

# HEALTH

## Venomous Snakes and Snake Bite Treatment

### Facilities in Sri Lanka

Sri Lanka has long had a reputation for having some of the most varied snake fauna in the world. More recent findings, however, have shown that Sri Lanka's rate of fatalities from snake bites is also one of the world's highest. At a recent seminar on snake bite poisoning, Ansem de Silva, a snake specialist from the Faculty of Medicine, Peradeniya, stated that his studies revealed that the recorded death rates due to snake bit envonotation in Sri Lanka were higher than most countries in the region. Some significant issues that arose from the presentations at this seminar were that a high percentage of these deaths could be avoided if the rural peasantry was more educated on the dangers of this menace; and if those who were bitten by venomous snakes realised that the treatment of some traditional practioners was not fully effective and if they sought proper treatment many lives could be saved.

Another interesting issue raised was whether rural people still believed that it was only the traditional practioner who had an effective cure for snake bites. A key health administrator commented that many snake bites which could have been prevented had occurred as people did not have faith in the treatment given in government hospitals. "During my ten year career as a medical practioner, I didn't have the occasion to treat a single snake bite patient" he said.

It was a question of belief in the traditional system causing lack of faith in the modern; resulting in a vicious circle of events. Most often snake bite victims in the rural areas are rushed to a traditional practioner when stung by a serpent. In serious cases this practioner's treatment is not fully effective and when it is too late and the venom is taking deadly effect the patinet is

taken to a hospital where his life is not easy to save. The result is that more people begin to believe that modern anti-venom treatment in hospitals is ineffective and not that unscientific or unskilled traditional practioners had brought the victim to his hopeless state. This situation drives them more towards the traditional practioner and in extreme cases, when it is often too late, to the hospital.

An understanding of the biology and habits of venomous snakes has helped to determine the biting pattern. This was particularly evident with Kraits (Sinhala - Karawala), when almost all bites took place inside the house or watch hut at night, mainly on sleeping people.

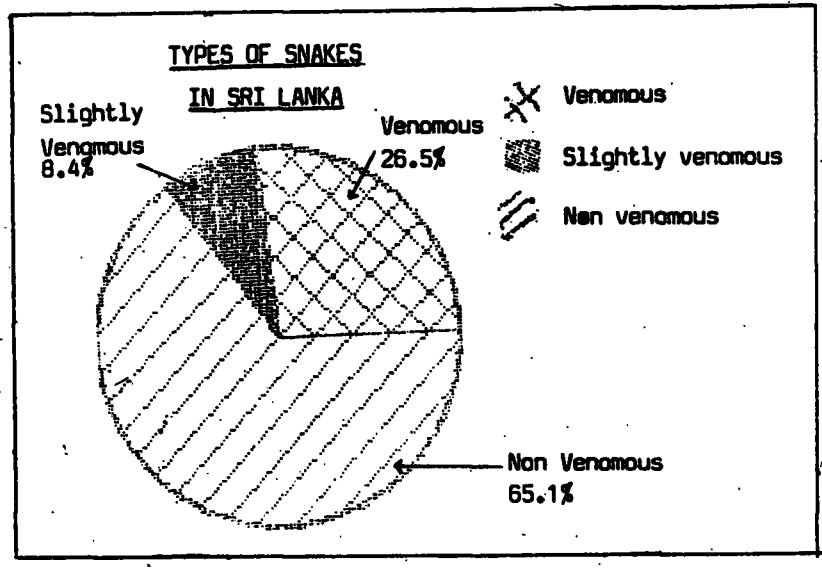
In terms of ecological habitat there were 4 categories of snakes in Sri Lanka namely earth, land, tree and water snakes. Among the earth snakes there were 31 species of which 29 are endemic, although the validity of 10 of these species are questionable. All these snakes are small and harmless. Among the land snakes there are 27 species and sub-species of which 18 are endemic. Five of these land snakes

are highly venomous, 3 moderately and 1 slightly. There are 13 species of tree snakes recorded from Sri Lanka of which 4 are moderately or highly venomous. The water snakes are broadly divided into fresh water and marine, and among marines there is a greater variety.

Scientific findings have recorded 34 species and sub-species of venomous snakes in Sri Lanka; although there are only seven responsible for the high rate of snake-bite morbidity and mortality. These are the Russells Viper - *Polonga*; Cobra - *Naya*; Common Krait - *Thek Karawala*; Krait - *Mudu Karawala*; Merrems Hump Nosed Viper - *Polon Thelissa*; Green Pit Viper - *Pala Polonga*; and Saw Scaled Viper - *Veli Polonga*.

