatus</i>	UMTNP - Lake Restaurant, under scrap wood.	N 9°36'41.89" E 105° 5'47.41"	1	VRDB - VU
Common Bonzeback <i>Dendrelaphis pictus</i>	UMTNP Buffer Zones- Roosting at night on top of tall grass.	N 9°38'40.05" E 105° 6'11.16" N 9°36'41.89" E 105° 5'47.41"	11	
Striped Kukri Snake <i>Oligodon taeniatus</i>	UMTNP Buffer Zones- Directors house- amongst cracks in brickwall.	N 9°39'29.21" E 105° 6'49.14"	3	
White-spotted Slug Snake <i>Pareas margaritophorus</i>	UMTNP Buffer Zones- Roosting at night amongst tall grass.	N 9°38'40.05" E 105° 6'11.16"	1	
Indochinese Ratsnake <i>Ptyas korros</i>	UMTNP Buffer Zones- Roosting at night amongst tall grass.	N 9°39'29.21" E 105° 6'49.14"	3	VRDB - EN
Common Ratsnake <i>Ptyas mucosa</i>	UMTNP Buffer Zones- Directors house- in pile of bricks.	N 9°38'40.05" E 105° 6'11.16"	1	VRDB - EN
Homalopsidae				
Tentacled Snake <i>Erpeton tentaculatum</i>	UMTNP - Caught in fish bait net - Lake area in middle of NP.	N09°36'36.9" - E105°05'45.4"	1	
Natricidae				
Red-necked Keelback <i>Rhabdophis subminiatus</i>	UMTNP Buffer Zones- Roosting at night amongst tall grass.	N 9°38'40.05" E 105° 6'11.16"	1	
Elapidae (Venomous Front-fanged Snake)				
Monocellate Cobra <i>Naja kaouthia</i>	UMTNP - Caught in fish bait net - Canal close to rangers lookout post.	N09°36'06.3" - E105°05'38.7"	1	VRDB - EN

Species found in Markets and Trade Shops in Kien Giang Province

Species	Location	GPS Coordinates	Numbers Found	Conservation Status
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AMPHIBIANS

Dicroglossidae (Frogs)				
Marsh Frog <i>Fejervarya cancrivora</i>	Food Markets	N09°40'17.0" - E105°07'33.7"	100+	
Chinese Bullfrog <i>Hoplobatrachus rugulosus</i>	Food Markets	N09°40'17.0" - E105°07'33.7" N09°30'46.9" - N105°15'32.6"	200+	

REPTILES

Turtles				
Geoemydidae (Asian Freshwater Turtles)				
Asian Box Turtle <i>Cuora amboinensis amaroana</i>	Food Market		1	IUCN - VU VRDB - VU
Yellow-headed Temple Turtle <i>Heosemys annandali</i>	UMTNP - Lake Restaurant - Captive Confiscations	N09°37'06.1" - E104°56'40.2"	1	IUCN - EN VRDB - EN

Malayan Snail-eating Turtle <i>Malayems subtrijuga</i>	Food Markets, Pet Trade Shops & Private Keeper	N09°40'17.0" - E105°07'33.7" N09°40'15.0" - E105°07'32.9" N09°37'06.1" - E104°56'40.2"	18	IUCN - VU VRDB - VU
Trionychidae (Asian Soft-shelled Turtles)				
Asian Soft-shell Turtle <i>Amyda cartilaginea</i>	Food Markets & Restaurant Ponds	N09°31'11.1" - E105°14'54.1"	10+	VRDB - VU
Lizards				
Varanidae (Monitor Lizards)				
Clouded Monitor <i>Varanus nebulosus</i>	Trade Shop - In Wine Bottles (Dead)	N09°37'06.1" - E104°56'40.2"	3	VRDB - EN
Water Monitor <i>Varanus salvator</i>	Trade Shop - In Wine Bottles (Dead)	N09°37'06.1" - E104°56'40.2"	1	VRDB - EN
Snakes				
Cylindrophidae (Pipe Snakes)				
Red-tailed Pipe Snake <i>Cylindrophis ruffus</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°30'46.9" - N105°15'32.6"	20+	
Pythonidae (Pythons)				
Burmese Python <i>Python molurus bivittatus</i>	Trade Shop & Private Keeper	N09°38'55.1" - E105°08'49.3" N09°40'16.8" - E105°07'33.1" N09°34'58.0" - E105°07'37.0" N09°39'39.5" - E105°07'26.0"	11	VRDB - CR
Reticulated Python <i>Python reticulatus</i>	Trade Shop	N09°38'55.1" - E105°08'49.3"	1	VRDB - CR
Colubridae (Typical Snakes)				
Radiated Ratsnake <i>Coelognathus radiatus</i>	Trade Shops	N09°30'33.3" - N105°15'20.7" N09°37'06.1" - E104°56'40.2"	5	VRDB - VU
Indochinese Ratsnake <i>Ptyas korros</i>	Trade Shop	N09°30'46.9" - N105°15'32.6"	1	VRDB - EN
Common Ratsnake <i>Ptyas mucosa</i>	Trade Shop	N09°30'33.3" - N105°15'20.7"	3	VRDB - EN
Homalopsidae				
Bocourt's Watersnake <i>Enhydrys bocourti</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°30'33.3" - N105°15'20.7" N09°31'11.1" - E105°14'54.1"	250+	VRDB - VU
Rainbow Watersnake <i>Enhydrys enhydryis</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°30'33.3" - N105°15'20.7" N09°30'46.9" - N105°15'32.6" N09°31'11.1" - E105°14'54.1" N09°37'06.1" - E104°56'40.2"	1000+	
Mekong Delta Watersnake <i>Enhydrys innotinata</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7"	150+	
Mekong Mud Snake <i>Enhydrys subtaeniata</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°31'11.1" - E105°14'54.1" N09°40'15.0" - E105°07'32.9"	150+	
Tentacled Snake <i>Erpeton tentaculatum</i>	Trade Shops	N09°37'06.1" - E104°56'40.2"	4	
Puff-faced Water Snake <i>Homalopsis buccata</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°31'11.1" - E105°14'54.1" N09°40'15.0" - E105°07'32.9" N09°37'06.1" - E104°56'40.2"	250+	
Natricidae				
Yellow-spotted Keelback <i>Xenochrophis flavipunctatus</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°30'46.9" - N105°15'32.6" N09°40'15.0" - E105°07'32.9"	200+	
Xenopeltidae (Sunbeam Snakes)				
Sunbeam Snake <i>Xenopeltis unicolor</i>	Food Markets & Trade Shops	N09°40'17.0" - E105°07'33.7" N09°38'55.1" - E105°08'49.3" N09°30'33.3" - N105°15'20.7" N09°37'06.1" - E104°56'40.2"	150+	
Elapidae (Venomous Front-fanged Snake)				
Blue Krait <i>Bungarus candidus</i>	Trade Shop - In Wine Bottles (Dead)	N09°37'06.1" - E104°56'40.2"	1	
Banded Krait <i>Bungarus fasciatus</i>	Trade Shop	N09°37'06.1" - E104°56'40.2"	2	VRDB - EN
Monocellate Cobra <i>Naja kaouthia</i>	Trade Shop	N09°37'06.1" - E104°56'40.2"	4	VRDB - EN
King Cobra <i>Ophiophagus hannah</i>	Trade Shop - In Wine Bottles (Dead)	N09°38'55.1" - E105°08'49.3"	4	VRDB - CR

Species accounts and identification

Amphibians

Bufonidae

Duttaphrynus melonostictus

Common names: Asian Common Toad, black-spined toad, common Sunda toad

Vietnamese name: Coc nha, coc

Description: 60 -100mm (SVL)

D. melanostictus is a “true toad”; its main characteristics include warty skin and a large parotoid gland behind each eye above its distinctive tympanum. The hind limbs have fully-webbed toes. The back is decorated by many round and black-tipped glands which also exude a sticky toxin that can be lethal to small predators (e.g. snakes, dogs, cats). The poison is relatively ineffective to humans unless large amounts are ingested. Care should also be taken to prevent toxins coming in contact with eyes.



Habitat: This species can be found in most urbanized and highly disturbed areas occurring on the edges of forests. Toads only need to return to water bodies for reproduction so can therefore colonize in areas away from water.

Location of observation: Found along roadsides, houses and urbanized, disturbed areas outside of UMTNP buffer zone.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"

Distribution:

Vietnam: Entire country.

Other Countries: Sri Lanka, India, Pakistan, Nepal, China, Myanmar, Laos, Thailand, Cambodia, Malaysia and Philippines.

IUCN Red List Category: N/A

Dicroglossidae

Fejervarya cancrivora

Common names: Marsh Frog, Java wart frog, mangrove frog, crab-eating frog

Vietnamese name: Ech cua

Description: 40-60mm (SVL)

F. cancrivora has a long snout and its tympanum is prominent with tympanic folds. This frog is grayish brown in colour and has small darker blotched markings throughout its body. Ridges can be found disbursed in patches that run ventrally along its back. It has strong-muscled hind limbs with toes three-quarterly webbed. The tips of the toes and fingers are pointed.



Habitat: This species is found in urbanized and disturbed areas all over SE Asia. Living close to water bodies and on the edge of forests or in rice fields.

Location of observation: Along roads sides and in mud puddles in urbanized areas after rain. Large numbers were found for sale in markets for human consumption.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"
UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"
UMTNP (Boat Shed): N 9°36'39.31" E 105° 5'45.91"
Kien Giang Local Market: N09°40'17.0" - E105°07'33.7"

Distribution:

Vietnam: Ho Chi Minh City, Kien Giang (UMTNP), Ca Mau (Nam Can).

Other Countries: India, China, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Philippines.

