IS THAT *SNAKE* IN YOUR HOUSE *DANGEROUS?*

Identify Dangerous Thailand Snakes In About 2-Minutes



Malayan Pit Viper - One of Thailand's Most Dangerous Snakes

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1. INTRO

IF YOU NEED TO IDENTIFY A SNAKE NOW, SKIP THIS INTRO AND CLICK HERE.

Hello, I'm Vern Lovic. I am an American expat who has lived in Thailand for the past eleven years. Studying snakes is my hobby, not my profession. I do what I can to share what I learn with others - sometimes for free and sometimes with paid books where I hope to make something back to offset all the effort I've put into the free projects.

If you haven't yet received anything free - by all means go to one of the following resources and learn as much as you care to - for free!

1. <u>ThailandSnakes.com</u> - We profile dozens of snakes, which you might encounter in Thailand and surrounding countries like Burma, Malaysia, Laos, Cambodia, and Singapore.

2. <u>Thailand Snakes at Facebook</u> - We have over 4,000 subscribers to our page and we release more information on a daily basis here than anywhere else - to keep you up to date and interested in Thailand snakes.

3. Free EBook - **Photos of Common Snakes of Thailand**. Click <u>HERE</u> to sign up for our newsletter and download the PDF version. If you want the Mobi or Epub file, just email me after signing up (info@thailandsnakes.com).

The purpose of this book is to help you QUICKLY identify dangerous snakes in Thailand so you can avoid them and not put yourself at risk by trying to remove them from your property. Keep in mind, there are about 220 snake species in Thailand and this book covers ONLY the dangerous snakes with strong venom.

When you find a snake in your house or yard, study it and remember the length, girth, overall color, and any pattern you can see. This will help you identify the snake easily using this book.

The maps are meant to give you an idea about the range the snakes have already been found in. They are not exact, and really there is not a book anywhere in the world with up-to-date maps because the range a snake is found in, changes constantly. Snake enthusiasts here in Thailand find snakes outside their common range quite often. Use the maps as a clue for identification. The title of this book uses the word "dangerous." By this, we mean that a bite from this snake can result in a trip to the emergency room at your local hospital. In some cases, though rare, the snakes in this book can cause fatalities.

Many of Thailand's venomous snakes are sea snakes found only in saltwater. On land there are 35 snakes that present a real danger to people, most of them you will never see. This book covers all of these venomous and dangerous **terrestrial (land-based)** snakes in Thailand. *Note* - we don't cover sea snakes. You can assume that every snake you see in the ocean is venomous and deadly, because most of them are. Don't attempt to touch any of them.

The main goal of this book is to help you to learn quickly which snakes can cause you and your family serious harm. Warnings may seem subjective, and it comes from our attempt to take detailed scientific information and turn it into something the average person with no background in herpetology can understand. We've done our best - but, if you take issue with how anything is worded, do drop us a note so we can hear your argument and possibly update the book to make it better.

Keep in mind that there are a number of variables which go into making a snake "dangerous" or not. Some snakes have very potent venom, a willingness to strike often and without provocation, and are fast enough to bite before you even know what happened (cobras and vipers). Other snakes have very potent venom and don't strike often or fast (kraits, coral snakes, keelbacks). Still other snakes have moderately strong venom but near perfect fangs for injecting venom deep into the body (vipers). Then there are the keelbacks in the *Rhabdophis* genus which have no front fangs for easily injecting venom, little tendency to bite, but very strong toxicity.

Each snake has its own characteristics, which contribute to its level of danger to people.

Live by one rule - Treat every snake with caution!

IMPORTANT NOTE ON COLORATION / MELANIN

Keep in mind, that any species of snake may have a variety of coloration due to the amount of melanin in the skin and scales. This either darkens or makes lighter a snake's colors and pattern. It can cause the snake to be very difficult to identify - even for experts. A few of these conditions are listed below:

• **Albino** snakes have no melanin and have pink or red eyes.

- **Leucistic** snakes have almost no melanin and will be white or very light colored, with dark eyes.
- **Melanistic** snakes have an excess of melanin and they can be dark even black.

WHY IS THERE A SNAKE IN YOUR HOUSE OR YARD?

There are really two primary reasons why a snake would come into your yard or home. Food or rest.

I have had so many questions about how to keep snakes out of yards and homes that I wrote another book on the subject. **"Keeping Snakes Out Of Your Home and Yard!"** This book has many actionable tips you can put into practice at your home to help keep snakes away as much as possible. There is a special section on how to make a snake removal stick too!

You can find it at Amazon.com, Smashwords.com, ThailandSnakes.com, and elsewhere by searching for my name: Vern Lovic. (release date: 5/2016)

OK!

Ready to Identify a Snake?

2. START the ID PROCESS HERE

DID YOU GET A GOOD LOOK AT THE SNAKE?

If "Yes" <u>CLICK HERE</u> and begin scrolling down through all 35 venomous snake fact sheets.

If "No", go to #1 below. If you can answer "Yes" to one of these questions, start looking at the snakes under that question. This narrows down your possibilities greatly.

#1 Was the Snake Close to, or Over 2 Meters (6 ft. 7 inches) in Length?

<u>King Cobra</u> - <u>Banded Krait</u> - <u>Malayan Krait</u> - <u>Red-headed Krait</u> - <u>Monocled Cobra</u> <u>Equatorial Spitting Cobra</u> - <u>Indo-Chinese Spitting Cobra</u>

#2 Was the Snake Thicker than Your Wrist?

<u>King Cobra</u> - <u>Banded Krait</u> - <u>Malayan Pit Viper</u> - <u>Malayan Krait</u> - <u>Red-headed Krait</u> <u>Monocled Cobra</u> - <u>Equatorial Spitting Cobra</u> - <u>Indo-Chinese Spitting Cobra</u> <u>Russel's Viper</u> - <u>Mangrove Pit Viper</u> - <u>Wagler's Pit Viper</u>

#3 Did the Snake have an Obvious Hood (flat neck)?

Monocled Cobra - Equatorial Spitting Cobra - Indo-Chinese Spitting Cobra Red-necked Keelback - King Cobra

#4 Did the Snake have a Green Head and Red Neck?

Red-necked Keelback

#5 Was the Snake Green and Under 1 Meter (3 feet) in Length?

Red-necked Keelback - Green Keelback - All Green Pit Vipers

#6 Did the Snake have a Circle or Oval Pattern on the Back?

<u>Russel's Viper</u> - <u>Monocled Cobra</u> - <u>Equatorial Spitting Cobra</u> <u>Indo-Chinese Spitting Cobra</u>

#7 Did the Snake have a Triangle Pattern on the Body and was it Brown, Tan, Red, or Pink?

Malayan Pit Viper

#8 Did the Snake have Bands (like a belt) Across the Body from Neck to Tail?

Banded Krait - King Cobra - Green Keelback - Wagler's Pit Viper Mangrove Pit Viper

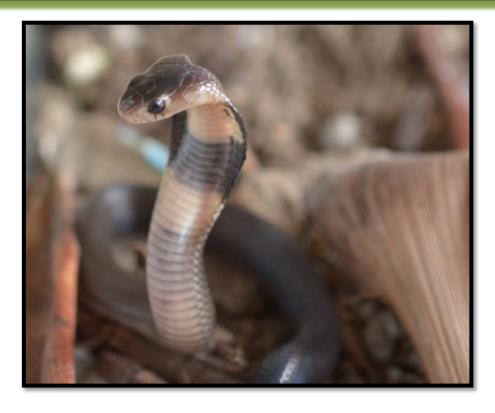
#9 Did the Snake have a Red or Orange Head?

<u>Red-headed Krait</u> - <u>Blue Long-glanded Coral Snake</u> - <u>Green Keelback</u> <u>Small-spotted Coral Snake</u> - <u>Spotted Coral Snake</u> - <u>Malayan Pit Viper</u>

If the snake you saw didn't have any of the characteristics mentioned above, go ahead and look through the photos in the rest of the book to see if you can identify your snake.

3. THAILAND'S VENOMOUS SNAKES COBRAS

Monocled Cobra (Naja kaouthia)







©2016 ThailandSnakes.com. Snakes in Your Yard or Home? Get the book! - <u>ThailandSnakes.com/book3/</u> Monocled cobra bites are very dangerous and a bite can be potentially deadly. These cobras have caused many deaths in Thailand over the years, despite good antivenom. Their venom affects nerves and blocks their ability to send nerve impulses, which can result in death when the diaphragm cannot function.



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very good. Well-developed, though short and efficient fangs in the front of the mouth.

BITE FREQUENCY: Very high.

LENGTH: Up to 2 meters (6 feet 7 inches).



GIRTH: Up to forearm thickness (28 cm or 11 inches circumference).

RANGE: Found all over Thailand.

ACTIVE PERIOD: This snake can be found active during daylight and after dark on the ground.

FREQUENCY FOUND: Found often as they tend to be in residential areas where they eat rodents, toads, frogs, fish, and snakes.

