Chapter 2

Materials and methods
2. MATERIALS AND METHODS

2.i Organisms

The selected freshwater field crabs *Sartoriana spinigera* (Woodmason) and *Potamon atkinsonianum* (Woodmason) (Fig. 1) were collected from Uyyakondan and Koraiyar river complex in Tiruchirapalli. Among the 15 species of crabs available in this area, two species were selected for the present study. Literature available on these crabs are very meagre. Identification of these crabs was verified by the scientists and authority in Crustacea at the Zoological survey of India, Madras. Then, reconfirmed by Dr Holthuis, Authority, National museum of natural history, Leiden, Holland, through personal communication. Then the revised nomenclatures of the two species were further clarified by authorities at the Zoological Survey of India, Head office, Calcutta.

The Systematic position of these animals are:

- Phylum: Arthropoda
- Class: Crustacea
- Order: Decapoda
- Section: Brachyura
- Sub-section: Brachygnatha.
- Super family: Brachyrhyncha
- Family: Potamonidae
  - (i) Genus: Sartoriana
  - Species: spinigera
  - (ii) Genus: Potamon
  - Species: atkinsonianum.

2. ii. Water

The river Cauvery is the main source of water for irrigation in the study area. Uyyakondan and Koraiyar river complex is a branch of Cauvery. In the collection area agricultural activities are found throughout the year and the main source of irrigation is
the river Cauvery and also borewells, which is the reason for the availability of the animals throughout the year. The physico-chemical conditions of water is discussed in subsequent chapters.

2.iii. Temperature and rainfall

Temperature and rainfall are major criteria to be considered for biological studies (Figs. 3 and 4). The data regarding temperature and rainfall were collected from Meteorological department, Soil and Salinity Research Institute, Muthukulam, Tiruchirapalli, which is very near to the study area. The experimental studies of biology, toxicology and their sublethal effects are illustrated in detail in the concerned chapters.
Fig. 3  TEMPERATURE 1990-93

![Temperature Graph](image-url)

- **Mean Values C**
  - Maximum
  - Minimum

- **Months**: Sep, Dec, Mar, Jun, Sep, Dec, Mar, Jun
Fig. 4  RAINFALL 1990-93