IUCN Red List Category: N/A

Fejervarya limnocharis

Common names: Grass Frog, paddy frog, rice frog, Asian pool frog

Vietnamese name: Ngoe, nhai

Description: 30-60mm (SVL)

F. limnocharis is morphologically very similar to *F. cancrivora*. It has a long, narrow head with prominent tympanum with tympanic folds. Its front and hind toes have pointed tips with the hind toes being half webbed. The body colour is grayish brown with dark green patches. Some *F. limnocharis* have a bright yellow dorsal stripe where other individuals don't. Ridges are found dispersed ventrally along back in patches that differ to *F. cancrivora*.

Habitat: This species is found in urbanized and disturbed areas all over SE Asia. Living close to water bodies and on the edge of forests or in rice fields.

Location of observation: *F. limnocharis* was commonly sighted in UMTNP. Along roadsides and paths, sitting in mud puddles after rain, close to larger water bodies. This frog was also commonly used by fishermen for bait.

GPS Location:

UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"

Distribution:

Vietnam: Entire Country

Other Countries: Afghanistan, Pakistan, India, Nepal, Sri Lanka, Bangladesh, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Philippines, Japan.

IUCN Red List Category: N/A



Hoplobatrachus rugulosus

Common names: Chinese Bullfrog, Common lowland frog, Taiwanese frog

Vietnamese name: Ech dong, ech, ech ruong

Description: 70-125mm (SVL)

This large, powerfully built frog with a broad triangular head. Has toes that are fully webbed and rounded at tips. The middle

two fingers have a fringe of skin along the inner side, while the other fingers have no fringes. The tips of the fingers are pointed. The eardrum is large. Their skin is extremely granular and rough, with many scattered, small to large bumps along the sides of the back and rump. There are also many interrupted, prominent horny ridges of skin running down the back and upper surface of calves. The sides are covered with densely packed conical bumps. These frogs are brown to greenish grey above, with scattered dark spots on the back and legs. The sides are spotted or mottled, forming a pattern of blotches. The underside of the head is whitish with a distinct dark streak down the middle of the throat. Some individuals the throat is heavily mottled with dark spots forming a network. The chest is lightly spotted, and the belly and under surface of the legs is usually white.



Habitat: Its natural habitats are freshwater marshes, intermittent freshwater marshes, arable land, pastureland, rural gardens, urban areas, ponds, aquaculture ponds, open excavations, irrigated land, seasonally flooded agricultural land, and canals and ditches.

Location of observation: *H. rugulosus* was found to be the most common frog being sold in all the food markets around U Minh Thuong National Park and Buffer Zone.

GPS Location: Kien Giang Local Market: N09°40'17.0" - E105°07'33.7"
 Vinh Thuan Market #2: N09°30'46.9" - E105°15'32.6"

Distribution:

Vietnam: Entire Country. This frog is not native to Vietnam. It was imported into South-east Asia for the food trade.
Other Countries: China, Taiwan, Myanmar, Laos, Thailand, Cambodia, and Malaysia.

IUCN Red List Category: N/A

Limnonectes poilani

Common names: Poilon's Frog

Vietnamese name: Ech poi-lan

Description: 55-75mm (SVL)

This member of the warty frogs is a medium to stocky frog, with moderately long and muscled hind limbs. The snout ends in a rounded point. The eardrum is distinct. The tips of the toes are distinctly, but slightly, widened; the tips of the fingers are not. All of its hind toes except the fourth (the longest) are webbed to about half the length. The head and body is grayish brown with darker colouring on some of the raised small lumps that are dispersed over its back and hind legs. Darker coloured bands are found on its hind legs and also its lips.

Habitat: This species is found in urbanized and disturbed areas all over SE Asia. Living close to water bodies and on the edge of forests or in rice fields. In Vietnam local communities collect this species for consumption. Its natural habitat is being threatened by forest clearance for agriculture, logging and human settlements.



Location of observation: *L. poilani* was observed and captured in the buffer zone just outside the main entrance to U Minh Thuong NP close to a large water body in a puddle.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Distribution:

Vietnam: Quang Binh (Minh Hoa), Quang Tri (Dong Tam Ve, Huong Hoa), Thua Thien-Hue (A Luoi, Thua Luu), Quang Nam (Tra My, Nam Giang, Tay Giang), Kon Tum (Kon Plong), Gia Lai (K Bang, Kon Cha Rang, Krong Pa), Dak Lak (Chu Yang Sin, Yok Don), Lam Dong (Da The, Lac Duong), Dong Nai (Cat Tien).

Other Countries: Cambodia

IUCN Red List Category: N/A

Occidozyga martensii

Common names: Martens' Frog, Martens' oriental frog

Vietnamese name: Coc nuoc mac-ten

Description: 20-50mm (SVL)

O. martensii is a small, stocky frog. The distance between its protruding eyes is small. Its strong hind legs contain fully webbed toes that have rounded tips. Some individuals have a tan coloured patch on their forehead. The body color is light brown with small black markings dispersed over its back and legs.

Habitat: Inhabits water puddles with only its eyes protruding from the surface.

Location of observation: Found in buffer zone of UMTNP in mud puddles on path, close to large water bodies and forest.

GPS Location: UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16

Distribution:

Vietnam: Lao cai (Van Ban), Son La (Sop Cop, Xuan Nha), Thanh Hoa (Ben En, Tho Xuan), Nghe An (Pu Mat, Pu Huong), Ha Tinh (Huong Son, Ky Anh), Quang Binh (Phong Nha), Thua-Hue (A Luoi), Quang Nam (Phuoc Son), Kon Tum (Kon Plong), Gia Lai (K Bang), Dak Lak (Chu Yang Sin), Dong Nai (Cat Tien), Ba Ria-Vung Tau (Con Dao).

Note: This species has not been recorded to occur in Kien Giang (UMTNP)

Other Countries: Southern China, Laos, Thailand, and Cambodia

IUCN Red List Category: N/A

Ranidae

Hylarana erythraea

Common names: Green Paddy Frog, red-eared frog, common greenback frog.

Vietnamese name: Chang xanh

Description: 40-80mm (SVL)

H. erythraea is a green coloured frog that has two bleached



coloured strips that run dorsa-lateral from each eye to the end of the body, one line is above the tympanum the other is below. It has a long pointed snout with a distinct tympanum. It has long hind limbs with toes half webbed.

Habitat: Commonly found in and around water bodies close to wetlands and parks, it has adapted to living in disturbed and urbanized habitats.

Location of observation: Commonly found in UMTNP and the buffer zones. Found sitting on vegetation in canals and ponds. Also commonly sighted perching on tall grass stems at night.

GPS Location: UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"
UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"
UMTNP (Boat Shed): N 9°36'39.31" E 105° 5'45.91"

Distribution:

Vietnam: Lao Cai (Thai Nien), Da Nang, Phu Yen (Son Hoa), Gia Lai (K Bang, Krong Pa), Dak Lak (Dak Phoi, Giang Bum), Dak Nong (Nam Da, Dao Nghia), Dong Nai (Cat Tien), Ho Chi Minh City (Thu Duc), Ba Ria- Vung Tau (Con Dao), Kien Giang (UMTNP).

Other Countries: India, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Brunei, and Philippines.

IUCN Red List Category: N/A

Rhacophoridae

Kurixalus verrucosus

Common names: Small Rough Armed Treefrog,
Boulenger's bushfrog.

Vietnamese name: Ech cay san nho

Description: 50-70mm

This medium-sized tree frog has a pointed, smooth or rough edged snout. All of its toes are broadly webbed to the base of the pads. Its fingers are not webbed. It has suction pads on all toes. The skin of the back is either finally pebbled or smooth. Some specimens have ridges or flaps on the skin on their limbs. The head and back is a light brown with sometimes a mottle of green. They have protruding eyes with a thin raised arch over their tympanum. Their belly is light in colour.

Habitat: The animals are most commonly observed in shrubs and other vegetation at close to distant proximity to forest streams (at 3-100m distance), in rainforest. Populations might be under impact from forest degradation and clearance.

Location of observation: *K. verrucosus* was located within U Minh Thuong NP and caught in the river system near the main boat launch area.

GPS Location: UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

Distribution:

Vietnam: Lao Cai (Sapa, Van Ban), Ha Giang (Vi Xuyen), Cao Bang (Nguyen Binh), Bac Kan (Ba Be, Cho Don), Tuyen Quang (Na Hang), Lang Son (Huu Lien), Vinh Phuc (Tam Dao), Hai Duong (Chi Linh), Thanh Hoa (Thach Thanh), Nghe An (Con Cuong), Ha Tinh (Huong Son), Quang Binh (Phong Nha-Ke Bang), Thua Thien-Hue (A Luoi), Gia Lai (K Bang, Kon Cha Rang).

Note: This species has not been recorded to occur in Kien Giang (UMTNP)

Other Countries: China, Myanmar, Laos, Thailand and Cambodia.

IUCN Red List Category: N/A

Polypedates leucomystax

Common names: Java whipping frog, Four-lined Treefrog.

Vietnamese name: Ech cay mep trang

Description: 60-110mm (SVL)

P. leucomystax like other arboreal treefrogs, have toes that are expanded into toe pads that are adhesive, enabling them to climb and hang from objects. The hind limbs are long with half-webbed toes. It has a slim body with smooth skin. Its colouration can be variable from green to light brown or cream, some are patterned with dull darker patches or longitudinal lines. A brown line sometime passes from the snout to the tympanum. It has large protruding eyes with a pointed snout. This species is apparently capable of metachrosis, from pale beige during the day to dark brown with dark stripes at night.

Habitat: *P. leucomystax* is a common treefrog found throughout SE Asia. It can be found in most disturbed human settlements, especially under balcony roofs and in public toilets that are near water bodies and forests.

Location of observation: Found climbing on walls of UMTNP boat launch hut. Including a pair in amplexus.

GPS Location: UMTNP (Boat Shed): N 9°36'39.31" E 105° 5'45.91"

Distribution:

Vietnam: Entire Country

Other Countries: India, Nepal, South China, Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia, Philippines, Japan.