THREAT DISPLAY: Cobras typically flatten their necks, and raise their heads off the ground as shown in the images above. It is a myth that they cannot bite without having hooded first. They strike by thrusting the head forward and down, or nearly horizontal.

These cobras may make a distinctive hissing sound.

This snake bites quickly and with or without provocation. It will bite when cornered or in close proximity. If trapped (cornered) with the only escape route being through your legs, or right beside you, this snake may bite as it passes by - without a hood being shown first. If you step on this snake, it is very likely to bite.

Much more active and easily aggravated as temperatures get warmer than 33° C (91° F).

KEYS TO IDENTIFICATION: 1.) May form a hood with the neck (flattened). 2.) Can hiss by forcing air out of the small space in the mouth. 3.) An eye or monocle shape is usually present on the back of the hood. **SIMILAR VENOMOUS SPECIES:** The next two snakes - <u>Thai Spitting Cobra</u> (*N. siamensis*) and the <u>Equatorial Spitting Cobra</u> (*N. sumatrana*) can look very similar.

VENOM TYPE: Neurotoxic (nerve damaging) and necrotoxic venom causing skin and muscle destruction primarily.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Cobra antivenin from the Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164)

Most large public and private hospitals in Thailand will have this antivenom onhand, or can obtain it quickly.

MONOCLED COBRA IMMEDIATE FIRST AID

<u>Click here</u> for instructions.

If venom from this snake has contacted your eye(s) follow <u>directions</u> <u>here</u>.

Thai Spitting Cobra (Naja siamensis)



©2016 David Frohlich.

Thai spitting cobras are very dangerous and a bite is potentially deadly. These cobras have caused numerous deaths in Thailand over the years. This snake is active at night and preys on rodents. Like the other two cobras in the Naja genus, this snake tends to become very easily aggravated as temperature rises above 33° C (91° F).



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very good. Well-developed, though short fangs, in the front of the mouth. This cobra is also *capable of spraying venom* at attackers in a fine mist. Their accuracy is excellent, and they can hit human eyes from two to three meters away.



BITE FREQUENCY: Very high.

LENGTH: Up to 1.6 meters (5 feet 3 inches).

GIRTH: Up to forearm thickness (28 cm or 11 inches circumference).

RANGE: Across Thailand north, west, and east of Bangkok.

ACTIVE PERIOD: Primarily nocturnal and active on the ground.

FREQUENCY FOUND: Rare.

THREAT DISPLAY: Cobras typically flatten their necks and raise their heads off the ground. They strike by thrusting the head forward and usually down.

This is one of the two spitting cobras in the country. They can easily and repeatedly **spray a fine mist of venom 2 - 3 meters** toward your face - with, or without provocation. The venom is the same that affects you during a bite. If your eyes are sprayed with venom, rinse them constantly for 15-30 minutes. Go to a hospital to have them checked because damage can result - even blindness. This is one reason it is essential to have clean water with you while walking through Thailand's rainforest.

If trapped (cornered) with the only escape route being through your legs, or right beside you, it may bite as it passes by - without a hood being shown first. If you step on this snake, the same behavior can be expected.

These cobras can make a distinctive hissing sound.

KEYS TO IDENTIFICATION: 1.) This snake may have a monocle, U, V, or H shape on the back of the neck (hood). 2.) If the snake hoods and spits, it is likely one of the two spitting cobras.

SIMILAR VENOMOUS SPECIES: <u>Monocled Cobra</u> (*N. kaouthia*) and the <u>Equatorial Spitting Cobra</u> (*N. sumatrana*) can look very similar.

VENOM TYPE: Neurotoxic (nerve damaging) and necrotoxic venom which causes skin and muscle destruction primarily.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: No specific antivenom in Thailand exists for this snake. Hospital staff will treat symptoms. The *Naja kaouthia* specific antivenom is thought to be somewhat effective in treating bites from *Naja siamensis*. Info below.

Cobra antivenin from the Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164)

Most large public and private hospitals in Thailand will have this antivenom onhand, or can obtain it quickly.

THAI SPITTING COBRA IMMEDIATE FIRST AID

<u>Click here</u> for instructions.

If venom from this snake has contacted your eye(s) follow <u>directions</u> <u>here</u>.

Equatorial Spitting Cobra (Naja sumatrana)



©2016 Tom Charlton.

Very dangerous and a bite is potentially deadly. These cobras have caused deaths in Thailand. This snake, like the other two cobras in the *Naja* genus tend to become very easily aggravated as temperature goes above 33° C (91° F). Their venom is necrotic - destroying tissue, and neurotoxic - affecting the ability of the muscles to send nerve impulses.



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very good. Well-developed, though short fangs in the front of the mouth. This cobra is also **capable of spraying venom** at attackers in a fine mist. Their accuracy is excellent, and they can hit your eyes from two to three meters away.

BITE FREQUENCY: Very high.

LENGTH: Up to 1.6 meters (5 feet 3 inches).

GIRTH: Up to forearm thickness (28 cm or 11 inches



circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Mostly active at night on the ground.

FREQUENCY FOUND: Rare.

THREAT DISPLAY: Cobras typically flatten their necks and raise their heads off the ground. They strike by thrusting the head forward and usually down.

This is one of the two spitting cobras in the country. They can easily and repeatedly **spray a fine mist of venom 2 - 3 meters** toward your face - with, or without provocation. The venom is the same that affects you during a bite. If your eyes are sprayed with venom, rinse them constantly for 15-30 minutes. Go to a hospital to have them checked because damage can result - even blindness. This is one reason it is essential to have clean water with you while walking through Thailand's rainforest.

If trapped (cornered) with the only escape route being through your legs, or right beside you, it may bite as it passes by - without a hood being shown first. If you step on this snake, the same behavior can be expected.

These cobras can make a distinctive hissing sound.

KEYS TO IDENTIFICATION: 1.) Occurs in yellow or black phases. 2.) No mark on the back of the neck (hood). 3.) Black form may have yellow bands, spots, or eye shaped marks.

SIMILAR VENOMOUS SPECIES: <u>Monocled Cobra</u> (*N. kaouthia*) and the <u>Siamese Spitting Cobra</u> (*N. siamensis*) can look very similar.

VENOM TYPE: Neurotoxic (nerve damaging) and necrotoxic (causing skin and muscle destruction primarily) venom.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: No specific antivenom in Thailand exists for this snake. Hospital staff will treat symptoms.

EQUATORIAL SPITTING COBRA IMMEDIATE FIRST AID

<u>Click here</u> for instructions.

If venom from this snake has contacted your eye(s) follow <u>directions</u> <u>here</u>.

King Cobra (Ophiophagus hannah)



Adult. ©2016 ThailandSnakes.com.



Juvenile. ©2015 David Frohlich.

King cobras are not commonly seen, but they are very dangerous if you get too close. This is the longest venomous snake in the world. The power of the venom lies not in its potency, though it is quite strong, the combination of venom strength and quantity is enough to kill elephants. King cobra bites are very dangerous and a bite is potentially deadly for humans. The king cobra has caused many deaths in Thailand over the years. Younger king cobras under 3 meters long are exceptionally fast, agile, and unpredictable. Kings appear to be fearless, and will come within a few meters of humans without fear. This snake bites when provoked, cornered, or in close proximity. Like other cobras, the king does not need to show a hood before it can bite.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed, though short fangs in the front of the mouth, and a very large volume of venom.

BITE FREQUENCY: High.

LENGTH: Up to 5.85 meters (19 feet 3 inches).

GIRTH: Up to human thigh thickness (51 cm or 20 inches circumference).

RANGE: Across Thailand.

ACTIVE PERIOD: Active during the day on the ground, and sometimes in the very early evening as they find a tree to rest in for the night.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: King cobras also flatten at the neck and raise their head off the ground in a defensive stance when alarmed. Large kings can raise up more than a meter high. The higher they raise their heads, the more reach they will have as they strike, falling straight forward the same as the other cobras do while striking.

The king cobra is one of the few snakes that can appear to be coming after you when it strikes. This snake does, at times, move its entire body forward as it strikes, and if it misses, it can still be moving forward for a follow-up strike. Kings are really dangerous when they're aggravated because the distance they can cover to reach you is great.

Kings sometimes allow humans to get very close before they become alarmed.

KEYS TO IDENTIFICATION: 1.) Length can be one identifying feature. If the snake is a cobra (hooded) and 3 meters or larger, it is definitely a king cobra. 2.) Variable color - solid black, olive green, or brown, black or brown or yellow or tan or olive green with thin light colored bands. 3.) Juveniles are dark with light chevrons across the entire body and top of head.

VENOM TYPE: Neurotoxic.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions

ANTIVENOM: King Cobra Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

KING COBRA IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

KRAITS

Malayan Krait (Bungarus candidus)



©2016 ThailandSnakes.com.

Malayan Krait bites are exceptionally dangerous, a bite is potentially deadly. This krait has a venom potency in the top 10 of all terrestrial venomous snakes worldwide. This is one you don't want to be bitten by! Their venom is neurotoxic, affecting the nerves. When bitten you may not feel much or any pain at the bite site, but you may still have venom in your system. Sleeping on the ground, a porch, or a room in your home with the door open is not advised because this snake tends to bite people at night who do so.



