REPORT ON THE MAINTENANCE AND GROWTH OF A JUVENILE EASTERN DIAMONDBACK RATTLESNAKE, *CROTALUS ADAMANTEUS*, DURING ITS FIRST YEAR IN CAPTIVITY

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INTRODUCTION

On 3 November 1987, I received a juvenile eastern diamondback rattlesnake, *Crotalus adamanteus*, from Jim Harrison (Miamy Valley Serepentarium). This specimen, a female, was collected on 16 October 1987, in St. Johns County, Florida. It was found between 6:00-8:00 pm, coiled under apiece of tin.

The information contained in this report was taken between 3 November 1987 and 3 November 1988 (366 days), and corresponds to this specimen's first year in captivity in the author's collection. Prior to my receiving this diamondback, it had, reportedly, fed once, accepting a small, fresh-killed mouse (Jim Harrison's pers. comm.). This feeding however, is not taken into account in this report. Ecdysis did not occur during the 18 days this snake was in Jim's possession.

MAINTENANCE

Upon acquisition, this specimen was assigned an inventory number (C.a. #5) and 'Inventory', 'Feed and Shed', and 'Growth record' cards were started.

For the first 4 months this specimen was maintained in a plastic container measuring 39x28.2x12 cm. Holes were drilled in each end to allow for adequate ventilation. After this time, it was transferred to a 10 gal., all-glass aquarium measuring 44.8x26x31.1 cm. This cage was fitted with a 'locking' pegboard lid (tightened down with bolts). Newspaper was used as a substrate in both cases and a small ceramic waterbowl was available at all times. A retreat was provided in the form of a piece of cork bark.

This diamondback is part of a collection that was maintained (until recently) in a basement in which the ambient temperature typically ranged between 21-27°C. This temperature range was deemed adequate for this species, therefore, supplemental heat was not provided.

Lighting in the basement is provided by six 2.4 m fluorescent tubes that are controlled by timers, thereby facilitating the maintenence of a diurnal light/dark cycle. These timers were adjusted at approximately monthly intervals to correspond with the local seasonal changes in day length that occur in the Cincinnati area. Consequently, the length of the day cycle ranged from 8 hours in the winter to 14 hours in the summer.

FEEDING AND SLOUGHING

As mentioned above, this specimen had eaten a small, fresh-killed mouse prior to my receiving it. However, on 2 separate occasions it refused a frozen/thawed mouse which was left in its cage overnight. Subsequently, it shed on 11 December 1987, and 2 days later accepted its first meal while being maintained in the author's collection.

During the one-year period of this study this diamondback fed a total of 32 times, which is an average of once every 11.4 days. Sloughing occurred 6 times, which is an average of once every 61 days. Table 1 gives the exact dates that feeding and sloughing occurred as well as the types and quantity of food accepted.

11/12/87 - slough	17/02/88 - 1rf	31/05/88 - slough	31/08/88 - 2m
13/12/87 - 2mf	25/02/88 - 3mf	31/05/88 - 2m	10/09/88 - 2m
20/12/87 - 2mf	01/03/88 - 1rf	11/06/88 - 1m	20/09/88 - slough
28/12/87 - 2mf	12/03/88 - 1rf	19/06/88 - 1m	03/10/88 - 3m
02/01/88 - 2rp	23/03/88 - 2m	23/06/88 - 2m	09/10/88 - 3m
10/01/88 - 1rf	01/04/88 - 1m	07/07/88 - 3m	18/10/88 - 3m
19/01/88 - 1rf	09/04/88 - 2m	14/07/88 - slough	25/10/88 - 3m
26/01/88 - 2rp	25/04/88 - slough	20/07/88 - 2m	03/11/88 - 3m
05/02/88 - 1rf	03/05/88 - 2m	05/08/88 - 3m	
10/02/88 - slough	19/05/88 - 2m	17/08/88 - 3m	

Table 1: Feeding and sloughing data for a juvenile eastern diamondback rattlesnake, *Crotalus adamanteus*, during its first year in captivity. (mf - mouse fuzzy, rp - rat pinkie, rf - rat fuzzie, m - adult mouse)

GROWTH

On the day this specimen was received its total length and weight were measured and recorded, thus initiating a growth study. Over the next year these measurements were taken at monthly intervals. Total length measurements were made using a variation of the technique described by Quinn & Jones (1974) and are reported to the nearest .1 cm. Weight measurements were made on an Ohaus triple beam balance and are reported to the nearest .1 g. Table 2 lists the exact measurements and the dates on which they were taken.

As can be seen from the data presented in table 2, this diamondback increased 25.4 cm in total length, an average of 2.1 cm/month, and increased 220.0 g in weight, an average of 18.3 g/month. These figures calculate out to be a monthly weight/length ratio of 8.7 g/cm.

COMMENTS

This article is one of a series that reports on the maintenence and growth of captive crotalines (Strimple 1985 a&b; 1987 a&b; 1988; 1989 a&b). These reports in addition to others (e.g. Jacobsen, 1986; Coulson & Riddell, 1988) on the growth of viperines are useful in showing the growth potential of captive specimens. This in turn can be helpful in determining the time required for a captive bred specimen to attain breeding size. However, care should be taken not to use these types of data as parameters for determining the growth potential of wild specimens. Reptiles maintained in captivity typically eat larger amounts of food at more frequent intervals than do those found in the wild. Furthermore, captive specimens are frequently fed year-round (or nearly so) which is something that does not typically occur in wild specimens in this country. Therefore,

it is to be expected that captive animals will grow at a more accelerated rate that would one of its wils conspecifics.

Datum	Totale lengte (cm)	Gewicht (g)
031187	44.5	64.5
041287	46	71.1
020188	48.9	85.9
060288	51	92.2
070388	53.9	100.8
070488	54.4	125.9
030588	56.9	149.8
050688	57.3	177.2
050788	60.3	202.2
040888	63.1	261
060988	65.4	269.1
031088	67	276.9
0311888	69.9	284.5

Table 2: Total length and weight measurements for a juvenile eastern diamondback rattlesnake, *Crotalus adamanteus*, during its first year in captivity.

Note: I encourage hobbyists and professionals to maintain accurate records on the feeding and shedding of all their specimens, and growth records on at least one of them. The information obtained from these records will not only be of use to you, but also to other people who are maintaining the same species in captivity.

However, for those hobbyists who have just started keeping venomous reptiles I do not recommend taking growth measurements on your specimens. The collection of this type of data necessarily requires additional handling of the animal and therefore, should only be done by persons with considerable experience in this area. Novices at keeping venomous reptiles should only remove these animals from their cage when necessary, i.e., for cage cleaning or treatment of an illness.

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