IUCN Red List Category: N/A



REPTILES

TURTLES

Geoemydidae

Cuora ambornensis kamaroma

Common names: Asian Box Turtle, Asian box turtle, Southeast Asian box turtle

Vietnamese name: Rua hop lung den

Description: 210mm

C. a. kamaroma is a boxed shelled turtle that has a plastron that is hinged. This allows the two halves of the plastron to be independently raised, fitting tightly in the openings of the domed carapace and effectively sealing the complete shell closed. Its carapace is dark in colour were as its plastron is light yellow with large black blotched markings. Its head has distinct yellow stripes. Males have a concave



plastron and remain smaller than the females.

Habitat: Lowland swamp areas, but are also known to be found in forests and other places well away from water.

Location of observation: Markets and trade shops for food consumption.

GPS Location: N/A

Distribution:

Vietnam: Dak Lak (Dak Phoi, Ban Don), Dong Nai (Cat Tien), Tay Ninh (Ba Den Mountain), Long An, Kien Giang (UMTNP), Ca Mau (Nam Can).

Other Countries: India, Bangladesh, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Timor Leste, Brunei, and Philippines.

IUCN Red List Category: IUCN- Vulnerable, VRDB- Vulnerable



Heosemys annandalii

Common names: Yellow-headed Temple Turtle

Vietnamese name: Rua rang

Description: Length up to 600mm.

The shell is elongated and slightly domed, with a modest vertebral keel. General colour is dark brown to black. The plastron is attached to the carapace by a strong band of connective tissue. Major yellow bands are present on the snout and the sides of the head, as well as a wide stripe on the jaws and along the mouth, and the throat is also yellow. The head markings are particular striking and give the turtle its vernacular name.

Habitat: This species can be found in wetlands, inundated fields, wet forests and swamps and is not a riverine turtle. This species can also tolerate saline waters.

Location of observation: 2 individuals were being kept inside U Minh Thuong NP by the main boat launch site for quarantine before being released by local staff. A large specimen was also found in a local trade shop (An Minh 35km from main entrance gates UMTNP).

GPS Location:

UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

An Minh Trade Shop: N09°37'06.1" - E104°56'40.2"

Distribution:

Vietnam: Dong Nai (Cat Tien), Kien Giang (U Minh Thuong), Ca Mau (Nam Can).

Other Countries: Laos, Thailand, Cambodia and Northern Malaysia.

IUCN Red List Category: IUCN- Endangered, VRDB- Endangered



Malayems subtrijuga

Common names: Malayan Snail-eating Turtle

Vietnamese name: Rua ba go

Description: Length > 200mm.

The carapace is oval and modestly domed and three discontinuous carapacial keels form a small knob on each of the larger scutes. The carapace is dark to light brown in colour with light yellow line borders. The small knobs on the heels are darker than the rest of the carapace. This species has a large head relative to body size and is black, with several light or even whitish stripes. The first stripe extends from the nostrils and passes over its eyes on the way to its neck. A large scale covers the crown of the head, and the area posterior to this is covered with numerous small scales. The limbs and tail are grey to black, with a yellow edge on the outer borders.

Habitat: This turtle can be found in wetlands, including canals, rice paddies, small lakes and marshes with muddy bottoms and abundant aquatic vegetation, but it is also found on land.

Location of observation: The species caught were located in the buffer zone close to the entrance to the national park near large water bodies. The team also found this species being traded heavily in local houses and tradeshops.

GPS Location:

Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Kien Giang Local Market: N09°40'17.0" - E105°07'33.7"

Kien Giang Trade Shop #2: N09°40'15.0" - E105°07'32.9"

Private House: N09°34'58.0" - E105°07'37.0"

An Minh Trade Shop: N09°37'06.1" - E104°56'40.2"

Distribution:

Vietnam: Quang Binh (Phong Nha-Ke Bang), Dong Nai (Cat Tien), Can Tho (Can Tho), Kien Giang (Rach Gia, U Minh Thuong, Phu Quoc), Ca Mau (Nam Can).

Other Countries: Laos, Thailand, and Cambodia.

IUCN Red List Category: IUCN: Vulnerable, VRDB: Vulnerable



Trionychidae

Amyda cartilaginea

Common names: Asiatic Softshell Turtle, Black-rayed softshell turtle

Vietnamese name: Ba ban am bo, cua dinh

Description: 830mm (CL)

The soft shell turtle have flattened, partly flexible shells with reduced bony elements and instead of scutes their shells are covered with tough skin. They have a very long neck, a tube-nose and powerful jaws that are hidden by soft lips. Their feet are webbed with only three claws. *A. cartilaginea* have a series of rounded tubercles along the anterior margin of the carapace. Its shell colouration ranges from



rich brown to purplish-black with black and yellow spots of varying intensity and pattern. The underside is nearly uniform white or pale grey.

Habitat: This purely aquatic species inhabits most types of fresh water.

Location of observation: Sighted and caught in fresh water ponds close to UMT directors house and restaurant. *A.cartilaginea* is an introduced species to the area, released for food consumption.

GPS Location:

Base (Directors House): N 9°39'29.21" E 105° 6'49.14"
Vinh Thuan Trade Shop #2: N09°31'11.1" - E105°14'54.1"



Distribution:

Vietnam: Quang Tri (Dak Rong), Quang Nam (Phuoc Son), Khanh Hoa (Nha Trang), Kon Tum (Se Bang Hien, Sa Thay), Gia Lai (K Bang), Dak Nong (Ta Dung), Lam Dong (Da Teh, Bao Loc), Binh Phuoc (Bu Gia Map, Nghia trung), Dong Nai (Cat Tien), Kien Giang (UMTNP), and Mekong Delta.

Other Countries: Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Brunei.

IUCN Red List Category: VRDB- Vulnerable

LIZARDS

Agamidae

Colates versicolor

Common names: Garden Fence Lizard, Oriental garden lizard
Vietnamese name: Nhong xanh

Description: 95 – 380mm (SLV)

Its two spines above the tympanum, the absence of spines behind the eye and the absence of a shoulder fold can identify this lizard. Males are larger than females, and have swollen cheeks and a flattened tail base. This lizard is able to change colour rapidly and dramatically, appearing uniform tan, marbled brown, or clouded grey with some red depending on its mood.

Habitat: This common lizard can be found in parks, gardens, agricultural areas, waste land and open forests, where it lives among leafy undergrowth and grass, although mature males can be seen displaying on fences.

Location of observation: This lizard was found inside U Minh Thuong NP near the lakeside restaurant.

GPS Location: UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

Distribution:

Vietnam: Entire Country

Other Countries: Iran, Afghanistan, Pakistan, India, Nepal, Bhutan, Sri Lanka, Southern China, Myanmar, Laos, Thailand, Cambodia, Malaysia and Indonesia.

IUCN Red List Category: N/A



Geckonidae

Hemidactylus frenatus

Common names: Common House Gecko, spiny-tailed house gecko

Vietnamese name: Thach sung duoi san

Description: 6cm (SVL) 13cm (TL)

This species of gecko is probably the regions most common, it can be identified by the whorls of small spines on the original tail, small rounded tubercles mixed in with granules on the back, and its inner toe, bearing a large claw, being less than half the length of the second toe. Colour can range through various shades of brown, either uniform or with darker markings.



Habitat: This gecko can be found around buildings, they are often heard before they are seen.

Location of observation: Mostly around buildings including UMTNP main boat launch.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Distribution:

Vietnam: Entire country

Other Countries: Worldwide in tropical and subtropical regions. India, Nepal, Sri Lanka, Maldives, China, Taiwan, Myanmar, Thailand, Malaysia, Indonesia, Philippines, New Guinea, Australia, Japan, Polynesia, Micronesia, Melanesia, Solomon Islands, Somalia, Madagascar, Mauritius, Reunion, Rodrique, Comoro Island

IUCN Red List Category: N/A

Hemidactylus garnotii

Common names: Garnot's house gecko, Indo-Pacific gecko

Vietnamese name: Thach sung duoi dep, thach sung ga-not

Description: 6.5cm (SVL) 15cm (TL)

H. garnotii has a relatively flattened body, with a long, pointed snout and a strong depressed tail which bears a distinct series of lateral serrations. It is brownish-grey above, often with fine darker markings and pale spots, and yellow ventrally.

Habitat: This gecko lives on tree trunks, rock outcrops and on building.

Location of observation: Found on walls of buildings. UMTNP boat launch hut.

GPS Location: UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

Distribution:

Vietnam: Bac Kan (Ba Be), Dak Lak (Buon Ma Thuot, Dak Phoi), Khanh Hoa (Nha Trang), Binh Phuoc (Nghia trung), Ninh Thuan (Nha Ho), Dong Nai (Cat Tien), Tay Ninh (Tay Ninh, Ba Den Mountain), Ba Ria-Vung Tau (Con Dao), Kien Giang (U Minh Thuong, Ha Tien, Phu Quoc), Can Tho, Ca Mau.

Other Countries: India, Nepal, Bhutan, Southern China, Taiwan, Myanmar, Laos, Southern Thailand, Philippines, Indonesia, New Caledonia, Polynesia, Samoa.

IUCN Red List Category: N/A



Hemidactylus platyurus

Common names: Flat-tailed house gecko

Vietnamese name: Tắc e duoi dep

Description: 6cm (SVL) 13cm (TL)

This abundant gecko is recognized by its flattened tail, the webbing at the base of the fingers and toes, and the fringe of skin along its body. The colouration varies greatly, from uniform pale grey through mottled brownish-grey, to a series of distinct, dark, diamond marks and a dark flank band on a grey base.

Habitat: This gecko can be found in wide range of habitats from dry forests to human habitations.

Location of observation: Found on walls of buildings. UMTNP boat launch hut.

GPS Location: UMTNP (Boat Shed): N 9°36'39.31" E 105° 5'45.91"

Distribution:

Vietnam: Ba Ria-Vung Tau, Binh Phuoc (Binh Long), Dak Lak (Chu Yang Sin), Dong Nai (Cat Tien), Tay Ninh (Ba Den), Ho Chi Minh City (Thu Duc), Kien Giang (U Minh Thuong, Phu Quoc).