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

LENGTH: Up to 1.5 meters (4 feet 10 inches).

GIRTH: Up to human forearm thickness (17 cm or 7 inches circumference).

RANGE: All across Thailand.

ACTIVE PERIOD: Active at night on the ground where they are looking primarily for other snakes to eat.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: No real threat display. May hide head under body.

Slow to bite unless very agitated. This snake bites when provoked, handled, cornered, or in close proximity. Bites are not strikes, there is no coiling of the body before a lunging strike. Instead, if the opportunity presents itself, the snake will bite something close to the head.

KEYS TO IDENTIFICATION: 1.) Distinguishing this snake from the Banded Krait is the long tapered tail. 2.) Malayan Kraits have black and white bands instead of the Banded Krait's yellow and black. 3.) Other black and white banded snakes that look similar never get thicker than about one finger in diameter.

SIMILAR VENOMOUS SPECIES: The highly venomous (Danger: 5-skulls) **Many-banded Krait** (*Bungarus multicinctus*) is listed in a number of reputable sources as occurring in Thailand's far North and Northeast. The appearance of this snake is very much like the Malayan Krait shown above, except there are more bands (~ 58 white on the Many-banded krait, and 29 white shown on the Malayan krait above). The white bands are thinner on the many-banded krait.

VENOM TYPE: Neurotoxic.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be slight pain or redness, or none. Bite victim may experience headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Malayan Krait Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

Antivenom for Many-banded Krait: Bivalent Antivenom Elapid, Naja-Bungarus antivenin from the National Institute of Preventative Medicine, Taipei, Taiwan. Phone: Phone: +88 62 2395 9825.

MALAYAN AND MANY-BANDED KRAIT IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Banded Krait (Bungarus fasciatus)



©2016 Tom Charlton.

Banded krait bites are exceptionally dangerous, and potentially deadly. These snakes have caused the death of many villagers in Thailand. People are bitten most often while sleeping on the ground outside, or in a home with open doors or windows. There is a video on YouTube of a snake like this entering an open tent flap. It is a fallacy that these kraits do not bite during daylight.



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth, and a large volume of venom.

BITE FREQUENCY: Low during daylight, higher at night.

LENGTH: Up to 2 meters (6 feet 7 inches).

GIRTH: Up to human forearm thickness (23 cm or 9 inches circumference).



RANGE: Across Thailand.

ACTIVE PERIOD: Active at night on the ground. Apparently cannot see well in bright sun. If found during the day it will hide its head under coils of the body to avoid light.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: Slow to bite unless very agitated. This snake bites when provoked, handled, cornered, or in close proximity. Bites are not strikes, there is no coiling of the body before a lunging strike. Instead, if the opportunity presents itself, the snake will bite something close to the face. This snake bites when provoked, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) The tail is blunted, as if it has been chopped off. It is a natural feature of this snake which no other terrestrial snake in Thailand has. 2.) A high vertebral ridge gives the snake a triangular cross section. 3.) Ventral (underside) shows black and yellow banding.

VENOM TYPE: Neurotoxic. Their venom is neurotoxic, affecting the nerves.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be slight pain or redness, or none. Bite victim may experience headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Banded Krait Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

BANDED KRAIT IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Red-headed Krait (Bungarus flaviceps)





Both images ©2016 ThailandSnakes.com.

Red-headed Krait bites are rare but very dangerous and a bite is potentially deadly. Their venom is not well studied because they are rather difficult to find in any numbers. Though there are few deaths on record attributed to this snake, the reason is its relatively secluded nature.



VENOM POTENCY: Extremely strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: Low.



LENGTH: Up to 1.9 meters (6 feet 3 inches).

GIRTH: Up to human forearm thickness (17 cm or 7 inches circumference).

RANGE: Primarily Southern Thailand, with one record from west of Bangkok.

ACTIVE PERIOD: Active on the ground at night while preying on snakes and other small animals.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake will put its head underneath the body to protect itself if aggravated. This snake is slow to bite unless very agitated. This snake bites when provoked, handled, cornered, or in close proximity. Bites are not strikes, there is no coiling of the body before a lunging strike. Instead, if the opportunity presents itself, the snake will bite something close to the face.

KEYS TO IDENTIFICATION: 1.) Red head and red tail (top and bottom). 2.) Venter (belly) of body is white, excluding head and tail. 3. High vertebral ridge gives this snake a triangular cross-section.

SIMILAR VENOMOUS SPECIES: <u>Blue Long-glanded Coral Snake</u> (*Calliophis bivirgata*). Differences: 1.) Krait has triangular cross-section, the coral snake is more round. 2.) Krait has red under the tail and head, not entire body like the coral snake. 3.) Krait has no white or light blue lateral line, but has white interstitials which are widely spaced toward the belly, almost making it look similar to this coral snake. 4.) Krait head is significantly larger and more differentiated from neck. 5.) Coral snake has a blunted tail about 1/10th of body length. Krait's tail is much longer compared to body length. 6.) Krait is found further north, even just west of Bangkok.

VENOM TYPE: Neurotoxic. This affects the ability of the muscles to send nerve impulses.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be slight pain or redness, or none. Bite victim may experience headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Neuro Polyvalent Antivenin may have some cross-over benefit in neutralizing venom from this krait. This antivenom comes from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Some large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

RED-HEADED KRAIT IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

KEELBACKS

Red-necked Keelback (Rhabdophis subminiatus)



Adult.



Juvenile. Both images ©2012 ThailandSnakes.com.

This little snake is deceiving because it has very strong venom. For years they were kept as pets by many snake enthusiasts. Recently there have been a number of medically significant bites, and envenomation, even leading to death. These snakes have not caused fatalities in Thailand yet, but it is probably just a matter of time.

Recently a 12-year-old boy in Phuket, was hospitalized with bleeding from the ears, mouth, eyes, nose, and ultimately, renal failure, as a result of two extended length (20 and 30 second) bites from this species. Luckily, he survived after 2-weeks in intensive care.



VENOM POTENCY: Extremely strong. On par with the Malayan Krait!

VENOM DELIVERY SYSTEM: Rear-fanged and capable of envenoming only during certain bites. Bites need to be prolonged (10+ seconds), or multiple, in order to get enough venom transferred to cause damage.

BITE FREQUENCY: Low.

LENGTH: Up to 1.3 meters (4 feet), usually less than 1 meter (3 feet 3 inches).

GIRTH: 1-2 fingers thick.

RANGE: All over Thailand.

ACTIVE PERIOD: Active during daylight hours and on the ground, usually near water.

FREQUENCY FOUND: Very often.

THREAT DISPLAY: When threatened this snake will flee immediately, but if caught or there is nowhere to fleet to, it may flatten its neck and look down, arching the back of the neck slightly. They actually have a poison that is secreted through the skin from the nuchal glands. This poison is similar to Bufo toad poison they secrete on their skin.

Most of the snakes of this species tend to be calm and not prone to bite quickly. However, some will bite repeatedly.

KEYS TO IDENTIFICATION: 1.) Green head, red neck, checkered body. 2.) Sometimes flattens neck like a cobra, but does not stretch neck vertical at 90° to the ground. 3.) Juveniles have a dark grey head with yellow stripe around the neck, as image shows.

VENOM TYPE: Nephrotoxic, primarily affects the kidneys, sending victims into kidney failure and causing bleeding from many orifices.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, and bleeding. With severe envenomation there may be bleeding from eyes, ears, nose, mouth, gums, lungs, and other organs and orifices. There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: None available. The hospital will treat symptoms. In the country of Japan they make antivenom for the Tiger Keelback (*Rhabdophis tigrinus*) snake, which can be used to neutralize venom from the Red-necked keelback in Japan. It is not known if this antivenom is effective on Thailand's snakes. Regardless, the antivenom made in Japan is not available to the rest of the world



because it is in very limited quantities. Neither Thailand nor any other country makes antivenom to treat bites from this snake.

If you know someone bitten by this snake, contact me immediately at "info@thailandsnakes.com" because I may be able to access some antivenin from Japan.

Anti-Yamakagashi Antivenom is made by The Japan Snake Institute, Yabusukahonmachi Nittagun, Gunma Prefecture 379-2301, Japan. Phone: +81 277 78 5193.

RED-NECKED KEELBACK IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Green Keelback (Rhabdophis nigrocinctus)



©2016 Elliot Pelling.

This snake is closely related (same genus) to the previous snake, the Red-necked Keelback (*Rhabdophis subminiatus*). We have to assume this snake is also potentially capable of inflicting medically significant bites. This snake must be treated very cautiously, just to be safe.

DANGER: Unknown. Possibly 5-skulls.

VENOM POTENCY: Unknown. Possibly extremely strong because it is related to the Red-necked keelback, which shares the same genus.

VENOM DELIVERY SYSTEM: Not well-developed rearfangs. It would be difficult for this snake to envenomate, but possible.

BITE FREQUENCY: Low.

LENGTH: Up to 1 meter (39 inches).

GIRTH: 1-2 fingers thick.

