ARE YOU INTERESTED IN INVERTEBRATE EXHIBITS? THINK OF CRABS!

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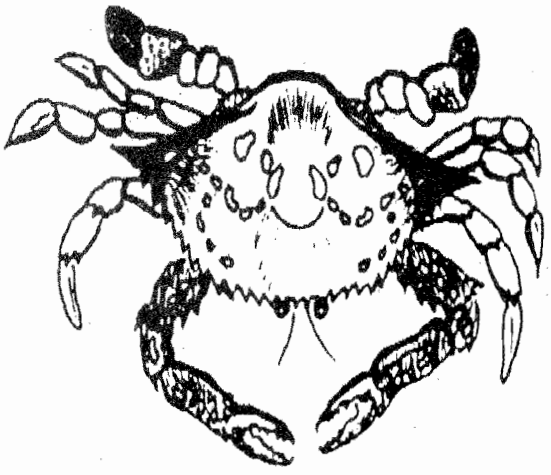
Keeping and exhibiting invertebrates in a Zoo is a new venture in the history of Indian Zoos. Before we enter into this new field, we should study deeply how best we could make an invertebrate exhibit more attractive and lively. Otherwise, our attempt will be a failure from the beginning. Two major factors may be considered:

1. Lack of knowledge about the importance and incredible facts about invertebrates (Ignorance).

2. Negative attitudes towards in vertebrates, especially towards most of the arthropods (Fear).



Many of the European Zoos have success stories of their invertebrate exhibits. The main reasons for this, according to Hariana Chilstrom (1993) are: The invertebrate exhibit capitalizes on the fascination most people have for invertebrates, especially for insects. The exhibits are presented in a non-threatenign and personalized manner. Every attempt is made to reverse negative attitudes and stimulate fresh perceptions by promoting an accurate and positive image of invertebrates. Let us think on these lines for developing an invertebrate exhibit.

Of the many group of invertebrates, which group we can choose to start our invertebrate exhibit so as to make it fascinating and successful ? The following criteria may be helpful for this purpose. The animal should be :

1. Large in size.

2. Colourful and attractive.

3. Agile and active.

4. Peculiar morphology and features.

5. Fascinating biology with some incredible facts.

6. Easy to acquire and keep.

7. Biological and economic value.

Only two classes of invertebrates fulfil all the above criteria for selection. One is insects and the other is crustaceans. Among insects, the butterflies and among crustaceans, the crabs are the major groups which meet our criteria. Between these two groups, butterflies are better known than crabs to most of us. Let us choose a lesser known group, the crabs, for starting an invertebrate exhibit in our zoo.

Crabs for Education

Crabs live both in fresh and in sea water. They lead an amphibious life although some are purely aquatic. They vary in sizes from that of a honey-bee size to that of a rabbit (the coconut crab). They are available in all attractive colours - Green, Yellow, Red etc. Some crabs are known for their rhythmic colour changes (eg. *Ocypode ceratophthalma* - species of ghost crabs of our Indian Coasts). The intertidal shore crabs are known for their gregariousness and agility. The ghost crabs are one of the fastest runners among invertebrates. Among various peculiar features, the chelate legs and stalked eyes are more peculiar. A male Uca crab (a common intertidal crab) carries a chela (forked protion of a leg) which is larger than its body size. The life of many crabs like Hermit crabs and Ghost crabs are really fascinating.

Sound-production and reproductive behaviour of some crabs have many incredible facts. Many crabs could be collected and are easy to keep. The intertidal crabs play a major role in the intertidal Zone ecosystem and some other crabs are edible and tasty. What more reasons one may require for choosing crabs for our invertebrate exhibit!

Among the various species of crabs, we may consider the following crab species; Ghost crabs, Fiddler crabs and Hermit crabs. All these are easily available and will form a good exhibit for the public. Among the ghost crabs the following species are available in plenty in Indian Coasts. They are : 1. *Ocypode platytarsis*, 2. *O. certophythalma* and 3. *O cordimana*. Of these *O. cordimana* is the smallest and common in sandy beach away from the intertidal zone.

Creation of Crab Exhibits

The ghost crab *O. Platytarsis* and *O. ceratophythalma* require moist sea sand and sea water. Glass fish tank of any size will suffice for keeping these crabs. Keep 5 cm. deep wet sea sand and 5 to 10 crabs may be kept in a normal size fish tank.

All the crabs should be similar in size so as to avoid fighting and cannibalism. If we keep a deeper soil, they tend to burry

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themself and would not be visible to visitors. They feed on all dead fleshy material including their own species. Small pieces of fish are ideal. For Uca species (Fiddler crab) shallow estuary mud (clay) will be ideal. The Hermit crab require both sea water and sandy exposed surface. Each of these crab species are unique in their appearance and behaviour. Other minor details of crab rearing may be had from literature or from specialists in this field. One may even design an open and large enclosure with enrichment works. Some account of crab exhibit is given by Alford, (1993).

Scope for Educational and Interpretive Activities

The crab exhibit has much scope for educational and interpretive programmes. Various ways through which the invertebrates could be used for educative programme are discussed by several authors (Schulze, 1993; Chilstrom, 1993 and Fernandes 1993).

As far as Crabs are concerned the following educational objectives will be interesting:

1. Understand the various habitat of crabs.

2. Demonstrate defence mechanism.

3. Discuss the social life of crabs.

4. Understand the eco-physiology and adaptations of crabs.

Live specimens, charts models and puppets may be used to achieve the above objectives.

The tidal rhythm in crab behaviour would be interesting, *O.certophthalma* changes its colour according to the tidal periodicity.

Crabs have a unique mechanism of self defence known as "autotomy" which is explained as a reflex severance of legs when injured. This may be demonstrated.

The social life of Ghost crabs are very interesting. They make "copulation burrows" or boudoir's and produce sound by means of special organs called "stridulating ridges". These can be discussed and made interesting to visitors.

Adaptation to tide, humidity etc. may be explained with the aid of crab species.

Hermit Crab is an ideal specimen for a puppet show.

Thus, there is a lot of scope for developing interesting educational programmes with crab exhibits.

Why don't you think of starting a crab exhibit now for your zoo. We will have one soon at Guindy Children's Park, Madras.

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