Other Countries: India, Sri Lanka, Nicobar Island, Nepal, Bhutan, China, Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia, Philippines, New Guinea.

IUCN Red List Category: N/A

Scincidae

Eutropis multifasciata

Common names: Many-lined Sun Skink, East Indian

brown mabuya, common sun skink

Vietnamese name: Than lan bong hoa

Description: 130 – 350mm (SLV)

A large, heavily bodied skink that usually has five or seven dark lines on its bronze back. The dark flank bears black-edged white spots, or a large orange patch in some individuals. The tail is less than twice the length of its body.

Habitat: This skink is relatively common near human habitation, river banks and large streams in lowlands and at moderate altitude, it is active during the day in sunshine, basking or foraging in clearings and on rocks, tree trunks, fences and walls.

Location of observation: This skink was observed and captured by the survey team inside the NP and also in the Buffer Zone. It was found in banana plantations and amongst leafy vegetation.

GPS Location:

Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

Distribution:

Vietnam: Most of Country



Other Countries: India, China, Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Indonesia, Philippines, New Guinea.

IUCN Red List Category: N/A

Lygosoma quadrupes

Common names: Short-limbed Supple Skink

Vietnamese name: Than lan chan ngan thuong

Description: 70mm (SVL), 150mm (TL)

Lygosoma's are a burrowing skink with a very elongated slender body. They have very short limbs that contain five digits. They contain a single frontoparietal, and their supranasals are absent, presumably fused with the nasal scale. The lower eyelid is covered with small scales. Their body scales are dark in colour and are very smooth and shiny.



Habitat: *L. quadrupes* are usually found in decaying logs, Feeding mainly on termites and their larvae.

Location of observation: Directors House- UMTNP Buffer Zone. Found under decaying log.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Distribution:

Vietnam: Hanoi, Nam Dinh, Thai Binh, Thanh Hoa, Quang Binh, Thua Thien-Hue, Binh Phuoc, Dong Nai, Kien Giang.

Other Countries: Southern China, Laos, Thailand, Cambodia, Malaysia, Indonesia, Philippines.

IUCN Red List Category: N/A

Varanidae

Varanus nebulosus

Common names: Clouded monitor

Vietnamese name: Ky da van, ky da kho

Description: 75cm (SVL), 180cm (TL)

Varanus nebulosus was ranked as a subspecies of *V. bengalensis*, but BÖHME & ZIEGLER (1997) raised it into species rank, because both species occur sympatric in northern Thailand and southern Myanmar. The tail is laterally compressed and shows a low double keel on top. It can be 1.3-1.7 times as long as SVL. The animals have a slit like nostril, which is situated closer to the eye than to the tip of the snout. 149-163 scale rows are ordered around mid-body. The coloration is dark olive-green brown with a yellowish pattern. Small yellow, dark edged spots occasionally replace this drawing. These spots can be ordered in cross-rows. Two dark stripes on both sides of the head, which are more distinctive in young animals, are visible.



Habitat: *V. nebulosus* prefers the impenetrable forest along rivers. This species is mainly found on the ground, but can also climb on trees. In young animals this behavior is more strongly distinctive, similar as in *V. bengalensis*. It is active during the day; at night it shelters in hollowed out trees or underground burrows.

Location of observation: Bottled in Rice Wine in Trade Shops. Has not been sighted in UMTNP for a long time.

GPS Location: Minh Trade Shop: N09°37'06.1" - E104°56'40.2"

Distribution:

Vietnam: Most parts of Vietnam

Other Countries: Myanmar, Laos, Thailand, Cambodia, Malaysia and Indonesia.

IUCN Red List Category: VRDB- Endangered

Varanus salvator

Common names: Water Monitor

Vietnamese name: Ky da hoa, ky da nuoc

Description: 104cm (SVL), 260cm (TL)

V. salvator are one of the largest lizards in the world. Its snout is long and flattened, which bears oval nostrils close to the tip. Its colour varies from blue-grey with a regulated pattern of cream spots to uniform dull grey. It has a very long powerful tail and sharp clawed digits. A long yellow forked tongue.

Habitat: *V.salvator* inhabit well-watered areas from coastal zones, mangroves and beaches to inland swamps, agricultural lands and forests. Forages at the water's edge, in shallow water and in and among vegetation.

Location of observation: Bottled in Rice Wine in Trade Shops. Has not been sighted in UMTNP for a long time.

GPS Location:

Minh Trade Shop:N09o37'06.1" - E104056'40.2"

Distribution:

Vietnam: Most Parts of Vietnam

Other Countries: India, Sri Lanka, Bangladesh, South China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Philippines.

IUCN Red List Category: VRDB- Endangered



SNAKES

Cylindrophiiidae

Cylindrophis ruffus

Common names: Red-tailed Pipe Snake

Vietnamese name: Ran trun, ran hai dau do

Description: 100cm (TL)

C. ruffus have a small blunt head with large symmetrical shields. Their eyes are small and they have a stout cylindrical body that can be flattened. Their pointed tail is very short, when threatened it can flatten and raise its tail to look as though it is about to strike in defense. The body scales are smooth and the ventral shields only slightly enlarged. It is black to dark purple in colour with the belly having white crossbands, and the subcaudal area is bright orange-red.



Habitat: *C. ruffus* inhabits humid lowland areas. It is usually found under the surface of the soil, under surface debris, in soft mud or in rafts of floating vegetation during the day. It can be seen foraging for snakes and eels in the water at night.

Location of observation: Markets and trade shops for food consumption.

GPS Location:

Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Kien Giang Local Market: N09°40'17.0" - E105°07'33.7"

Kien Giang Trade Shop #1: N09°38'55.1" - E105°08'49.3"

Vinh Thuan Market #2: N09°30'46.9" - E105°15'32.6"



Distribution:

Vietnam: Vinh Phuc, Quang Binh, Quang Tri, Thua Thien-

Hue, Da Nang, Quang Nam, Dong Nai, Tay Ninh, Ba-Ria-Vung Tau, Ho Chi Minh City, An Giang, Kien Giang, Can Tho, Ca Mau.

Other Countries: China, Myanmar, Laos, Southern Thailand, Cambodia, Western Malaysia, Singapore, Indonesia

IUCN Red List Category: N/A

Pythonidae

Python molorus bivittatus

Common names: Burmese Python

Vietnamese name: Tran dat, tran moc

Description: Up to 600cm (TL)

P molorus bivittatus is a large attractive snake, it has a stout yellowish to light-brown body. A series of black-edged, dark brown blotches can be seen on a lighter body colour. The top of the head has a pale arrow-shaped mark. The belly is white or cream.

Habitat: This species of python is usually found in forested plains but is easily at home in wetlands and sub-tropical jungles.



Location of observation: This species of python was regularly observed in the UMTNP area being kept as pets or locally traded. The survey team found 11 individuals. Some of these pythons were captive bred (including an Albino for sale in a trade shop). Most looked wild caught.

GPS Location:

Kien Giang Trade Shop #1: N09°38'55.1" - E105°08'49.3"

Private Houses with Burmese Pythons: N09°40'16.8" - E105°07'33.1"

N09°34'58.0" - E105°07'37.0"

N09°39'39.5" - E105°07'26.0"

Distribution:

Vietnam: Most of the country

Other Countries: Myanmar, South China, Thailand, Cambodia, Laos and Vietnam.

IUCN Red List Category: VRDB- Critically Endangered

Python reticulatus

Common names: Reticulated Python

Vietnamese name: Tran gam

Description: Up to 1,000cm (TL)

P. reticulatus is the world's longest snake. The head and stocky body are tan or yellowish-tan. A network of black lines extends along the top of the body and down the sides where the lines widen and encircle white spots. A black line extends from the snout over the crown of the neck. Black lines also extend from the eye to the base of the jaw.

Habitat: This species of python can be found in humid forests up to 1,500m, agricultural lands and close to human habitation. Again like many other pythons it is equally at home near waterways, mangroves, and rivers.

Location of observation: One individual was located in a local trade shop near UMTNP. Sightings are now rare.

GPS Location: Kien Giang Trade Shop #1: N09°38'55.1" - E105°08'49.3"

Distribution:

Vietnam: Most of the country

Other Countries: India, Bangladesh, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Brunei, Indonesia and Philippines.

IUCN Red List Category: VRDB- Critically Endangered



Colubridae

Ahaetulla nasuta

Common names: Long-nosed Whip Snake, green vine snake

Vietnamese name: Ran roi mom nhon

Description: 127cm (TL)

The relatively long, pointed appendage protruding from the rostral easily identifies this snake. Coloration can vary from tan to grey and yellow. However, it is most often dark green above and light green below. Its prehensile tail is very long and slender. Its prey includes lizards, frogs and birds. Females give birth to 3-23 young; the newborn are about 30cm long at birth and are light yellow, light grey or pale green.

Habitat: Diurnal and arboreal, it normally lives in forests and agricultural areas among bushes, trees and tall grass, it has also been found basking on roads.

Location of observation: UMTNP Buffer Zones- Roosting at night on top of tall grass.

GPS Location: UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"



Distribution:

Vietnam: Kon Tum, Gia Lai, Khanh Hoa, Ninh Thuan, Dak Lak, Dong Nai, Tay Ninh, Ho Chi Minh City, Vinh Long, Ba Ria-Vung Tau, Kien Giang.

Other Countries: Cambodia, India, Laos, Malaysia, Myanmar, Sri Lanka and Thailand.

IUCN Red List Category: Least Concern (LC)

Coelognathus radiatus

Common names: Radiated Rat snake, Copperhead racer

Vietnamese name: Ran soc dua

Description: Up to 230cm (TL)

C. radiatus is able to compress its body giving it a menacing appearance. The vertebral dorsal scales are weakly keeled but not enlarged. The body is grayish or yellowish-brown with four black stripes on the anterior part of the body. The head is coppery brown with three black streaks radiating from the eye, one extends back to the narrow black band over the nape.

Habitat: This species of rat snake inhabits open country up to 1,500m.