RANGE: Most of Thailand down to Phuket and Surat as a border.



ACTIVE PERIOD: Active during daylight on the ground and usually close to freshwater.

FREQUENCY FOUND: Relatively rare.

THREAT DISPLAY: This snake strikes after curling the neck into an S-shape.

Usually calm and not prone to bite quickly, however there are some specimens which will bite repeatedly.

KEYS TO IDENTIFICATION: 1.) Dark grey head with pink or red tint. 2.) Two black lines from eye to rear jaw. 3.) Green or dark green body with thin black or grey bands.

VENOM TYPE: Possibly similar to the Red-necked Keelback (*Rhabdophis subminiatus*) - nephrotoxic, attacking the kidneys.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, and bleeding. With severe envenomation there may be bleeding from eyes, ears, nose, mouth, gums, lungs, and other organs and orifices. There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: None available. The hospital would treat symptoms.

GREEN KEELBACK IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Speckle-bellied Keelback (Rhabdophis chrysargos)



©2016 ThailandSnakes.com.

This snake also shares a genus (*Rhabdophis*) with a snake that is known to be capable of inflicting medically significant, potentially fatal bites. Caution is indicated, yet it is not known if a bite from this snake can cause a serious medical emergency.

DANGER: Unknown. Possibly 5-skulls.

VENOM POTENCY: Unknown. Possibly extremely strong because it is related to the Red-necked keelback, which shares the same genus.

VENOM DELIVERY SYSTEM: Not very well-developed rear fangs. It would be difficult for this snake to envenomate during a bite, but possible.

BITE FREQUENCY: Low.

LENGTH: Up to 80 cm (30 inches).

GIRTH: 1-2 fingers thick.

RANGE: All over Thailand.

ACTIVE PERIOD: Active during daylight on the ground and not usually far from water.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: No real threat display. Usually calm and not a frequently biting snake, but use caution. This snake strikes after curling the neck into a loose or tight S-shape.



KEYS TO IDENTIFICATION: 1.) Crimson colored head. 2.) White or yellow band around the neck. 3.) Green neck and darker body.

VENOM TYPE: Possibly similar to the Red-necked Keelback (*Rhabdophis subminiatus*) - nephrotoxic venom which attacks the kidneys.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, and bleeding. With severe envenomation there may be bleeding from eyes, ears, nose, mouth, gums, lungs, and other organs and orifices. There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: None. Medical personnel will treat symptoms.

SPECKLE-BELLIED KEELBACK IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Blue-necked Keelback (Macrophistodon rhodomelas)



©2016 Kelvin Lim.

There is an account by a researcher collecting this species in Singapore, and being bitten and envenomated with some rather serious effects after handling it carelessly. He experienced massive headache, dizziness, collapsing, difficulty breathing, and slurring of words. These snakes are said to have rather Well developed rear-fangs for a colubrid snake. This snake, and all others in the *Macrophistodon* genus should be treated with caution. It is not known whether this snake can cause death or significant envenomation.

DANGER: Unknown. Possibly 5-skulls.

VENOM POTENCY: Unknown, possibly very strong.

VENOM DELIVERY SYSTEM: Well developed rear fangs could possibly inject a significant volume of venom if the snake is allowed to bite down for a number of seconds.



BITE FREQUENCY: Moderate.

LENGTH: Up to .5 meters (20 inches).

GIRTH: 1-2 fingers thick.

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RANGE: Southern Thailand.

ACTIVE PERIOD: Active during day or night on the ground or in freshwater.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: Usually calm and not prone to bite quickly, however there are some specimens which will bite repeatedly.

KEYS TO IDENTIFICATION: 1.) Orange body and head. 2.) Brown stripe running along vertebral ridge. 3.) White or light blue tint around neck.

SIMILAR VENOMOUS SPECIES: Caution is advised for this snake and one other Thailand snake in the same genus - the **Red-Headed Keelback** (*Macrophistodon flaviceps*). Very rare, no photo found.

VENOM TYPE: Unknown.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain and swelling. There may also be headache, dizziness, unconsciousness or other symptoms.

ANTIVENOM: None. Hospital staff will treat symptoms.

BLUE-NECKED AND RED-HEADED KEELBACK IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

VIPERS

Malayan Pit Viper *(Calloselasma rhodostoma)*



Adult.



Juvenile with white-tipped tail. Both images ©2016 ThailandSnakes.com.

This pit viper has very strong venom which is capable of destroying any tissue in the human body that it comes in contact with including skin, blood, blood vessels, tendons, muscle, and even bone. Many deaths on record as a result of bites from this snake. Deaths usually occur because victims delay visiting a hospital after being bitten.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth. Longest fangs of any snake in Thailand.

BITE FREQUENCY: Very high.

LENGTH: Up to 1 meter (39 inches).

GIRTH: Up to human forearm thickness (20 cm or 8 inches circumference).

RANGE: Across Thailand, absent right around Bangkok.

ACTIVE PERIOD: Active at night on the ground, sometimes moving, but more often found coiled up and waiting to ambush rodents. During daytime they coil under greenery or in high grass. Farm workers are often bitten during daylight.

FREQUENCY FOUND: Very often.

THREAT DISPLAY: When threatened this snake will cock the neck back into an S-shape and strike in any direction. It can strike forward, up, right, left, and backward very fast. Do NOT get any part of your body too close to this snake. Very quick to bite. This snake bites when provoked, handled, cornered, or in close proximity. This viper can strike backwards and in the air vertically, as well as horizontally like most snakes. Extreme caution is advised.

KEYS TO IDENTIFICATION: 1.) Color can tend toward light brown, dark brown, red, orange, or pink. 2.) Very triangular shaped head. 3.) Triangle pattern on each side of top of back are isosceles triangles which point toward the vertebral ridge (backbone). 4.) Just hatched young have the white tail tip as shown in the top image.



VENOM TYPE: Primarily necrotoxic. The venom can destroy all bodily tissue, including bone. One telltale sign of a bite from this snake which contains venom is that it burns intensely at the bite site.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be bleeding from eyes, ears, nose, mouth, and other orifices. There may be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Malayan Pit Viper Antivenin and Hemato Polyvalent Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

MALAYAN PIT VIPER IMMEDIATE FIRST AID

Russel's Viper (Daboia siamensis)



©2016 Tom Charlton.

Bites are potentially deadly. This snake has caused fatalities in Thailand and is likely responsible for more deaths worldwide than any other. Very long fangs, a large strong head and neck and ample potent venom compounds the danger of this snake.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed and large fangs in the front of the mouth, as well as a large volume of venom.

BITE FREQUENCY: Very high.

LENGTH: Up to 1.5 meters (59 inches).



GIRTH: Up to human calve thickness (28 cm or 11 inches circumference).

RANGE: Found in all Central Thailand provinces around Bangkok.

ACTIVE PERIOD: Crepuscular (active at dawn and dusk) as well as nocturnal. During daylight they coil under greenery or in high grass. Farm workers are often bitten.

FREQUENCY FOUND: Rare.

THREAT DISPLAY AND BEHAVIOR: Very quick to bite. This snake bites when provoked, handled, cornered, or in close proximity. This snake may hiss loudly when aggravated.

KEYS TO IDENTIFICATION: 1.) Color can tend toward light brown, dark brown, red, orange, or pink. 2.) Very triangular head, but the neck is not thin as with the green pit vipers or Malayan Pit Viper. 3.) Large dark ovals with white outline on top of vertebral column (spine), with smaller ovals on the sides. Juveniles are often confused with the White-spotted Cat Snake (Boiga drapiezii), a harmless species.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue, with coagulopathy and haemorrhagins causing bleeding being a major clinical effect. High chance of renal failure.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions. Renal failure is a major threat.

ANTIVENOM: Russell's (Russel's) Viper Antivenin and Hemato Polyvalent Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Central Thailand where this snake is located, will have this antivenom on-hand, or can obtain it quickly.

RUSSEL'S VIPER IMMEDIATE FIRST AID

White-lipped Green Pit Viper (Trimeresurus albolabris)



Male. ©2015 David Frohlich.



Female. ©2015 Andreas Gumprecht.

This snake is quick to bite and the venom is strong enough to cause fatalities in some severe cases.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed and long fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 87 cm (34 inches).

GIRTH: Up to 3 human fingers thickness (18 cm or 7 inches circumference).

RANGE: All across Thailand.



ACTIVE PERIOD: Active during night on the ground or in bushes or small trees.

FREQUENCY FOUND: Somewhat rare.

THREAT DISPLAY: Very quick to bite. This snake bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots spaced intermittently. 2.) Very thin neck leading to head at least four times the width.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin and from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

WHITE-LIPPED PIT VIPER IMMEDIATE FIRST AID

Wagler's Pit Viper (Tropidolaemus wagleri)



Smaller male on top of female. ©2015 Andreas Gumprecht.



Yellow female. ©2016 ThailandSnakes.com.

Bites are potentially deadly. More likely is necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 1 meter (39 inches).

GIRTH: Up to human forearm thickness 25.5 cm (10 inches) circumference.

