

ANCIENT HERPETOLOGY

Part 4, Final remarks

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■ NICE TO KNOW

Plinius gave, besides prophylactic, medical and pharmacological uses of snakes or snake parts also some more diverse herpetological comments. For instance, if crocodile hunters would put fat or gall from a water snake on their body, the crocodile would not dare to attack. And for cooks it is good to know that animals which have been killed by cobra's are still usable in the kitchen, in spite of the venom they were killed by.

A draco must have been a highly wanted animal in those ancient days. Its head, buried under the threshold of a house that is dedicated to the gods, brings luck. A somewhat complicated act achieves juridical prosperity: take the fat out of the heart of a draco, tie this into the skin of a gazelle and fasten this onto your upper arm by a tendon of a deer. The first vertebra of a draco facilitates the approach of potentates and the tooth, tied into the skin of a roe and buttoned up with the tendon of a deer makes masters, governors and rulers favourable.

But all this is nothing compared to the lies told by the Marsi: they claim to produce an ointment which makes men invincible. This ointment is produced from the tail of a python, hair from the forehead of a lion, marrow of a lion, foam of a winning race horse and the leg of a dog. This all should be wrapped up into the skin of a deer and should be buttoned up alternately by the tendon of a deer and the tendon of a gazelle. Plinius

does not believe a single word of the effectivity of this remedy and shows his unbelief by giving a description of a remedy of the Marsi against snake bites, which is just as incredible: venomous animals abhor python fat, and burning python fat also chases away the ichneumon.

Plinius says in an explicit way that snakes provide many remedies and that this is the reason why they Aesculap. Furthermore he knows some stories of Democrit about snakes, for instance how they manage to understand bird language. It is a pity for us that he does tell this story!

■ SOME CAUTIOUS COMMENTS

It has become quite a remarkable enumeration of prophylactic, medical and pharmacological issues from a herpetological point of view what Plinius left us. And after reading it, some intriguing questions came up: how effective were the remedies Plinius mentions? Did people who were bitten by a cobra really cure after drinking urine of children which had not yet reached their puberty? Did some Romans really sleep on beds of deer skins because these skins would frighten off snakes? What were the additional effects of these remedies? Were medicines made in old pottery less effective because the prescription told it should be made in new pottery? Were remedies against snake bites effective because it sometimes concerned non-venomous snakes? In this case it is no wonder that even the therapies of Plinius cured the patient.

Though Italy has some venomous snakes like *Vipera aspis* and *Vipera ammodytes*, it also knows non-venomous snakes. Plinius himself gives an example by mentioning the Aesculapian snake (*Elaphe longissima*). The

works of the Dutch author Jacob van Maerlant, who lived about twelve centuries after Plinius, tells us that in his days the common opinion was that almost all snakes are venomous, and it seemed that all these snakes were aggressive to humans. However, centuries after Jacob van Maerlant in the seventeenth and eighteenth century, people in England still killed slow-worms and grass snakes as they thought them to be venomous (Thomas 1990, page 75). And in those days people in England recited consecrated words in order to keep snakes or birds away (Thomas 1989, page 49 and 55) and they had their incantations to cure snake bites. And it still was common to use snake skins in medicines (Thomas, page 170). Perhaps the 'crites in those ancient days is due to the fact that about 20 percent of venomous snake bites are to be regarded as 'defending bites', where the snake keeps its beak closed and does not inject any venom at all. On the other hand people die by bites of entirely innocent snakes. About 20 till 30 percent of all casualties resulted from shock, fear, suggestion, though the snake was non-venomous (Zimniok, page 140).

Meanwhile I do not have the knowledge to give proper answers to these questions. It seems impossible that the ancient medicines, which were prepared often in a rather cruel way and under useless conditions ('the heart should be removed by the left hand', 'burn the head in new pottery') should have brought any relieve for whatever disease. On the other hand, it should not be neglected that Plinius tried to be completely honest and wrote his works for the benefit of mankind. It seems to me that it is possible that these ancient medicines had some effects, but it is hard to find out if this might be due to placebo-effects. Besides, a lot of herpetological medicines are eagerly used in all centuries among common people and even in our days snakes are still used in Asian countries to produce 'theriak'. A thorough research to the results of this popular medical science would clear up this matter something more. Perhaps I will write about this another time.

■ SOME SERIOUS MATTER

In the beginning of this series of articles I wrote about what the Chilean author Allende calls the *sucurucú*, better known as *Lachesis muta*, the bushmaster. At the end of these series of articles I want to make some remarks on this animal. First about the local name of the bushmaster. Allende calls it *sucurucú*. However, Grzimek calls the same snake *surucucú*, which would be the locale name in Brazil. Trutnau gives this second name in the index of his book, but not on the pages where he describes the animal. Abuys gives some Surinam names, buname like *surucucú*. Finally Zimniok (page 88) knows the name *surucutinga*. There is little consensus over the native name.

According to both Grzimek and Trutnau *Lachesis muta* is the second largest venomous snake after the King cobra (Grzimek, page 573; Trutnau, page 169). Abuys however says the bush master is the fourth largest venomous snake, after the taipan, *Oxyuranus scutellatus* and the black mamba *Dendroaspis polylepis polylepis* (Abuys, page 46).

As a final remark something about the venom of *Lachesis muta*. Grzimek, Trutnau and Abuys all are full of respect for its venom. Abuys believes the venom is deadly for humans (Abuys, page 46). He proves this by showing a schedule with the average dose of venom per bite, the maximum dose of venom per bite and the deadly dose for human beings. In the schedule he compares the venom of *Lachesis muta* with that of *Bothrops atrox* and *Crotalus durissus*.

The facts: an average bite of *Lachesis muta* produces 400 mg of venom, the maximum being 800 mg, while 350 mg are deadly to humans. If these figures are correct (and why should they not be?), the mother of Eva Luna has done a wonderful job by curing a bitten Indian. Her job however will be far less wonderful if what Grzimek and Trutnau say is correct. According to Grzimek research in Buntantan (Brazil) has proven the venom to be fairly weak and any way not far as strong as venom of *Bothrops*-species (Grzimek, page 574). According to Trutnau *Lachesis muta* can not kill an adult

man, in spite of its 3,5 cm long fangs and large amount of venom (Trutnau, page 170). Also Zimniok concludes that the bush master is only relatively dangerous: only 0.2 percent of all persons that are bitten die, whereas 32 percent of all bites of *Naja haje* is fatal, as are 12 percent of all bites of *Crotalus durissus terrificus*, 20 percent of all bites of *Echis carinatus*. The black mamba *Dendroaspis polylepis* has a score of almost 100 percent (Zimniok, page 136-137). Not to speak of the incredible venomousness of *Parademansia microlepidota*, which is not mentioned by any of these authors: its venom is 30 percent more deadly than that of the taipan *Oxyuranus scutellatus*, and 8 times deadlier than the venom of *Ophiophagus hannah*, the king cobra (Ripa, page 134 and further)! If all these facts are also correct (and why shouldn't they be?), Eva Luna's father would have become healthy again even without the loving, erotic treatment of Consuela, and he has taken advantage of his piteous circumstances to give rein to his passions.

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