Location of observation: The survey team inside UMTNP captured 1 juvenile individual down by the boat access restaurant. The survey team also recorded 5 individuals being traded in local villages around the NP.

GPS Location:

UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

An Minh Trade Shop: N09°37'06.1" - E104°56'40.2"

Vinh Thuan Trade Shop #1: N09°30'33.3" - E105°15'20.7"

**Distribution:**

Vietnam: Entire country

Other Countries: India, Bangladesh, Nepal, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore and Indonesia.

IUCN Red List Category: VRDB- Vulnerable

Dendrelaphis pictus

Common names: Common Bonzeback, Painted Bronze-back

Vietnamese name: Ran leo cay thuong

Description: 143cm (TL)

D. pictus has a distinct head and large eyes with round pupils. Their body is slender, the scales are smooth and the vertebral scales enlarged. They have a very long tail. The ventrals have a notch and a lateral keel, and the subcaudals are keeled. They are characterized by the bronze upper body and head, with a black face mask, which extends to the neck, and the yellow or cream stripe on the first two scale rows of the body, which are bordered above and below by a black line. The side of the head and the chin are white.

Blue spots show when the body expands when inhaling and when threatening. The venter is yellow to pale green.

Habitat: *D. pictus* are mainly arboreal and diurnal spending most of the time in trees or in thick vegetation. Living in a vari-



ety of habitats from grass plains to hilly forests. They mainly feed on lizards and frogs and therefore are mostly found close to water where frog populations occur.

Location of observation: UMTNP & buffer zones roosting at night on top of tall grass, beside water ways. Also sighted being active during the day.

GPS Location:

UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"

UMTNP (Restaurant): N 9°36'41.89" E 105° 5'47.41"

Distribution:

Vietnam: Dien Bien, Lao Cai, Quang Ninh, Bac Giang, Phu Tho, Quang Binh, Quang Tri, Da Nang, Quang Nam, Gia Lai, Dak Nong, Phu Yen, Khan Hoa, Dong Nai, Tay Ninh, Binh Duong, Ho Chi Minh City, An Giang, Kien Giang, Soc Trang, Ca Mau.

Other Countries: India, Nepal, Bangladesh, China, Brunei Darussalam, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia, Philippines.

IUCN Red List Category: N/A



Enhydris bocourti

Common names: Bocourt's water snake Watersnake

Vietnamese name: ran bong voi, ri tuong, ri voi

Description: 115cm (TL)

E.bocourti are the largest member of the genus *Enhydris*. They have a long blunt shaped head that is dark in colour with yellow markings above and below its bottom jaw. Its pupils are vertically elliptical. Their body is cylindrical and stout with smooth scales. The body colour is dark brown above with narrow, irregular, yellow crossbars. The lower sides are yellow with the dark dorsal colour sometimes extending across the belly.

Habitat: *E.bocourti* are aquatic and are found in lowland water bodies. They are Nocturnal.



Location of observation: Markets and trade shops for food consumption.

GPS Location: Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"

Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"

Vinh Thuan Trade Shop #1: N09o30'33.3" - N105o15'20.7"

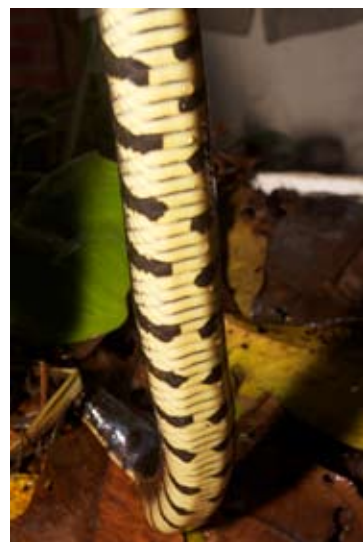
Vinh Thuan Trade Shop #2: N09o31'11.1" - E105o14'54.1"

Distribution:

Vietnam: Binh Duong, Dong Nai, Tay Ninh, Ho Chi Minh City, Kien Giang, Can Tho, Soc trang, kien Giang, Ca Mau.

Other Countries: Thailand, Cambodia, and Malaysia.

IUCN Red List Category: VRDB- Vulnerable



Enhydrys enhydrys

Common names: Rainbow Water snake

Vietnamese name: Ran bong sung

Description: 86cm (TL)

E.enhydrys is a colourful aquatic snake that has a very small head compared to its body size. It has a cylindrical body with smooth scales. The head colouration is brown with light-coloured lines converging from the snout. Its body colour is grey or olive above with a light-brown stripe on each side of the vertebral ridge and pale stripes separated by thin black lines on sides. It has a white or yellow bellow with a dark median line or rows of dots. Its smooth scales reflect with the light giving it a rainbow colour.



Habitat: *E.enhydrys* are aquatic snake that lives in lowland fresh-water bodies. Active during the day feeding mainly on fish.

Location of observation: Markets and trade shops for food consumption. This species was the main species found in the food trade in large numbers despite its small size.

GPS Location:

Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"

Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"

An Minh Trade Shop: N09o37'06.1" - E104o56'40.2"

Vinh Thuan Market #2: N09o30'46.9" - N105o15'32.6"

Vinh Thuan Trade Shop #1: N09o30'33.3" - N105o15'20.7"

Vinh Thuan Trade Shop #2: N09o31'11.1" - E105o14'54.1"



Distribution:

Vietnam: Phu Yen, Khanh Hoa, Dong Nai, Tay Ninh, Ba Den, Ba Ria-Vung Tau, Long An, Ho Chi Minh City, Can Tho, Soc Trang, Kien Giang, Ca Mau.

Other Countries: India, Sri Lanka, Nepal, Bangladesh, South China, Myanmar, Laos, Thailand, Cambodia, and Malaysia.

IUCN Red List Category: N/A

Enhydrys innominata

Common names: Mekong Delta Water snake

Vietnamese name: Ran bong khong ten, ho say, ho lac

Description: 80cm (TL)

E.innominata has a blunt head that is not distinct from the body. Eyes are small with vertical elliptical pupils. Rostrals are broader than high and visible from above. Similar to *E.enhydrys* It has a cylindrical body with smooth scales. Pale colour on the underbelly and a light brown on top with black band markings on the top half of flank. Light orange colour on bottom half of flank. Small dark green or brown blotches run along the back.

Habitat: This species of water snake can be found in lowland freshwater streams, waterways and wetlands along with many other aquatic microhabitats.



Location of observation: The survey team found this species being traded in food markets in large numbers 150+ individuals.

GPS Location: Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"

Distribution:

Vietnam: Tay Ninh, Kien Giang

Other Countries:

IUCN Red List Category: N/A



Enhydris subtaeniata

Common names: Mekong Mud Snake

Vietnamese name: Ran bong me-kong, ran bu lich, ran bu quap, ran tam luc

Description: up to 80cm (TL)

E. subtaeniata have a very similar body and head shape to *E. innominata*, with a slightly more broader head. They are a lot darker brown in colour with large black blotches evenly spaced along the side of body and smaller blotches running along the back. The ventral's are dark in colour.

Habitat: This aquatic snake uses streams impoundments, paddy fields, ditches, ponds, and probably many other aquatic microhabitats. There are several localities in Thailand where *E. enhydris* and *E. subtaeniata* co-exists in similar numbers and both species have been collected in the same gill net.



Location of observation: The survey team at local food markets and local trade shops only observed *E. subtaeniata*. The team recorded 150+ individuals.

GPS Location: Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"
Vinh Thuan Trade Shop #2: N09o31'11.1" - E105o14'54.1"
Kien Giang Trade Shop #2: N09o40'15.0" - E105o07'32.9"

Distribution:

Vietnam: Kon Tum (Kon Tum), Tay Ninh (Tay Nonh, Ba Den Mountain), Ho Chi Minh City, Soc Trang (Soc Trang), Kien Giang (U Minh Thuong), Ca Mau (U Minh).

Other Countries: Laos, Cambodia and Thailand.

IUCN Red List Category: N/A



Erpeton tentaculatum

Common names: Tentaculed Snake

Vietnamese name: Ran rau

Description: Up to 70cm (TL)

E. tentaculatum has a pair of tentacle-like appendages extending from the rostral and used for luring fish. The head is distinct, the body scales are strongly keeled and the ventrals very narrow. The colour and pattern are variable, brown surface markings are common. The ventral surface is brownish-yellow.



Habitat: This fascinating snake is very docile and entirely aquatic, they inhabit still, acidic, freshwater bodies.

Location of observation: The survey team observed two individuals in local trade shops and caught 1 specimen inside a turtle trap inside the NP.

GPS Location:

UMTNP (Bait Trap): N09o36'36.9" - E105o05'45.4"
An Minh Trade Shop: N09o37'06.1" - E104o56'40.2"

Distribution:

Vietnam: Binh Duong (Thu Dau Mot), Tay Ninh (Tay Ninh, Ba Den Mountain), Long An (Tan Thanh, Long An), Kien Giang (Ha Tien, Minh Thuan, U Minh Thuong).
Other Countries: Southern Thailand and Cambodia.

IUCN Red List Category: N/A



Homalopsis buccata

Common names: Puff-faced Water Snake, masked water snake

Vietnamese name: Rắn ri cà

Description: 137cm (TL)

H. buccata has very distinct broad head with a pale mask like pattern on top of the head and a thick dark brown/black line extending back from each eye. It has a very stout body that is cylindrical, with keeled scales. Its colouration is reddish-brown with many black-edged, yellowish cross-bars, but fades to uniform grey-brown in mature animals. Their belly is white with small black dots. Juveniles are black with white bands.

Habitat: *H. buccata* are nocturnal and semi-aquatic, it inhabits the edges of freshwater rivers, ponds, canals and swamps.

Location of observation: Markets and trade shops for food consumption.

GPS Location:

Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"
Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"
Vinh Thuan Trade Shop #2: N09o31'11.1" - E105o14'54.1"
An Minh Trade Shop: N09o37'06.1" - E104o56'40.2"
Kien Giang Trade Shop #2: N09o40'15.0" - E105o07'32.9"

Distribution:

Vietnam: Quang Tri, Kon Tum, Binh Dinh, Binh Phuoc, Dong Nai, Tay Ninh, Ba Ria-Vung Tau, Ho Chi Minh City, Soc Trang, Kien Giang, Ca Mau.
Other Countries: India, Nepal, Bangladesh, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, and Indonesia.