RANGE: Southern Thailand.

ACTIVE PERIOD: Crepuscular and active at night on the forest floor or vines, bushes or small trees.

FREQUENCY FOUND: Rare, but rather common on the island of Phuket.

THREAT DISPLAY: This snake curls the neck into an S-shape before striking, and may open its mouth to show the bright white inside and long fangs. It is capable of striking in all directions and is very quick to bite. This snake bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Top two images are female. There is great variety in color including blends of yellow, green, and black. 2.) Very triangular head with thin neck (male and female). 3.) Males (third photo down) are smaller, much thinner, and look like a different species entirely.

SIMILAR VENOMOUS SPECIES: The male of this species resembles the other green pit vipers and is difficult to tell apart.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Some large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

WAGLER'S PIT VIPER IMMEDIATE FIRST AID

Do NOT wrap bites from this snake. <u>Click here</u> for more complete instructions.

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Pope's Pit Viper (Popeia popieorum)



©2015 Tom Charlton.

Pope's Pit Viper can cause medically significant bites. Bites are potentially deadly, but no bites known to have caused fatalities. Envenomation will likely cause necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Moderate.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

LENGTH: Up to 84 cm (33 inches).

GIRTH: Up to human wrist thickness (20 cm or 8 inches circumference).

RANGE: Northern and Southern Thailand.



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ACTIVE PERIOD: Active at night on the forest floor or on small bushes.

FREQUENCY FOUND: Very rare.

KEYS TO IDENTIFICATION: 1.) Green top of of body with light or pronounced blotches of orange intermittently on the vertebral column. 2.) White stripe running down each side near the ventral (underside). This white stripe can sometimes have a dark orange or red stripe below it.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

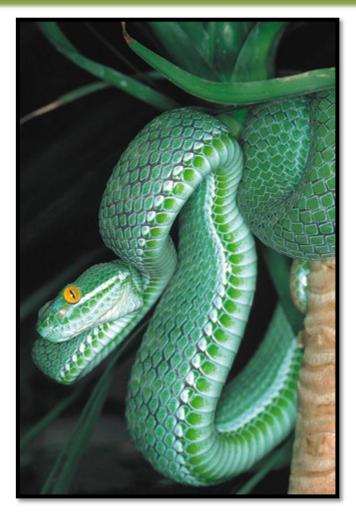
VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in North and Northeastern Thailand will have this antivenom on-hand, or can obtain it quickly.

POPE'S PIT VIPER IMMEDIATE FIRST AID

Big-eyed Pit Viper (Trimeresurus macrops)



Male.



Female. Both images - ©2015 Andreas Gumprecht.

No fatalities known yet as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

LENGTH: Up to 70 cm (28 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Northeastern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY AND BEHAVIOR: This snake, like all vipers, bends its neck into an S-shape before striking. It bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered resembling bands. 2.) Very thin neck leading to head at least 3 times the width.

SIMILAR VENOMOUS SPECIES: Cardamom Mountains Pit Viper

(*Trimeresurus cardamomensis*). This snake occurs only on some islands off the coast where Thailand borders Cambodia - and is part of the Cardamom Mountain range. Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.



ANTIVENOM: King Cobra Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

BIG-EYED PIT VIPER AND CARDAMOM MOUNTAINS PIT VIPER IMMEDIATE FIRST AID

Brown-spotted Pit Viper (Trimeresurus venustus)



Both images ©2016 ThailandSnakes.com.

No fatalities known yet as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed but small fangs in the front of the mouth.

LENGTH: Up to 70 cm (28 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake, like all vipers, bends the neck into an S-shape and bites when provoked, handled, cornered, or in close proximity. This is one viper that is not very likely to bite often.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered resembling bands. 2.) Very thin neck leading to head at least 3 times the width.

SIMILAR VENOMOUS SPECIES: *Trimeresurus phuketensis*, the **Phuket Pit-Viper** looks similar, but it is only found on the island of Phuket.

The **Kanchanaburi Pit Viper** (*Trimeresurus kanburiensis*) looks very similar in pattern and size, but has more of a brown tint, and cream colored venter (belly) vs. the green colored venter of this snake. The Kanchanaburi Pit Viper is found only in the province of the same name. The venom has not been studied. Assume the potential for deadly bites.





Male.



Female. Both images ©2016 Andreas Gumprecht.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases. **ANTIVENOM:** Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

BROWN-SPOTTED, KANCHANABURI, AND PHUKET PIT VIPER IMMEDIATE FIRST AID

Mangrove Pit Viper (Trimeresurus purpureomaculatus)



^{©2016} ThailandSnakes.com.

Bites from the Mangrove Pit Viper can be dangerous, though probably not deadly. No fatalities known to have occurred as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 70 cm (28 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).



RANGE: Southern Thailand.

ACTIVE PERIOD: Active during day or night in mangroves. Rests on mangrove tree roots during high tide.

FREQUENCY FOUND: Rare, except along the coast. Very rare to find one in or near a home.

THREAT DISPLAY AND BEHAVIOR: Very quick to bite. This snake bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) This viper is colored and patterned significantly different from the other vipers in Thailand. 2.) Found only on both coasts in Southern Thailand from Chaiya province and South.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

MANGROVE PIT VIPER IMMEDIATE FIRST AID

Gumprecht's Green Pit Viper *(Viridovipera gumprechti)*



Male.



Female on male. Both images ©2015 Andreas Gumprecht.

No fatalities known as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Moderate.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 70 cm (28 inches).



GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY AND BEHAVIOR: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered. 2.) Very thin neck leading to head at least four times the width.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most

large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

GUMPRECHT'S GREEN PIT VIPER IMMEDIATE FIRST AID

Hagen's Green Pit Viper (Parias hageni)



Male.



Female. Both images ©2015 Andreas Gumprecht.

No fatalities known as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Very Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 70 cm (28 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered. 2.) Very thin neck leading to head at least four times the width.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Renal damage and shock can occur in severe cases.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.



HAGEN'S GREEN PIT VIPER IMMEDIATE FIRST AID

Phuket Pit Viper (Trimeresurus phuketensis)



Male. ©2013 Rob Valentic.



Female. ©2016 Andreas Gumprecht.

This snake can only be found in one section of Phuket Island, so unless you are there, you have little chance of meeting this snake. The venom potency is estimated. The venom has not been studied well because this is a recently discovered species. It is likely similar to other green pit vipers.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 61 cm (24 inches).



GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Southern Thailand, only on the island of Phuket.

ACTIVE PERIOD: Active at night foraging on vegetation or on the forest floor. Sleeps during day in vines, bushes, or dried twigs.

FREQUENCY FOUND: Very rare and in just one small location.

THREAT DISPLAY: Coils to strike. This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered, more like bands in the male, and clustered at the top for females. 2.) Females have a bi-colored stripe from back of eye to neck. 3.) Very thin neck leading to head approximately 4 times the width. To date found only at Khao Phra Thaeo Sanctuary on the Island of Phuket.

SIMILAR VENOMOUS SPECIES: The <u>Siamese Peninsula Pit Viper</u>, and the <u>Brown-spotted Pit Viper</u> look similar to this species, but this snake is limited only to the island of Phuket.

VENOM TYPE: Unknown, but likely similar to other green pit viper venom - Necrotoxic, destroying skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

PHUKET GREEN PIT VIPER IMMEDIATE FIRST AID

Vogel's Green Pit Viper (Viridovipera vogeli)



Female top, male below. ©2016 Andreas Gumprecht.

No fatalities known as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 130 cm (51 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Northeast Thailand.

ACTIVE PERIOD: Active at night on bushes or the forest floor and sleeps by day in bushes or small trees.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Green body with brown spots intermittently scattered. 2.) Very thin neck leading to head at least four times the width.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

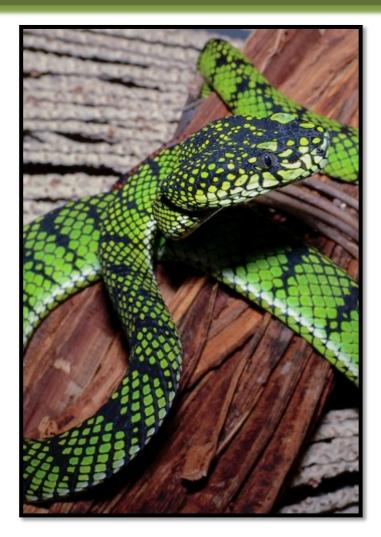
SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally. Related species can cause renal damage.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

VOGEL'S GREEN PIT VIPER IMMEDIATE FIRST AID



Sumatran Pit Viper *(Parias sumatranus)*





Both images ©2016 Andreas Gumprecht.

Snakes in Your Yard or Home? Get the book! - <u>ThailandSnakes.com/book3/</u>

No fatalities known as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth, and a large volume of venom.

BITE FREQUENCY: High.

LENGTH: Up to 1.6 meters (5 feet 3 inches).



GIRTH: Up to 3 human fingers thickness (20 cm or 5 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity. This viper can grow to lengths greater than other green vipers, more caution should be exercised because of their greater reach during striking.

