

NOTES ON DEFENSIVE POSTURES OBSERVED IN CAPTIVE  
SPECIMENS OF THE WESTERN WORM SNAKE *CARPHOPHIS*  
*AMOENUS VERMIS* (KENNICOTT).

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### INTRODUCTION

The Western worm snake, *Carphophis amoenus vermis* (Kennicott) is a small (20-30 cm), secretive, fossorial colubrid found in the Central states of the U.S.A. Records of this subspecies cover Arkansas, Iowa, Illinois, Kansas, Louisiana, Montana, Nebraska and Oklahoma.

*Carphophis amoenus* has two other subspecies, *Carphophis amoenus amoenus* (Say) and *Carphophis amoenus helenae* (Kennicott), both of which occupy ranges further East than the subspecies under discussion.

*Carphophis amoenus vermis* is the most brightly coloured of the three subspecies: the dorsal surface is shiny black, the ventral surface a bright coral pink - this colouration extends onto the body's lateral surfaces for three scale rows on each side. The scales are smooth. The colouration has some bearing on one of the observed defense postures.

### OBSERVED DEFENSE POSTURES

Three separate defensive postures were observed in newly imported specimens: only the first of these appears to have been recorded previously.

1. When held in the hand, the specimens attempted to push both their heads and their tails between the fingers, i.e. burrow into the gaps between the fingers. This reaction is recorded by Conant (1975), although surprisingly not mentioned in Wright & Wright (1957). Clark (1970) also records this behaviour.
2. On a small number of occasions handling of the specimens provoked a second response. The snake would turn over to expose the bright red/pink ventral surface. Presumably the bright colouration is designed to act as a warning to potential predators, although Clark (1970) records that the contents of the musk glands at the base of the tail are very limited as a physical deterrent. Since there is no other physical means by which *Carphophis* can defend itself, it seems reasonable to assume that should this means of defensive behaviour fail to dissuade the predator, the worm snake has little else to fall back on, except to attempt to retreat.
3. On four or five separate occasions specimens of *Carphophis amoenus vermis* were seen to feign death. The snake would suddenly go completely limp and appear to be dead. Indeed, the first time that this behaviour was noted by the author was within twenty minutes of purchasing the snakes, and his initial belief was that the snake had succumbed to the stress of transportation from the dealer's premises to the author's home.  
Subsequent displays of feigning death were found to last for a relatively short space of time - about one minute - before the specimen would revert to 'normal' behaviour. The change from feigning death to reverting to activity was quite rapid, and was never seen to involve any of the cautious glances and 'false starts'

of the Barred grass snake *Natrix natrix helvetica* (Lacépède) in similar circumstances.

Furthermore, no specimen of *Carphophis amoenus vermis* was seen to overturn when feigning death (although this is standard practice in *Natrix natrix helvetica*).

Clark (1970) records a single instance of a further defensive posture in *Carphophis amoenus vermis*, which he observed in a gravid female. Upon handling the specimen flattened its body in a horizontal plane and pulled coils of its body over its head.

#### NOMENCLATURAL NOTE

Throughout the text the present author has referred to the species involved as *Carphophis amoenus vermis* (Kennicott). In 1968 Clark proposed that this subspecies be accorded specific status under the name *Carphophis vermis* (Kennicott), and Clark subsequently used this name in his ecological study of 1970.

The specific status is not recognised in the 2nd edition of Conant's 'Field Guide' (1975), nor in Behler & King's 'Audubon Society' Guide (1979). Obviously earlier texts such as Wright & Wright (1957) utilise the subspecific nomenclature. The present author is not certain whether or not Clark's proposal of specific status was subsequently suppressed, or whether it was overlooked in the revision of Conant and the production of Behler & King's work. Since few readers of this article are likely to have access to Clark's papers, but most will possess one of the standard works on North American Herpetology in which the snake under consideration will appear as a subspecies of *Carphophis amoenus*, it was decided to utilise this nomenclature for the present article.

It is not the author's intention to suppress the specific status accorded by Clark (1968), upon which the author feels unqualified to comment.

#### REFERENCES

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