IUCN Red List Category: N/A



Oligodon taeniatus

Common names: Striped Kukri Snake

Vietnamese name: Ran khiem vach

Description: 44cm (TL)

O.taeniatus is a small attractive snake. It has a distinct defense reaction by curling its tail, exposing its brightly red coloured underbelly to defend off any predators. Its body is grey to brown with two narrow, dark-brown stripes flanking the vertebral ridge. The vertebral ridge is light and has small yellow spots. Broad, dark-brown bands extend from the crown to the base of the jaw, not reaching the ventral scales. It has a white chin with orange/red ventral's that have irregular black markings.



Habitat: *O.taeniatus* are mainly found in urbanized and disturbed areas close to forests, hiding around houses and rubble eg, bricks.

Location of observation: Found around Directors House in UMTNP buffer zone in between cracks in bricks of house.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"

Distribution:

Vietnam: Ha Giang, Cao Bang, Thai Nguyen, Vinh Phuc, Hai Duong, Ninh Binh, Nghe An, Quang Binh, Lam Dong, Khanh Hoa, Dong Nai, Tay Ninh, Ba Ria-Vung Tau, Ho Chi Minh City, Tien Giang, Soc Trang, Kien Giang.

Other Countries: Laos, Thailand, and Cambodia.

IUCN Red List Category: N/A

Pareas margaritophorus

Common names: White-spotted Slug Snake, northern mountain slug snake

Vietnamese name: Ran ho may ngoc, ran ho may dom trang

Description: 47cm (TL)

P.margaritophorus are a species of snake that prey on snails and slugs. The chin shields extend irregularly across the middle of the throat and there is no middle groove. The body is mostly grey in colour with transverse series of white and black spots together on single scales. It has a white or yellow nuchal collar. Its ventral's are whitish, usually spotted with grey or black. The body is somewhat compressed with smooth scales and the vertebrae are not enlarged.



Habitat: *P.margaritophorus* are nocturnal that inhabit forests and tall grass thickets, preying on snails and slugs.

Location of observation: Found at night hiding under tall grass, 1 meter above ground, along path of UMTNP buffer zone.

GPS Location: UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"

Distribution:

Vietnam: Vinh Phuc, Hai Duong, Hoa Binh, Ha Tay, Ninh Binh, Ha Tinh, Quang Binh, Quang Tri, Gia Li, Lam Dong, Tay Ninh, Ho Chi Minh City, Kien Giang.

Other Countries: China, Myanmar, Laos, Thailand, Cambodia and Malaysia.

IUCN Red List Category: N/A

Ptyas korros

Common names: Indochinese Rat Snake, Chinese Rat Snake

Vietnamese name: Ran roa thuong, ran rao, ran lai

Description: Up to 260cm (TL)

P. korros is mainly olive in colour with the remainder brown with dark edges. The grey-brown head is elongated and distinct from the neck, this rat snake possess with large eyes that contain a very large pupil. The body scales are smooth or very slightly keeled on the posterior part of its body. Juveniles have transverse rows of white spots across the anterior part of the body.



Habitat: This diurnal rat snake inhabits forests and agricultural land up to 3,000m.

Location of observation: Survey team found 3 individuals in the UMTNP Buffer Zones- Roosting at night on top of tall grass. Survey team also found one large specimen being traded in local shop around UMTNP.

GPS Location: Base (Directors House): N 9°39'29.21" E 105° 6'49.14"
Vinh Thuan Market #2: N09°30'46.9" - N105°15'32.6"

Distribution:

Vietnam: Entire country

Other Countries: India, Bangladesh, China, Taiwan, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore and Indonesia.

IUCN Red List Category: VRDB- Endangered



Ptyas mucosus

Common names: Common Rat snake, Oriental rat snake

Vietnamese name: Ran rao trau, ran ho trau, ran ho chuot

Description: Up to 320cm (TL)

This large species of ratsnake has a brown head, while the body is pale to medium brown. Posteriorly there are black transverse bands across the back and down the sides to the ventrals. The head is distinct, and the large eye has a round pupil. This snakes scales are smooth, its vertebrals maybe slightly enlarged.

Habitat: This terrestrial snake is found in various habitats up to 1,000m

Location of observation: The survey team observed 3 large specimens being sold on roadside stalls and caught 1 small individual in the UMT Buffer Zone.

GPS Location:

UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05"
E 105° 6'11.16"

Vinh Thuan Trade Shop #1: N09°30'33.3" - N105°15'20.7"

Distribution:

Vietnam: Most of the country

Other Countries: Turkmenistan, Iran, Afghanistan, Pakistan, India, Bangladesh, Sri Lanka, Nepal, China, Myanmar, Laos, Thailand, Cambodia, Malaysia and Indonesia.

IUCN Red List Category: VRDB- Endangered



Natricidae

Rhabdophis subminiatus

Common names: Red-necked Keelback

Vietnamese name: Rân hoa cò nhỏ

Description: 130cm (TL)

R. subminiatus like all Asian Keelbacks they have enlarged rear fangs to deliver mild venom to their prey. All members should be considered dangerous. Their dorsal scales are keeled. The head of this attractive snake is olive with a reddish and yellow neck that puffs out when threatened. A black teardrop marking is distinct under its eyes. The body is uniform olive-green with black markings on most scales and a whitish/blue coloration between the scales. Its underbelly is grey.

Habitat: *R. subminiatus* inhabit well-watered forested lowlands and elevated forest. They are active by day.

Location of observation: Hiding at night in amongst tall grass about 1 meter above the ground in UMTNP buffer zone.

GPS Location:

UMTNP Buffer Zone (Tall Grass Trail): N 9°38'40.05" E 105° 6'11.16"

Distribution:

Vietnam: Most of Country

Other Countries: India, Bangladesh, Nepal, Bhutan, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, and Indonesia.

IUCN Red List Category: N/A



Xenochrophis flavipunctatus

Common names: Yellow-spotted Keelback

Vietnamese name: Rân nước đom vang, rân nước

Description: This subfamily is diverse and poorly defined. The head and body characteristics are rather uniform, but dentition is very variable. Some species possess rear fangs and deaths have occurred. Most species have heavily keeled body scales. This species is very similar to the Chequered Keelback *X. piscator* which have more distinct black outlined head markings and edges to all ventral and subcaudal scales, producing a more defined chequered pattern. Colour does vary with *X. flavipunctatus* from a bright yellow to a dark brown, even red forms have been sighted.

Habitat: A very common snake found in rice fields, canals and waterways and thus also in direct residential surroundings. Active during the day, bites very quickly and copies the behaviour of a Cobra.

Location of observation: This species of keelback was observed in many local markets and seems to be heavily traded in the local area for food. The survey team estimated 200+ individuals in the trade.

GPS Location: Kien Giang Trade Shop #2: N09o40'15.0" - E105o07'32.9"

Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"



Vinh Thuan Market #2: N09o30'46.9" - N105o15'32.6"
Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"

Distribution:

Vietnam: Entire country

Other Countries: Bangladesh, China, Myanmar, Laos, Thailand Cambodia, Malaysia and Indonesia.

IUCN Red List Category: N/A



Xenopeltidae

Xenopeltis unicolor

Common names: Sunbeam Snake

Vietnamese name: Ran mong, ran ho hanh, ran ho thiec

Description: *X. unicolor* has a depressed head that is indistinct to its body and covered with large shields. They have small eyes with a vertical pupil. Their smooth scales cover the cylindrical body. The ventral shields are well developed with a short tail. The body scales are black to chocolate brown above and produce an iridescent glistening rainbow shine when struck by sunlight. They have a whitish belly.

Habitat: *X. unicolor* are nocturnal, inhabiting humid plains and wetlands including wet forests. Semi-aquatic and tend to burrow in moist soil.



Location of observation: Markets and trade shops for food consumption.

GPS Location: An Minh Trade Shop: N09o37'06.1" - E104o56'40.2"
Vinh Thuan Trade Shop #1: N09o30'33.3" - N105o15'20.7"
Kien Giang Local Market: N09o40'17.0" - E105o07'33.7"
Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"

Distribution:

Vietnam: Most of country

Other Countries: India, Southern China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Indonesia and Philippines.

IUCN Red List Category: N/A

Elapidae

Bungarus candidus

Common names: Blue Krait

Vietnamese name: Ran cap nia nam

Description: Up to 144cm (TL)

B. candidus can be easily identified by the black and white bands that alternate along this kraits cylindrical body. There are 19 – 30 black body bands on, but not encircling, the body and seven to nine on the tail. Individual black scales often occur on the white bands that connect to the white belly. The head is grey-black, with supralabials a bit lighter. Like all kraits, it has smooth scales that are enlarged in the vertebral series. **Venomous and potentially fatal.**

Habitat: This species of krait inhabits forested areas up to 1,525m.

Location of observation: 1 individual was identified in wine at a local trade shop in the U Minh Thuong area.

GPS Location:

An Minh Trade Shop: N09o37'06.1" - E104056'40.2"

Distribution:

Vietnam: Most of the country

Other Countries: Laos, Thailand, Cambodia, Malaysia, Singapore and Indonesia.

IUCN Red List Category: N/A



Bungarus fasciatus

Common names: Banded Krait

Vietnamese name: Ran cap nong, ran den vang

Description: Up to 200cm (TL)

B. fasciatus has an elevated vertebral ridge that gives it, its triangular shaped body. Yellow and black bands of almost equal width encircle the body and tail. Its body bears 14 – 32 black bands and its tail 2 -5. The head mainly black the supralabials yellow. Hatchlings have grey rather than yellow bands. **Venomous and potentially fatal.**

Habitat: This species of krait prefers dry open country and forested lowlands but has been recorded at over 2,300m

Location of observation: 2 individuals were found for sale in a trade shop (An Minh) for 250,000VND / kg.