KEYS TO IDENTIFICATION: 1.) Green body with obvious black bands. 2.) Thailand's longest viper - adults are nearly twice as long as other vipers.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

SUMATRAN PIT VIPER IMMEDIATE FIRST AID

Do NOT wrap bites from this snake. <u>Click here</u> for more complete instructions.

Siamese Peninsula Pit Viper (Popeia fucatus)



Female.

No fatalities known as a result of bites from this snake, but the possibility exists. There will likely be some necrosis of tissue at the bite site and other blood related complications.



VENOM POTENCY: Strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth, and a large volume of venom.

BITE FREQUENCY: High.

LENGTH: Up to 87 cm (34 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active at night on the forest floor and sleeps by day in bushes.



FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Eyes are yellow. 2.) Venter is yellow or greenish.

SIMILAR VENOMOUS SPECIES: Most of the green pit vipers look very similar and have similar patterns, behavior, and venom potency. It is very difficult to identify a species accurately.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. Moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

SIAMESE PENINSULA PIT VIPER IMMEDIATE FIRST AID

Do NOT wrap bites from this snake. <u>Click here</u> for more complete instructions.

Mountain Pit Viper (Ovophis m. convictus)



©2012 Stewart King.

Bites from this rarely encountered snake have caused fatalities.



VENOM POTENCY: Very strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 125 cm (49 inches).

GIRTH: Up to human wrist thickness (18 cm or 7 inches circumference).

RANGE: Northern Thailand primarily, with one record in Phang Nga province.

ACTIVE PERIOD: Active day or night on the forest floor and sleeps by day in bushes.

FREQUENCY FOUND: Very rare.



THREAT DISPLAY: This snake, like all vipers, bites when provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Short and thick appearance. 2.) Very triangular head. 3.) Color can be light like the image above, or darker brown.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Local pain, swelling, bruising & blistering. Probably not any necrosis (tissue destruction) around bite site. Headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness or convulsions are possible. No reports with this species, but related species can cause moderate to severe coagulopathy and hemorrhage, causing significant bleeding internally.

ANTIVENOM: Green Pit Viper Antivenin from Queen Saovabha Memorial Institute, Bangkok, Thailand. Phone: +66 2 252 0161 (0162, 0163, 0164). Most large public and private hospitals in Thailand will have this antivenom on-hand, or can obtain it quickly.

MOUNTAIN PIT VIPER IMMEDIATE FIRST AID

Do NOT wrap bites from this snake. <u>Click here</u> for more complete instructions.

Wirot's Pit Viper (Craspedocephalus wiroti)



©2015 Chan Kin Onn.

This snake is very rarely encountered in Thailand and is only present in the far south. The possibility exists for any viper to inflict a severe bite. This snake has not been well studied due to extremely low occurrence in Thailand over the past 100 years.



VENOM POTENCY: Unknown, possibly extremely strong.

VENOM DELIVERY SYSTEM: Very well-developed fangs in the front of the mouth.

BITE FREQUENCY: High.

LENGTH: Up to 90 cm (35 inches).

GIRTH: Up to 4 human fingers thickness (26 cm or 10 inches circumference).

RANGE: Deep Southern Thailand from Nakhon Si Thammarat, and further south.

ACTIVE PERIOD: Active at night.



FREQUENCY FOUND: Very rare, some say this snake is not to be found in Thailand any longer. The photo shown here is of a snake found in Malaysia.

THREAT DISPLAY: This snake, like all vipers, coils the neck in an S-shape and strikes when fearful, provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Dark grey-brown body with even darker irregular blotches. 2.) Raised snout when viewed from side.

VENOM TYPE: Necrotoxic - destroys skin and muscle tissue.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions

ANTIVENOM: None.

WIROT'S PIT VIPER IMMEDIATE FIRST AID

Do NOT wrap bites from this snake. <u>Click here</u> for more complete instructions.

CORAL SNAKES

Small-spotted Coral Snake (Calliophis maculiceps)





Both images ©2016 ThailandSnakes.com.

Thailand's Coral snakes are not built for envenoming humans, and yet the risk exists for a fatal bite. The venom is neurotoxic, affecting the ability of the nerves to function properly. Very few bite cases known. Severe provocation is usually necessary to cause a bite. Still, you wouldn't want to pick it up in your bare hand.



VENOM POTENCY: Unknown. Treat bites as very serious.

VENOM DELIVERY SYSTEM: Well developed small fangs in the top front of the jaw.

BITE FREQUENCY: Low.

LENGTH: Up to 35 cm (14 inches).

GIRTH: Up to pinky finger thickness (2.5 - 5 cm or 1 - 2 inches circumference).

RANGE: Southern Thailand.

ACTIVE PERIOD: Active day or night in loose dirt, under or on top of leaf litter.

FREQUENCY FOUND: Somewhat rare. Can be found in garden soil and potted plants.

THREAT DISPLAY: This coral snake may curl up the tail to show bright pink tip and black spotted white pattern. Occasionally it may flip over entirely, showing the ventral (belly) side up. Coral snakes don't coil and strike like most snakes, they just reach and bite whatever is close to the head. This snake will bite provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Brown, dark pink or dark reddish body with two black spots on top of the tail. Other black spots on the top of the body may not be as noticeable as in the photo above. 2.) Extremely thin, less than one adult human pinky finger in thickness. 3.) Venter (belly) is bright pink or orange. 4.) Tip of underside of tail is white with black spots. This is raised in defense.

SIMILAR VENOMOUS SPECIES: Spotted Coral Snake (*Calliophis gracilis*) grey to brownish-grey body color. A black stripe runs the length of the vertebral column from head to tail. There are numerous black spots across the top of the body. Venter (belly) is black with white bars. Underside of tail is pink or orange. Occurs only in Thailand's deep South - Pattani province.

VENOM TYPE: Neurotoxic - affecting nerve connections, and possibly myolysis.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be minor local pain and swelling. There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Polyvalent Anti Snake Venom Serum from the Central Research Institute, Kasauli (H.P.) 173204. India. Phone: +91 1 792 72114



SMALL-SPOTTED CORAL SNAKE IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Blue Long-glanded Coral Snake (Calliophis bivirgata)



©2016 Tom Charlton.

Thailand's Coral snakes are not built for envenoming humans, and yet the risk exists for a fatal bite. The venom is neurotoxic, affecting the ability of the nerves to function properly. Very few bite cases known. Severe provocation is usually necessary to cause a bite. Still, you wouldn't want to pick it up in your bare hand.



VENOM POTENCY: Unknown. Treat bites as very serious.

VENOM DELIVERY SYSTEM: Well developed small fangs in the top front of the jaw.

BITE FREQUENCY: Low.

LENGTH: Up to 1.8 meters (5 feet 11 inches).

GIRTH: Up to 2 human fingers thickness (13 cm or 5 inches circumference).

RANGE: Deep Southern Thailand.

ACTIVE PERIOD: Active during day or night on the forest floor especially under or on top of leaf-litter.

FREQUENCY FOUND: Very rare.



THREAT DISPLAY: This coral snake may hide its head under the body, or curl up the tail to show a bright pink color. Occasionally it may flip over entirely, showing the ventral (belly) side up. Coral snakes don't coil and strike like most snakes, they just reach and bite whatever is close to the head. This snake will bite provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Red head (top and bottom) and red tip of tail (top and bottom) 2.) Bright red or pink venter (belly). 3.) White or light blue lateral line on each side from neck to tail near venter. 4.) Sudden jerky movements are common. 5.) If severely agitated it may roll over and show the bright red venter.

SIMILAR VENOMOUS SPECIES: <u>Red-headed Krait</u>. Differences between the two snakes: 1.) Krait has triangular cross-section, the coral snake is more round. 2.) Krait has red under the tail and head, not entire body like the coral. 3.) Krait has no white or light blue lateral lines except in juveniles, but has white interstitials which are widely spaced toward the belly, almost making it look similar to this coral snake. 4.) Krait head is significantly larger and more differentiated from neck. 5.) Coral snake has a blunted tail about 1/10th of body length. Krait's tail is much longer compared to body length. 6.) Krait has a larger range including from Bangkok and southward.

VENOM TYPE: Neurotoxic - affecting nerve connections, and possibly myolysis.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be minor local pain and swelling. There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: None.

BLUE LONG-GLANDED CORAL SNAKE IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

Brown Long-glanded Coral Snake (Calliophis intestinalis)



©2010 Gijs Damen.

This thin snake is rarely seen, but because it is a coral snake it has the potential to inflict potentially deadly bites. The venom is neurotoxic, affecting the nerves. Very few bite cases known. Severe provocation is usually necessary to cause a bite. Still, you wouldn't want to pick it up in your bare hand.



VENOM POTENCY: Unknown. Treat bites as very serious.

VENOM DELIVERY SYSTEM: Well developed small fangs in the top front of the jaw.

BITE FREQUENCY: Low.

LENGTH: Up to 58 cm (23 inches).

