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Snakebite- As a cause of death in animals

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Snakes, which are plentiful throughout Australia, are frequently blamed for losses of livestock but there are few proven cases of snakebite causing death in farm animals. The reasons for this will become evident from the following description of the common venomous snakes, their habits and the effect of injected venom on animals bitten.

In order of deadliness, the common venomous snakes in Western Australia can be grouped as:

1. Tiger Snakes.
   These are responsible for the most bites and possess one of the world's most potent venoms.
2. Death Adders.
   These are the snakes most likely to be trodden on, are the swiftest-striking and have the most perfect biting mechanism.
   These are the most aggressive, and have venom least affected by present anti-venenes. Fortunately the venom is not as deadly as that of the first two groups.

DESCRIPTIONS

The Tiger Snake, which is by far the most dangerous reptile of the South-West of Western Australia, can at once be recognised because of its broad head, stout body form and distinct colouration. It grows to five or six feet in length and is dark steel-blue or blackish, with or without a large number of narrow pale orange-yellow cross-bands. The under-surface is for the most part, a pale orange-yellow.

In distribution, Tiger Snakes are mainly confined to south of the Moore River and inland to the Great Southern Railway and Stirling Ranges, although some have been found around Esperance. These snakes prefer damp situations where frogs, their common source of food, abound. They have at times also been known to eat lizards and small birds.

The Common Death Adder and the Desert Death Adder are the only two small venomous snakes (less than three feet in length) which are dangerous to animals. Before anti-venene was available for treatment, 50 per cent. of the bites from these snakes were fatal. Both the Common Death Adder and the Desert Death Adder can immediately be recognised by the broad, triangular head, slender neck and stout body. The Common Death Adder is usually nearly three feet in length, greyish, brownish or reddish in colour with numerous darker cross-bands.

It is to be found in nearly any part of the State, but, due to its nocturnal habits,
is rarely seen except in the early morning
when it may seek the sun, or when dis­turbed from its hiding place.

The Desert Death Adder is always less
than two feet long and is usually reddish
in colour with numerous darker cross-
bands. Its distribution in Western Austra­lia is confined to the interior and north
of the State.

The Large Brown Snakes with their
infinite colour variations are difficult to
differentiate into species.

The Dugite and Gwardar, which are the
main venomous species are both over five
feet long when fully grown. They are
quite slender with a small head and no
distinct neck separating the head from
the body. Their colours vary considerably,
ranging from olive-green and grey to
various shades of brown, often with a red
or orange tinge. The colouring of the
Dugite is often rather sombre when com­
pared with that of the Gwardar, which is
usually a much brighter colour. Both
usually have a yellow under-surface.

The Dugite and Gwardar are commonly
found on the Swan Coastal Plain and in
the wheatbelt. Because they are very fond
of mice they often enter sheds and even
houses in search of their prey.

THE SERIOUSNESS OF SNAKEBITE

The kind of snake is only one factor
deciding the seriousness of any snakebite.
Many other factors such as the amount
of venom injected, the body weight of the
animal bitten, the location of the bite on
the animal and the toxicity of the venom,
play an important part in deciding
whether the bitten animal dies or lives.
Even in two snakes of the same kind and
comparable size, the toxicity of the venom
may vary considerably.

Because the dose of venom causing
death is based upon the quantity of venom
per pound of body weight of the bitten
animal, horses and cattle seldom die as
a direct result of snakebite, although lack
of medical attention may result in serious
secondary infections at the sites of the
puncture marks. Pigs, for a reason
unknown, do not suffer such marked ill-
effects from snakebite as other animals of
comparable size. The death-rate from
snakebite is definitely higher in dogs than
any other farm animal. The reasons for
this are that dogs commonly attack
snakes, and unless very alert they can
easily be bitten. Also, due to the relatively
small weight of the dog, the amount of
venom injected is often sufficient to cause
death where the same dose in a larger
animal would not necessarily be fatal.

SYMPTOMS AND DIAGNOSIS

Rarely is the offending snake seen,
except in the cases where a dog attacks
a snake and is bitten during the ensuing
battle. To add to the difficulty of discern­
ing whether an animal has been bitten,
the presence of hair, in many cases
obscures the typical fang-marks. A close
examination however, should reveal two
large fang punctures in the skin with a
few smaller ones in front or behind. In
some cases, oozing of blood from the skin
punctures is noticed, whilst the area around the bite marks is usually swollen.

Soon after an animal is bitten, there is excitement and restlessness due to the local pain produced by the fangs and the venom. After this period of excitement, the animal appears normal then gradually becomes depressed and quieter. Incoordination of movement is observed until the animal is not able to stand, and lies on its side completely paralysed. At this stage, the skin is pale and cold, the pupils of the eyes are dilated and the animal does not respond to stimuli such as pinching or pricking. Muscular twitching and convulsions similar to those seen in strychnine poisoning are often seen just before death.

Horses have been known to die within 48 hours after having been bitten, whilst sheep and dogs usually die within 24 hours.

**TREATMENT**

In the mediaeval period, the traditional treatment for snakebite was a preparation containing the flesh of snakes. From this single ingredient the prescription grew to contain up to 57 constituents during the height of the Roman Empire. By the 15th century this prescription contained 110 items, which were certified as vital ingredients by physicians and pharmacists.

Today, successful treatment depends mainly on the use of anti-venene, a specially-prepared product to neutralise the venom injected by the snake. This anti-venene if given early enough neutralises the venom in the bloodstream before it has a chance to destroy the blood cells or to attack the central nervous system. A minimal initial dose of 3,000 units is required for dogs and although direct injection into the bloodstream is preferable, it is of value if injected under the skin.

The normal human first-aid methods of a ligature between the site of the bite and the heart, incision of the site of the bite with washing out of the incised area, are only recommended in the first few minutes after the bite, and then only if veterinary assistance cannot be obtained. Failure to perform these procedures does not affect the outcome if anti-venene is administered.

In acute cases, supporting treatment with calcium borogluconate injected under the skin may assist recovery. The dosages are similar to those used in treating milk fever. That is in cattle and horses, a mixture of 2 oz. of calcium borogluconate and ¾ oz. of boric acid in a pint of water is given. For sheep, one-fifth of this quantity is required and for a dog about one-tenth of a pint only should be injected.

Finally to assist recovery, the animal should have access to as much fluid as possible. The addition of glucodin to the water in the case of dogs is also advisable.
CHESS is a game requiring skill, great concentration, clear thinking and careful planning.

Chess dates back to the 7th century but its origin is debatable and has, at various times been attributed to the Persians and the ancient Hindus. It has been the subject of a most extensive literature and it is on record that Ivan the Terrible died (1584) while playing chess.

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