GPS Location: An Minh Trade Shop: N09o37'06.1" - E104056'40.2"

Distribution:

Vietnam: Most of the country

Other Countries: India, Bangladesh, Bhutan, Nepal, South China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Brunei Darussalam and Indonesia.

IUCN Red List Category: VRDB- Endangered



Naja kaouthia

Common names: Monocellate Cobra, Monocled Cobra

Vietnamese name: Rắn hổ mang một mắt kính

Description: 200cm (TL)

N. kaouthia are not a spitting cobra but it has highly venomous bite that is potentially fatal. All cobras have a head that is not very distinct from the neck, but when threatened and on defense their ribs in the neck can be expanded to create a hood. It erects the upper part of its body, exposing its hood vertically. The dorsal pattern on the hood is variable in shape mainly consisting of a round monocle shape. Their body colour is mainly uniform dark brown or grey-brown, some species are slightly banded. They have a whitish throat, which has a pair of small lateral spots. Their ventral is generally mottled with dark pigments. **Venomous and potentially fatal.**

Habitat: *N. kaouthia* inhabits forest and wetlands including disturbed and urbanized areas.

Location of observation: Markets and trade shops for food consumption. A single specimen was caught in a bait trap that contained a piece of eel within UMTNP. The trap was set along a canal and semi submerged under water.

GPS Location:

UMTNP (Bait Trap): N09o36'06.3" - E105o05'38.7"

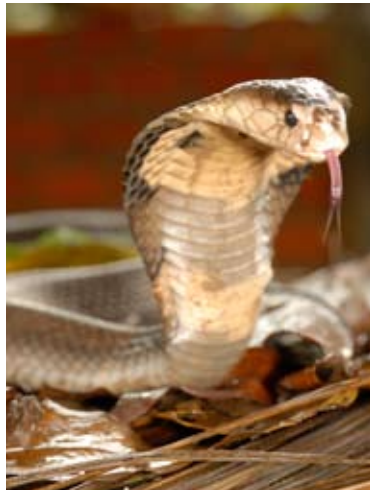
An Minh Trade Shop: N09o37'06.1" - E104o56'40.2"

Distribution:

Vietnam: Central & Southern Vietnam: Quang Tri, Hue, Lam Dong, Ho Chi Minh City, Dak Lak, Kien Giang.

Other Countries: Northeastern India, Nepal, Bangladesh, Southern China, Myanmar, Laos, Thailand, Cambodia and Northern West Malaysia.

IUCN Red List Category: VRDB- Endangered



Ophiophagus hannah

Common names: King Cobra, Hamadryad

Vietnamese name: Rắn hổ chúa, rắn hổ mang chúa, rắn hổ mang chi, rắn hổ mang đen

Description: up to 585cm (TL)

O. Hannah is the world's longest venomous snake. The head bears two large shields and its hood is long and narrow. The body has smooth scales. Adults can vary in colour from uniform light green-grey to light green or orange yellow with darker bands, while uniform dark grey to black individuals also occur. The hood may bear chevron marks or be unpatterned. **Venomous and very potent neurotoxin that is fatal if untreated.**

Habitat: The King Cobra are terrestrial and inhabits forests and plantations up to elevations of 2,135m, often seen during the day or night around freshwater streams.

Location of observation: Large specimens were seen in bottles of wine in local trade shop, shop owner said these were brought in Ho Chi Minh City and sightings of King Cobras were very rare.



GPS Location: Kien Giang Trade Shop #1: N09o38'55.1" - E105o08'49.3"

Distribution:

Vietnam: Most of country

Other Countries: India, Nepal, Bangladesh, Bhutan, China, Myanmar, Laos, Thailand, Cambodia, Malaysia, Singapore, Brunei Darussalam, Indonesia and Philippines.

IUCN Red List Category: VRDB- Critically Endangered



Survey Daily Report

7th September (Night Search)

Location: Park Directors Household – 600m from park entrance

Time: 21:00 – 22:30

Weather: Overcast, Raining, Cool

Species: *Hemidactylus frenatus* – Spiny-tailed House Gecko

Duttaphrynus melonostictus – Asian Common Toad

8th September (Day Time Search)

Location: U Minh Thuong NP – Boat Launch Site and Restaurant

NOTE: All Herps were found around Restaurant area

Time: 9am – 16:00

Weather: Overcast, Raining, Windy, Cool

Species: *Hemidactylus frenatus* – Spiny-tailed House Gecko x 2

Hemidactylus garnotii – Garnot's House Gecko

Calotes versicolor – Garden Fence Lizard

Eutropis multifasciata – Many Lined Sun Skink

Hylarana erythraea – Green Paddy Frog

Kurixalus verrucosus – Small Rough Armed Treefrog ?

Dendrelaphis pictus – Common / Painted Bronzeback

Coelognathus radiatus – Radiated Rat Snake

8th September (Night Search)

Location: Main NP Road from Headquarters – Boat Launch

Time: 21:00 – 22:45

Weather: Clear, Cool

Species: *Hylarana erythraea* – Green Paddy Frog x 2

9th September (Day Time Search)

Location: Directors House (Captive Snakes)

Time: 9:30 – 13:00

Weather: Cool, overcast, rain

Species: *Cylindrophis ruffus* – Red-tailed Pipe snake

Enhydryis enhydryis – Rainbow Water Snake x 2

Enhydryis subtaeniata – Mekong Mud Snake

Homalopsis buccata – Puff-faced Water Snake

Xenochrophis flavipunctatus – Yellow-spotted Keelback x 3

Xenopeltis unicolor – Sunbeam snake

Hieremys annandalii – Yellow-headed Temple Turtle x 2 (lake restaurant).

Hemidactylus garnotii – Garnot's Gecko

9th September (Night Search)

No Search – Raining

10th September (Day Time Search)

Location: Directors house (Market reptiles unless stated)

Time: 8am – 14:30

Weather: Cool, Cloudy / Sunshine, Showers

Species: *Python molorus bivittatus* – Burmese Python x 2 Price/kg – 120K (local house)
Malayems subtrijuga – Malayan snail-eating turtle Price/kg – 170K
Cuora ambornensis – Asian box turtle Price/kg – 170K
Homalopsis buccata – Puff-faced water snake Price/kg – 180K
Duttaphrynus melonostictus – Asian Common Toad
Amyda cartilaginea – Asian soft-shell Turtle (observed not captured)
Erpeton tentaculatum – Tentacled Snake x 2
Enhydrys bocourti – Bocourts Water Snake x 2
Oligodon taeniatus – Striped Kukri Snake (caught)
Eutropis multifasciata – Many lined Sun Skink x 2 (caught)
Fejervarya cancrivora – Marsh frog (caught)
Limnonectes piolani – Poilons frog (caught)
Naja kaouthia – Monocellate Cobra

10th September (Night Search)

Location: Behind directors house, round track

Weather: Clear, Dry

Time: 21:00 – 22:45

Species: Water Snake (no ID)
Fejervarya limnocharis – Grass Frog

11th September (Day Time Search)

Location: Directors House & Lake Side Restaurant

Weather: Clear, Dry, Warm

Time: 10:30 – 16:00

Species: *Amyda cartilaginea* – Asia Soft shelled turtle
Cosymbotus platyurus – Flat-tailed Gecko x 2
Ahaetulla nasuta – Long-nosed whip Snake (roadside from house to lake)
Eutropis multifasciata – Many-lined Sun Skink

11th September (Evening Search)

Location: Side road past main barrier of UMTNP entrance (before bridge)

Weather: Clear, Dry, Warm

Time: 21:00 – 22:45

Species: *Ahaetulla nasuta* – Long-nosed Whip Snake x 2
Hylarana erythraea – Green Paddy Frog x 11 (only counted 1 way)
Duttaphrynus melonostictus – Asian Common Toad
Fejervarya limnocharis – Grass Frog
Oligodon taeniatus – Striped Kukri Snake (caught by Song)

12th September (Day Time Search)

Location: Local household / Melaluca Forest / Banana Plantation

Weather: Clear, Showers, Sunshine, Overcast

Time: 14:30 – 17:30

Species: *Python molorus* – Burmese Python x 3
Malayems subtrijuga – Malayan-snail eating turtle x 4

Extra Information:

Above reptiles were being kept as pets in a local household outside the buffer of UMTNP. The 3 pythons were kept together, measurements no longer than 1m. Owners told us – he had them for 1 month & caught them in the local area using fish gill nets. The turtles were caught in the local area again by using fish nets. None of the reptiles were handed over for us to release.

Python = 120K/kg

Turtle = 10,000VND for small ones, 60,000VND for larger ones

Turtles Sex ID

1 x Male

1 x Female

2 x young turtles (unable to determine sex – maybe Male)?

12th September (Evening Search)

Location: Same as 11th Sept (evening search)

Weather: Clear, Dry

Time: 21:00 – 1.30am

Species: *Ahaetulla nasuta* – Long-nosed Whip Snake x 3
Rhabdophilis subminiatus – Red-necked Keelback
Pareas margaritophorus – White-spotted Slug Snake
Fejervarya limnocharis – Grass Frog (Common species – different colour lines on back)
Hylarana erythraea – Green Paddy Frog (Common species in UMTNP)
Occidozyga martensii – Marten's Floating Frog

13th September (Day Time Search)

NOTE 1: All the species listed below were found in U Minh Thuong Local Market & a local trade shop – outside the buffer zone of the NP. After asking questions about each species carry some significant importance to this survey as many came from inside the buffer zone of the NP therefore affecting local populations of Amphibians and Reptiles.