GIRTH: Up to 1 human finger thickness (8 cm or 2.5 inches circumference).



RANGE: Southern Thailand from Krabi and Surat Thani southward.

ACTIVE PERIOD: Active during day or night on the forest floor especially under or on top of leaf-litter.

FREQUENCY FOUND: Very rare.

THREAT DISPLAY: This coral snake may curl up the tail to show a bright pink colored tip. Occasionally it may flip over entirely, showing the ventral (belly) side up and rows of interesting black and white blocked ventral scales. Coral snakes don't coil and strike like most snakes, they just reach and bite whatever is close to the head. This snake will bite provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Multiple stripes down back including brown and black. 2.) Orange or red stripe on vertebral column from neck to tail. 3.) Very small tail with bright pink on bottom. 4.) Very small head indistinguishable from neck.

VENOM TYPE: Neurotoxic - destroying nerve connections.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be little pain, swelling or discoloration (redness). There may be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: None.

BROWN LONG-GLANDED CORAL SNAKE IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete

McClelland's Coral Snake (Sinomicrurus macclellandi)



©2009 Hans Breuer.

This snake has caused at least one fatality. Thailand's Coral snakes are not built for envenoming humans, and the risk exists for a fatal bite. The venom is neurotoxic, affecting the ability of the nerves to function properly. Very few bite cases known. Severe provocation is usually necessary to cause a bite. Still, you wouldn't want to pick it up in your bare hand.



VENOM POTENCY: Unknown. Treat all bites as very serious, as a fatality has occurred.

VENOM DELIVERY SYSTEM: Well developed small fangs in the top front of the jaw.

BITE FREQUENCY: Low.

LENGTH: Up to 1 meter (39 inches)

GIRTH: Up to 1 human finger thickness (5 cm or 2 inches circumference)

RANGE: Sporadic records in Thailand's far North.

ACTIVE PERIOD: Active at night on the ground.

FREQUENCY FOUND: Extremely rare.





THREAT DISPLAY: This coral snake may curl up the tail when threatened. Coral snakes don't coil and strike like most snakes, they just reach and bite whatever is close to the head. This snake will bite provoked, handled, cornered, or in close proximity.

KEYS TO IDENTIFICATION: 1.) Black head with a white band. 2.) Brown or pinkish red body with thin black bands. 3.) Cylindrical shaped body cross-section. 4.) Very short tail. 5.) May raise tail when threatened - like other coral snakes.

VENOM TYPE: Neurotoxic - destroying nerve connections.

SYMPTOMS OF ENVENOMATION: Around the bite site there may be pain, swelling, bruising, blistering, moderate to severe necrosis (tissue destruction). There may also be headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, unconsciousness, or convulsions.

ANTIVENOM: Polyvalent Anti Snake Venom Serum from the Central Research Institute, Kasauli (H.P.) 173204. India. Phone: +91 1 792 72114

MCCLELLAND'S CORAL SNAKE IMMEDIATE FIRST AID

Wrap bites from this snake immediately. <u>Click here</u> for more complete instructions.

BASIC SNAKEBITE FIRST AID

KRAIT, KEELBACK, KING COBRA, and CORAL SNAKE FIRST AID

Initial First Aid Before Arriving At Hospital

1. Remove bite victim from area snake is located, to prevent further bites.

2. Have victim lie down, and stay still. Reassure the person that many bites are dry and don't contain any venom. All snake venom takes time to act, and it may be hours or days before there are severe symptoms.

3. Call emergency medical personnel to have them pick up the victim and transport to a major hospital. Or, if you can do it safely yourself, take the victim to the hospital in a vehicle immediately.

4. Reassure bite victim that all bites can be treated.

5. AVOID:

- touching the wound
- wiping it
- cutting it open
- sucking wound with mouth
- cauterization
- excision
- tourniquet
- amputation
- vacuum pump or syringe
- injection or instillation of ANYTHING
- electric shock
- ice
- herbal, folk remedies of any kind
- tattooing

6. Remove all rings and jewelry from a bitten limb. Severe swelling may occur.

7. **Wrap the bitten limb with an elastic bandage**, or any strips of cloth about 2-inches wide. Start at the outer limit of the limb (foot, hand) and wrap up the limb toward the heart. Wrap right over top of the bite site and continue as high up the limb as possible. If bitten on the leg or foot, wrap to the groin. If bitten on

the arm or hand, wrap to the armpit. The wrap should be snug, and yet you should be able to put a finger under it easily.

This wrap will keep most of the venom trapped in the limb. Do NOT remove it once it is in place. It can be unwrapped by the doctor or nurses once at the hospital.

8. Keep the limb as immobile as possible using a splint or sling. Remember, stability is crucial, every muscle contraction sends the venom further on its path through the body.

9. If problems develop with airway, circulation, or heart function - you must treat these with priority.

10. Absolutely no alcohol. No aspirin or any sedatives or other drugs.

11. Give water only.

12. Do not attempt to kill the snake, but if the offending snake has already been killed, bring it with the victim to the hospital for identification. A lifeless looking snake can still bite and envenomate - be very careful. If not taking the dead snake to the hospital, get photos of the head and body if possible.

13. Transport of the snakebite victim should be as quick as possible to the nearest large hospital. The bigger hospitals will have all the necessary equipment and probably antivenom on hand to treat the snakebite victim.

MONOCLED, SIAMESE SPITTING, and EQUATORIAL SPITTING COBRAS FIRST AID

Initial First Aid Before Arriving At Hospital

1. Remove bite victim from area snake is located, to prevent further bites.

2. Have victim lie down, and stay still. Reassure the person that many bites are dry and don't contain any venom. All snake venom takes time to act, and it may be hours or days before there are severe symptoms.

3. Call emergency medical personnel to have them pick up the victim and transport to a major hospital. Or, if you can do it safely yourself, take the victim to the hospital in a vehicle immediately.

4. Reassure the victim, all bites can be treated.

5a. If an **ADULT** was bitten and CAN BE TRANSPORTED TO A MAJOR HOSPITAL WITHIN 10 MINUTES OF THE BITE - DO NOT WRAP THE BITE SITE with anything - do not bandage at all, nothing should be touching the bite site.

5b. If an **ADULT** was bitten, and CANNOT BE TRANSPORTED TO A MAJOR HOSPITAL WITHIN 10 MINUTES OF THE BITE, then DO QUICKLY WRAP THE BITE SITE AND ENTIRE LIMB with a compression bandage starting at the extremity (foot / hand) and moving up the limb. The compression bandage should be snug, but a finger must be able to be placed underneath without too much effort.

5c. If a **CHILD** is bitten, the BITE MUST BE WRAPPED QUICKLY as explained above in 5b., and explained more in detail by clicking HERE.

5d. Just a reminder - If an adult or child is bitten by any of the pit vipers - DO NOT wrap the bite.

NOTE: In a short time - 10-20 minutes, a bite by one of these cobras can lead to respiratory arrest, and the risk of increased necrosis caused by wrapping, is certainly warranted in order to keep the person breathing until reaching a hospital.

If you are in a remote location and cannot reach a hospital quickly, wrap all bites by all cobras, kraits, coral snakes, and keelbacks. Never wrap viper bites.

6. ALSO AVOID:

- touching the wound
- wiping
- cutting it open
- sucking wound with mouth

- cauterization
- excision
- tourniquet
- amputation
- vacuum pump or syringe
- injection or instillation of ANYTHING
- electric shock
- ice
- herbal, folk remedies of any kind
- tattooing

7. Remove all rings and jewelry from a bitten limb. Severe swelling may occur.

8. Keep the limb as immobile as possible using a splint or sling. Remember, stability is crucial, every muscle contraction sends the venom further on its path through the body.

9. If problems develop with airway, circulation, or heart function - you must treat these with priority.

10. Absolutely no alcohol. No aspirin or any sedatives or other drugs.

11. Give water only.

12. Do not attempt to kill the snake, but if the offending snake has already been killed, bring it with the victim to the hospital for identification. A lifeless looking snake can still bite and envenomate - be very careful. If not taking the dead snake to the hospital, get photos of the head and body of the snake. This will help with identification and proper treatment.

13. Transport of the snakebite victim should be as quick as possible to the nearest large hospital. The bigger hospitals will have all the necessary equipment and probably antivenom on hand to treat the snakebite victim.

SPITTING COBRA VENOM IN THE EYES FIRST AID

If you have just had venom sprayed into your eyes from a snake, follow these steps.

1. Spitting cobra venom, or any snake venom which comes into contact with the eye of a human or animal can cause severe conjunctivitis and there is a risk of permanent eye damage (even blindness) and infection.

2. Flush the eye(s) immediately with clean bottled water ideally, or any water you can reach quickly. It is important to dilute the venom as soon as possible. If possible, the victim should hold the eyes under running water, opening them and rotating the eyes around in circles to ensure the venom is diluted all over the eyes. If no water is available, find another liquid you can use as a substitute like beer, urine, or milk. Keep irrigating the eyes for 5-10 minutes.

3. If possible, tie a shirt or other cloth around the eyes - but not too snugly. The eye should be bandaged using a pad over the eye and dark glasses worn.

