Phenotypic deviation (Colour variation) among scorpion species and species *Hotanta tamulus* from Malakoli region Nanded district (Maharashtra)

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Abstract

To study diversity in color among vertebrate animal is very easy but it is very task in invertebrate animal. In some invertebrate animal it is easy because these organisms are not dangerous to handle but in experimental animal *Hotanta tumulus* is dangerous. In scorpion colour variation show more diversity as compare to other invertebrate due to diversity among habit and habitats in different parts of the world hence it show more diversity. Here try to shown colour variation found among scorpion species Hotanta tamulus

KEYWORDS: -quart, glue board, split pulse or Dal, calotes.

Introduction:

The scorpions were collected by placing a quart-sized glass jar over the scorpion and sliding a sheet of thick paper under the jar. With the sheet of paper securely over the mouth of the jar, invert the jar; the scorpion will fall to the bottom of the jar. Screw a secure lid over the mouth of the jar. Scorpions can also be picked up safely with forceps that are 10 to 12 inches long, or with other long mechanical devices made for picking up small objects, and placed in a glass jar secured with a screw type lid. Glue boards measuring 8 x 5 1/4 inches may also be useful in trapping scorpions. The morphological study of scorpion was done in various seasons among male and female.

Scorpions occur with vivid coloration as well as striking color pattern so characteristic of some spiders and insects. The color variety of scorpion was studied by *Millot J. and Vachon M* (1949). The color variety varies widely extending all the way from pale yellow to pitch black. There is considerable similarity between the coloration of scorpion and the type of environment in which they live. Those from the tropics which live under the debris in the forest floor are often black or brown in color. Yellow and tawny color predominates in the desert region. The color of many species is indicated as follows.

1] Forest scorpion; background from shiny black or steel grey
2] Sand: pale yellow 3] Soil under stone: dark greenish black
4] Seedling/young: silvery white.

The color of body depends upon the surrounding and varies from shining black to pale yellow. The dorsal surface is much darker than ventral.

Material and method:

The material method used for colour pattern study was field observation method which is carried out in different season among male and female. For observing colour pattern among scorpion species visit zoological survey of India (Pune) and shown comparative results.

Observation and results:

Fig shows colour variation among scorpion species. There was no seasonal variation in colour which is shiny black or faint reddish black or faint yellowish green. The darkening of colour occurred in summer season.

Seasonal changes concern to morphology: Change is the characteristic of living organisms. It may be in physiological activity or morphology of organism. During end of summer females attain considerable size and their uterus contains embryo, and abdominal size increases.

In May and June female gives birth to young ones. These are very small silvery white and appear like black gram split pulse or dal. Weight is about 1-2 mg the growth of small individual is very fast.

The male grows continuously. In young scorpions [1 -10 days] there is no sexual dimorphism, and it is also difficult to identify internally. In rainy season scorpions attain considerable size and get lot of variation among food. In monsoon and winter season there is a clear sexual dimorphism. Sexual dimorphism is visible 2-3 months after birth.

Discussion:

*Werner F (*1935), studied colour variation among scorpion. In scorpion species coloration was also studied by *Alex Harington* (2008). In scorpion and calotes a colour changing property is good adaptation for defense. Colour pattern studies among fishes were carried out by many researchers and have shown that among fishes there is diversity of colour pattern.

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Fig. Colors Variation among Scorpion Species