But studies on snake bites in Sri Lanka and clinical evidence show that approximately 97 percent of the fatalities are caused by the Russells Viper, Cobra and Common Krait. A classification of snakes in Sri Lanka reveals that 54 to 65 percent of them are non-venomous. (See diagram)

An understanding of these snakes is important as relatively little is known of their use to humans. For instance, some snakes predate on rodents and are therefore an asset to an agricultural country like Sri Lanka. This is one reason why wanton killing of snakes should be discouraged. It has been ob-



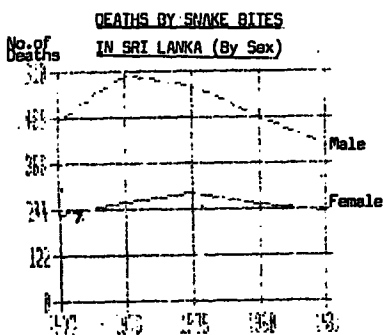
served, however, that the majority of snake bites (upto 85%) have taken place during agricultural and related pursuits. Under this criteria are direct agricultural activities like preparation of fields, harvesting, weeding, and spraying and indirect activities like guarding fields, cleaning of scrub jungles for land preparation and checking of field conditions.

As many as 69% of snake bite victims were in the 10-40 year age group. Demographic trends were also gaining significance with an increase in the rate of snake bites in the Dry Zone, (specially in the Mahaweli Area) due to the heavier migration of people into these areas and opening up of more forest lands in recent years. A large number of males were exposed to snake bites, the ratio being 2 males to 1 female. The recorded deaths occurring from snake bites in Sri Lanka sex-wise in the past few years is as follows:

Year	Male	Female
1977	482	229
1978	601	261
1979	573	284
1980	489	254
1981	407	236

Source: Registrar General's Office.

The above statistics reveal that the majority of Sri Lanka's snake bite victims have been men. Another important feature is that the number of deaths appear to have reached a peak at a time of most intensive activity in opening of lands in the Mahaweli regions. The number of deaths among females has not fluctuated as much as it did with males. (See graph)



The following table shows that the highest percentage of deaths occurring from snake bites among selected Asian countries in 1980 were recorded in Sri Lanka.

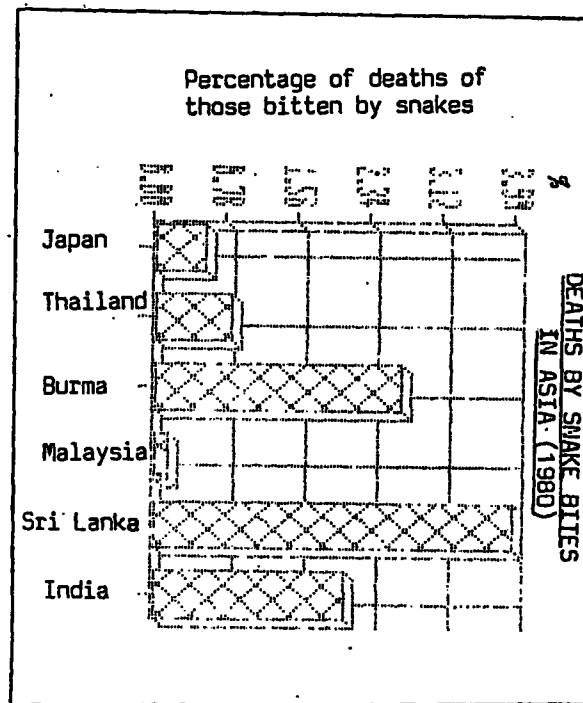
Country	No. of Snake bites	No. of deaths	% of deaths for every 100,000 of population
Japan	610	36	0.56
Thailand	3,985	302	0.86
Burma	8,508	759	2.7
Malaysia	2,480	16	0.18
Sri Lanka		743	3.9
India		1,093	2.1

These statistics show that the highest percentage of deaths are indicated for Sri Lanka which is 3.9% per 100,000 of the population; with Burma and India showing the next highest percentage of 2.7 and 2.1 respectively among selected Asian countries in 1980.

tract Medical Officer Galagedera, Dr Priyantha Hewage, most snake bite victims in this area sought modern treatment at hospital; generally the anti-venom serum. The result was a

negligible death rate from snake bite, as seen in the table below.

The statistics above indicate increasing faith of snake bite victims in hospital treatment from the Anuradhapura District. This trend has encouraged the Health authorities to set up an anti-venom research centre, to



Number of Patients seeking Treatment from Galnewa Hospital

Year	1983	1984	1985 June
No. of patients	92	115	156
No. of deaths	0	3	4

A significant change in attitudes was occurring in the Galnewa area where farmers are constantly exposed to snake bites. According to the Dis-

identify and classify the different snake venoms and to initiate more medical practitioners into the modern methods of treatment. K.G.