4. Ensure the victim does not rub the eyes.

5. Go quickly to the nearest hospital to assess damage to the delicate tissue of the eyes.

NOTE - I have witnessed a number of people get venom in the eyes by one of the cobras. It causes intense pain. It is crucial to have a significant amount of clean water to rinse your eyes with at all times. The longer the undiluted venom is in contact with the delicate membranes in the eye, the more damage will result.

The people I know all recovered without significant loss of eyesight, so as long as you can rinse the venom very quickly, you will probably have a successful outcome.

VIPER FIRST AID

Initial First Aid Before Arriving At Hospital

1. Remove bite victim from area snake is located, to prevent further bites.

2. Have victim lie down, and stay still. Reassure the person that many bites are dry and don't contain any venom. All snake venom takes time to act, and it may be hours or days before there are severe symptoms.

3. Call emergency medical personnel to have them pick up the victim and transport to a major hospital. Or, if you can do it safely yourself, take the victim to the hospital in a vehicle immediately.

4. Reassure the victim, all bites can be treated.

5. **Do not wrap viper bites, or add any bandage**. There should be nothing touching the bite site.

6. ALSO AVOID:

- touching the wound
- wiping
- cutting it open
- sucking wound with mouth
- cauterization
- excision
- tourniquet
- amputation
- vacuum pump or syringe
- injection or instillation of ANYTHING
- electric shock
- ice
- herbal, folk remedies of any kind
- tattooing

7. Remove all rings and jewelry from a bitten limb. Severe swelling may occur.

8. Keep the limb as immobile as possible using a splint or sling. Remember, stability is crucial, every muscle contraction sends the venom further on its path through the body.

9. If problems develop with airway, circulation, or heart function - you must treat these with priority.

10. Absolutely no alcohol. No aspirin or any sedatives or other drugs.

11. Give water only.

12. Do not attempt to kill the snake, but if the offending snake has already been killed, bring it with the victim to the hospital for identification. A lifeless looking snake can still bite and envenomate - be very careful. If not taking the dead snake to the hospital, get photos of the head and body of the snake if possible.

13. Transport of the snakebite victim should be as quick as possible to the nearest large hospital. The bigger hospitals will have all the necessary equipment and probably antivenom on hand to treat the snakebite victim.

SNAKEBITE WRAPPING INSTRUCTIONS

ONLY WRAP SNAKEBITES FOR:

- Adults or Children bitten by: King Cobra, any Krait, any Coral Snake, any Keelback.
- **Adults** bitten by the Monocled Cobra, Siamese Spitting Cobra, or Equatorial Spitting Cobra if reaching a major hospital is more than 10 minutes away.
- **Children** bitten by the Monocled Cobra, Siamese Spitting Cobra, or Equatorial Spitting Cobra. Wrap immediately.
- **NEVER** wrap bites from any of the snakes in the <u>VIPER</u> family.

FOOT OR LEG BITES

1. Lay down and do not move the bitten area at all.

2. Immediately call an ambulance or have a friend prepare a car to drive to the hospital.

3. Do not take clothing off, just start applying a broad approximately 3-inch (7.5 cm) or wider pressure bandage over the bite site as soon as possible. Long medical elastic bandages are best, but use any cloth cut into strips if necessary. Towels, clothing, or pantyhose have been used.

4. Starting from the lowest portion of the foot - near the toes - start wrapping the bandage upward around the foot, lower leg, calf, over the knee, and up to the thigh and groin.

4a. The bandage should be as tight as you would apply to a sprained ankle. Do not make tourniquet tight! One finger should be able to be slipped under the wrap without difficulty.

5. Splint the leg to make it immobile. Any flexing of the leg can cause venom to move into the bloodstream. This is to be avoided at all cost.

Use a stiff broom handle, piece of wood, camera tripod, branch from a tree, or anything you can tie to the leg to keep it straight.

5a. Tie the stiff splint with string, rope, or cut pieces of cloth around the leg in 4 or 5 places to make it impossible to move the leg.

6. Go immediately to the hospital, taking great care to ensure the victim does not put any pressure on the bitten limb.

HAND, or FOREARM BITES

1., 2., and 3., just like above.

4. Bandage as much of the arm as possible, starting at the fingers. Keep arm straight.

5., add a splint to the arm, just like above with the leg.

6. Go immediately to the hospital, taking great care to ensure the victim does not put any pressure on the bitten limb.

Bites to the Stomach, Chest, or Back

1. If a friend can take the person immediately to the hospital - do so. Otherwise, call for an ambulance.

2. Keep the victim still, and if possible apply firm pressure over the bitten area, but be careful not to restrict chest movement.

Bites to the Head or Neck

1. If a friend can take the person immediately to the hospital - do so. Otherwise, call for an ambulance.

IMPORTANT: It is very important to keep the person as still as possible because each movement spreads the venom through the body.

Do not remove the bandages, once in place. Only medical staff will do so when they are ready.

Resource: Adapted from the Poison Information Centre at **health.qld.gov.au**.

RESOURCES

1. WHO Publication, "Snakebite Management in Southeast Asia." David Warrell. 2010.

2. The Reptile Database - <u>Reptile-database.reptarium.cz</u>.

3. The Catalogue of Life - <u>CatalogueOfLife.org</u>.

4. The IUCN Redlist of Threatened Species - <u>IUCNRedlist.org</u>.

5. The University of Adelaide, Australia's Clinical Toxinology Resources - <u>Toxinology.com</u>.

6. <u>Pressure Immobilisation Technique</u> from Queensland Poison Information Centre.

7. Queen Saovabha Memorial Institute, Bangkok, Thailand - <u>Saovabha.com</u>.

8. NATURE IN SINGAPORE 2008 1: 109–111. A Personal Account of Envenomation by a Blue-necked Keelback, *Macrophistodon rhodomelas* (BOIE) (Reptilia: Squamata: Natricidae). 23 September 2008

9. Poison Information Centre at <u>Health.qld.gov.au</u>.

10. Communication with Andreas Gumprechti, DE., Tom Charlton, U.K., Bryan Fry, AU., Ray Hunter, U.S.A., Kristen Wiley and Jim Harrison, U.S.A.

11. ThailandSnakes.com.

12. Photographs. The following have supplied some of the excellent images in this book. I am often surprised at the generousness and sharing of information by some of my fellow snake enthusiasts I've experienced since getting into this hobby nearly ten years ago. Thanks to all! Special thanks to Andreas Gumprecht, Hans Breuer, Elliot Pelling, and Tom Charlton for your time and contributions!

- Hans Breuer SnakesOfTaiwan.com
- Tom Charlton EcoAnimalEncounters.co.uk
- Gijs Damen
- David Frohlich Facebook.com/Davids-Reptile-Photography-314242528778744/
- Andreas Gumprecht Amazon.co.uk/Andreas-Gumprecht/e/B00J6JGH08/
- Stewart King
- Kelvin Lim
- Elliot Pelling Flickr.com/photos/elliotpelling/
- Chan Kin Onn
- Rob Valentic GondwanaReptileProductions.com

DISCLAIMER

Our attempt to make this book a comprehensive guide for identifying the dangerous snakes of Thailand is not to be taken as fact. Use this book as a guide to help you identify and give initial first aid for snakebite and get to a hospital as soon as possible.

Range, length, girth, dangerousness, and other known behaviors can, and do change on an ongoing basis. This book will be updated with new information as it becomes available. If you have anything to add, or correct, please send your request by email to: info@thailandsnakes.com, along with supporting information.

This book is intended to help you and medical professionals to identify dangerous terrestrial snakes found in Thailand, so proper treatment can be given. We cannot be held responsible for misidentification of snakes as a result of using this book as a resource. You must also understand that errors of omission, and outright errors of fact may occur in this book, and until they are called to our attention - we will not be responsible for any misidentification or any harm that befalls people getting too close and being envenomated by any of these snakes or other snakes in the country.

Though this book lists 35 of the most dangerous Thailand terrestrial venomous snakes, it has been said that most snakes have venom compounds in their saliva. It may not be fully understood how dangerous to people some of the other Thailand snakes not listed in this book are, until someone is severely envenomated by such a snake. This is similar to what occurred with the red-necked keelback (Rhabdophis subminiatus), which was assumed to be an innocuous snake for years until recently when keepers of these snakes as pets received multiple, or long-duration bites resulting in envenomation and significant medical emergencies in some cases.

The 'Dangerous' scale is entirely subjective, and was based on a couple of other indexes online, as well as LD-50 venom ratings and studies published in reptile journals and other sources online we believed to be credible. The rating is meant for healthy adults of average height and weight. Please note, children bitten by one of the venomous snakes in this book would likely experience greater negative effects because of their small size and weight.

To be safe, there is no better way to avoid snakebite than keeping a considerable distance from any snake. Five-meters in distance is reasonably far enough away to give yourself time if you sense the snake is aggravated and may come toward you. In nearly all cases, snakes will try to escape and put distance between themselves and the danger you present to them.

If you notice a snake close by, back away slowly until you are out of range.