Location: Local Market and Local Trade Shop

Weather: Clear, Warm, Sunny

Time: 6:30 – 9:00

Market Species: *Malayems subtrijugi* (400g, Male) – Malay Snail-eating Turtle
Fejervarya cancrivora – Marsh Frog x 20
Hoplobatrachus rugulosus – Chinese Bullfrog x 30
Enhydrys subtaeniata – Mekong Mud Snake x 3
Enhydrys bocourti – Bocourts Water Snake x 2
Homalopsis buccata – Puff-faced Water Snake x 8

Trade Species: *Enhydrys bocourti* – Bocourts Water Snake 40+
Homalopsis buccata – Puff-faced Water Snake 20+
Enhydrys enhydrys – Rainbow Water Snake 20+
Xenopeltis unicolor – Sunbeam snake 30+
Xenochrophis flavipunctatus – Yellow-spotted Keelback x 5
Python molorus – Burmese Python x 3

NOTE 2: 1 Burmese Python being kept separate in a trade bag weighing 5.5kg being sold at 100,000VND/kg.

Python reticulatus – Reticulated Python

NOTE 3: 2 x captive bred pythons being housed at trade shop – 1 x albino python and 1 x melonistic python?

NOTE 4: Trade shop also had several large snake specimens preserved including: 4 x *Ophiophagus hannah* – King Cobra, *Naja kaouthia* – Monocellate Cobra, *Bungarus candidus* – Blue Krait.

13th September (Evening Search)

Location: Same as 11th Sept (evening search)

Weather: Clear, Dry

Time: 21:00 – 23:00

Species: *Duttaphrynus melonostictus* – Asian Common Toad x 2
Hylarana erythraea – Green Paddy Frog (Common species in UMTNP)
Ahaetulla nasuta – Long-nosed Whip Snake x 3
Dendrelaphis pictus – Common / Painted Bronzeback x 3
Ptyas korros – Indochinese Rat-snake
Cylindrophis ruffus – Red-tailed Pipe snake (caught at entrance of directors house)

14th September (Day time Search)

Location: Local Market

Weather: Clear, Warm, Sunny

Time: 6:30 – 8:00

Market Species Stall 1: *Malayems subtrijugi* (400g, Male) – Malay Snail-eating Turtle 2
 Enhydris bocourti – Bocourts Water Snake x 3
 Enhydris enhydris – Rainbow Water Snake 20+
 Enhydris subtaeniata – Mekong Mud Snake 25+

Market Species Stall 2: *Enhydris bocourti* – Bocourts Water Snake x 3
 Homalopsis buccata – Puff-faced Water Snake x 10
 Xenochrophis flavipunctatus– Yellow-spotted Keelback
 Malayems subtrijugi – Malayan snail-eating Turtle x 2

(both sold for 60,000VND)

Hoplobatrachus rugulosus – Chinese Bullfrog (50,000VND)

14th September (Night Search)

No Search – Heavy Rain

15th September (Day Time Search)

Location: Main Canal to Bird Watching Tower + checking all nets and traps

Weather: Clear, Warm, Sunny

Time: 9am – 15:00

Species: *Cosymbotus platyurus* – Flat-tailed Gecko
 Naja kaouthia – Monocellate Cobra (Fish Net 3)
 Polypedates leucomystax – Common Tree Frog

15th September (Night Search)

Location: Same as 11th Sept (evening search) and lakeside cafe to Bat Colony

Weather: Clear, Dry

Time: 19:00 - 22:00

Species: *Polypedates leucomystax* – Common Tree Frog
 Duttaphrynus melonostictus – Asian Common Toad x 3
 Ahaetulla nasuta – Long-nosed Whip Snake x 4
 Dendrelaphis pictus – Common / Painted Bronzeback x 5
 Ptyas korros – Indochinese Rat-snake
 Hylarana erythraea – Green Paddy Frog (Common species in UMTNP)

16th September (Day Time Search)

Location: Local Market and Trade Shop 2 (unless stated)

Weather: Overcast, Dry, Warm

Time: 7am - 9:30

Market Stall 3 Species: *Malayems subtrijugi* – Malay snail-eating Turtle x 3
 Water Snakes x 12 including: *Enhydris bocourti*
 Homalopsis buccata
 Enhydris enhydris
 Enhydris subtaeniata

Trade Shop 2 Species: *Malayems subtrijugi* – Malay snail-eating Turtle x 3
 Water Snakes 40+ including: *Enhydris subtaeniata*
 Homalopsis buccata
 Xenochrophis flavipunctatus– Yellow-spotted Keelback 100+

Private House 3 Species: *Python molorus* – Burmese Python (8kg – male)

Species caught by team: 1 x *Malayems subtrijugi* – Malayan snail-eating Turtle
 1 x *Oligodon taeniatus* – Striped Kukri Snake
 1 x *Eutropis multifasciata* – Many lined Sun Skink
 1 x *Lygosoma quadrupes* – Short-limbed Supple Skink

16th September (Night Search)

No Search – Raining

17th September (Day Time Search)

Location: Local Market and Trade Shop 1 and 2 (unless stated)

Weather: Overcast, Dry, Warm

Time: 7am – 9:30am

Market Species: Nothing new

Trade Shop 1 Species: Sold 3 of the original Burmese Pythons (*Python molorus*) - 13th September.

2 new bags of *Xenopeltis unicolor* (Sunbeam snake -14kg) 40,000VND/kg

Trade Shop 2 Species: Sold all *Xenochrophis flavipunctatus*– Yellow-spotted Keelback

100+ from previous day (16th September)

2 new bags of *Xenochrophis flavipunctatus*– Yellow-spotted Keelback

TRADE PRICE: 50,000VND/kg

RETAIL PRICE: 60,000VND/kg

BAG 1 = 4.5kg

BAG 2 = 2.2kg

Still have 3 x *Malayerns subtrijugi* – Malay snail-eating Turtle

NOTE 5: Survey team put 14 x traps back into UMTNP.

17th September (Night Search)

No Search – Heavy Rain

18th September (Day Time Search)

Location: Vinh Thuan town – 22kms from UNTNP entrance (unless stated)

Weather: Overcast, Dry, Warm

Time: 7am – 12:00pm

Trade Shop 3 Species:

1 x *Xenopeltis unicolor* - Sunbeam snake

Bag of *Enhydris enhydris* – Rainbow Water Snake 20+

2 x *Enhydris bocourti* – Bocourts Water Snake

2 x *Coelognathus radiatus* – Radiated Rat Snake

3 x *Ptyas mucosus* – Common Rat Snake

NOTE 6: Both Species of rat snake were being sold at 180,000VND/kg

Market Stall 4 Species:

4kg of *Enhydris enhydris* – Rainbow Water Snake

1 x *Ptyas korros* – Indochinese Rat-snake

1 x *Xenochrophis flavipunctatus*– Yellow-spotted Keelback

10 x *Hoplobatrachus rugulosus* – Chinese Bullfrog

2 x *Cylindrophis ruffus* – Red-tailed Pipe snake

Market Stall 5 Species:

2.2kg of *Enhydris enhydris* – Rainbow Water Snake

1 x *Enhydris innominata* – Mekong Delta Water

Snake

Roadside Stall 1:

1 x *Coelognathus radiatus* – Radiated Rat Snake (60,000VND)

1 x *Enhydris bocourti* – Bocourts Water Snake

2 x *Xenopeltis unicolor* - Sunbeam snake

Trade Shop 4 Species:

Enhydris enhydris – Rainbow Water Snake 100+

Enhydris innominata – Mekong Delta Water Snake

3 x *Enhydris bocourti* – Bocourts Water Snake

2 x *Homalopsis buccata* – Puff-faced Water Snake

1 x *Amyda cartilaginea* – Asia Soft shelled turtle

NOTE 7: Above Trade Shop informed us that they sold large cobra to a local restaurant for a private function (Species unknown)

Species caught by team: 1 x *Ptyas korros* – Indochinese Rat-snake
1 x *Ptyas mucosus* – Common Rat Snake

18th September (Night Search)

Location: Night Time Spotting along Main Canal

Weather: Clear, Dry

Time: 20:00 - 22:45

Species: 1 x *Duttaphrynus melonostictus* – Asian Common Toad
Hylarana erythraea – Green Paddy Frog (Common species)
2 x *Dendrelaphis pictus* – Common / Painted Bronzeback

19th September (Day Time Search)

Location: UMTNP to An Minh Town – 35km Southwest from Park entrance

Weather: Clear, Dry, Warm

Time: 7:30 – 11:30

Extra Information: Survey team was denied access to Trade Shop 1. Trade Shop location is in town of An Minh over main bridge. This specific trade shop was acting as large furniture distributor; team noticed a small sign advertising the sale of snakes, cobras and turtles. The survey team also photographed and observed a motorbike carrying several species on the back including:

1 x wildfowl (species unknown)
1 x *Ptyas mucosus* – Common Rat Snake

2nd Trade Shop

Species List:

Cage 1: 1 x *Elaphe radiata* – Radiated Rat Snake
6 x *Enhydrys enhydryis* – Rainbow Water Snake
2 x *Xenopeltis unicolor* - Sunbeam snake

Inside Water Tank: 6 x *Enhydrys bocourti* – Bocourts Water Snake

Inside Enclosure: *Homalopsis buccata* – Puff-faced Water Snake 50+
2 x *Malayemys subtrijugi* – Malayan snail-eating Turtle

NOTE 8: 4 x jars of monitor lizard in Trade Shop 2: the owner told us monitor lizards are very rare in the area now and he had owned them for several years. The jars contained 3 x *Varanus nebulosus* – Clouded Monitor Lizard and 1 x *Varanus salvator* – Water Monitor Lizard.

NOTE 9: 7 x jars of various snakes including cobras, kraits, vine snakes and rat snakes.

1 x *Hieremys annandalii* – Yellow-headed Temple Turtle
2 x *Bungarus fasciatus* – Banded Krait (250,000VND/snake)
3 x *Naja kaouthia* – Monocellate Cobra

19th September (Night Search)

No Search – Heavy Rain

20th September (Day Time Search)

Location: Main Canal UMTNP (collection of 14 x traps)

Weather: Clear, Dry And Warm

Time: 9am – 12pm

Species: 1 x *Erpeton tentaculatum* – Tentacled Snake

NOTE 10: No other reptiles were caught in any other nets set from the 17th September – 20th September.

References

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