Red Necked Keelback – Venomous – Dangerous

A beautiful snake, usually under 1 meter, not very aggressive. ©2009 ThailandSnakes.com.

(Page Updated: 1 May 2019)

Rhabdophis subminiatus (Red-Necked Keelback Snake)

Thai: (ngoo lay sab ko dang)

Length: Up to 100 cm (1 meters). I’ve never seen one close to 1 meter in length.

Range: Thailand and southeast Asia.

Notes: These snakes are commonly found near water, lakes, ponds, and in gardens. Recently a friend had one in his swimming pool in Krabi town, southern Thailand.

Active Time? Daylight hours. I’ve found them sleeping around 1 foot off the ground in bushes.

Food: Frogs, poisonous toads, and fish. I have not seen them eat anything but frogs and toads.

Defensive Behavior: Spread out the neck slightly to make themselves appear bigger. Not as dramatic as a cobra. Lift their head and neck off the ground 4-5 inches.

Some snakes of this species, and others in the genus Rhabdophis, have displayed a rather unique defensive behavior of exposing the back of their neck and secreting poison from
their nuchal glands. This is not all that common unless very provoked.

One researcher, Kevin Messenger, claims that the *R. subminiatus helleri* he caught in Hong Kong actually sprayed a mist of the poison into the air from the back of the neck. Quite amazing, if true, right? Obviously more study is needed into the secret life of this fascinating snake. Other snakes in *Rhabdophis* genus with nuchal glands: *R. nuchalis*, *R. tigrinus*, *R. nigrocinctus*, and *R. chrysargos* (in Thailand).

Here is an image of the snake expressing poison from the nuchal glands.

The liquid on the neck near the top of the red shade is poison acquired at least in part, from eating poisonous *Bufo* toads.

Here is the description in a scientific journal about Kevin’s encounter.

**Venom Toxicity**: LD50 is 1.29 mg/kg for intravenous injection (source). That is about the same rating as the very deadly “Banded Krait (*Bungarus fasciatus*)”. It was previously thought these snakes were harmless. Some kept them as pets and were bitten. In one case the snake was left to bite for two entire minutes before removing it from a finger.

Serious complications resulted requiring hospitalization and intensive care. Click for article. These snakes are rear-fanged and need to bite and hold on, or, repeatedly bite to have any effect on humans. Once they do either – there is the possibility of severe problems including renal failure and death. Recently a small boy of 12 years old was bitten by one he was keeping as a pet in Phuket, Thailand and he is currently being treated (11/5/10). Be very careful not be bitten by these snakes. There is NO ANTIVENIN available yet for these snakes in Thailand. Scroll down for information
about antivenin manufactured in Japan that may have some positive effect.

Another study in Japan ranked the venom as having an LD50 of 1.25 mg/kg for intravenous injection. (Japan Snake Institute, Hon-machi, Yabuzuka, Nitta-gun, Gunma-ken, Japan) V.1- 1969-Volume(issue)

In Japan they make limited amounts of antivenin, but it is specifically for their in-country use.

One WHO (World Health Organization) publication about the management of venomous snake bites in Southeast Asia mentions the antivenin for Rhabdophis tigrinus in Japan as having some effect on the venom of R. subminiatus. I am not sure if this is strictly for R. subminiatus found in Japan, or not. Worth a try though if you can get them to send you some antivenin. Otherwise, there is no other option – there is no monovalent antivenin specifically for R. subminiatus.

Japan Snake Institute
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Snake-c@sunfield.ne.jp
www.sunfield.ne.jp/~snake-c/
Yamakagashi (Rhabdophis tigrinus) antivenom. Also effective against rednecked keelback (R. subminiatus venom)

Update: The 12 year old boy bitten by the Rhabdophis subminiatus was treated for 2 weeks of intensive care, and released. He was bitten multiple times, the 2nd bite lasting over 20 seconds.

Offspring: I had a juvenile red-necked keelback I’ve taken photos and videos of and released into the wild. I cannot find anything much about offspring. Recently (mid-June) I found a DOR juvenile very recently hatched, so like most snakes in
Thailand the time around June is when they are hatching out. The coloration of the juvenile is quite different from adults as you can see in the photo and video below.

A hint of red on the neck in the juvenile. A pronounced black banding at the neck and grey on the head is evident in juveniles.

**Notes:** These snakes can inflict a deadly bite when they are allowed to bite for longer than a couple of seconds. I know personally of two instances where a child was bitten for well over 20 seconds, and a man was bitten for about a minute. Neither wanted to hurt the snake to remove it forcibly, and both spent over a week in intensive care, with the possibility of renal failure and death. Do not play with these snakes. If you have one, do not free-handle it. Treat it like you would a pit viper or a cobra. The LD50 on this snake for intravenous was stated to be 1.29 mg/kg. That is VERY venomous.

As a precaution, any snake in the *Rhabdophis* genus should be treated with extreme caution. In Thailand we also have the diurnal *Rhabdophis nigrocinctus*, and *Rhabdophis chrysargos*, both of which may be able to inflict a medically significant bite if given the opportunity.

**Red-necked Keelback Scientific Classification**

Kingdom: Animalia  
Phylum: Chordata  
Class: Reptilia  
Order: Squamata  
Suborder: Serpentes  
Family: Colubridae  
Genus: *Rhabdophis*  
Species: *Rhabdophis subminiatus*
Video – Red-necked Keelback

Video – Red Neck Keelback Snake (<- click) video