Chapter I

INTRODUCTION

It is a pity that owing to ignorance man fears many harmless creatures and neglects their study. One such neglected group of animals is the spiders. From the earliest times, man has had an aversion for spiders. The conception that spiders are highly poisonous, noxious and ugly is purely prejudice. Scientists have proved that but for a few exceptions spiders are generally harmless to man. Apart from the question of poison, acquaintance with spiders reveal that they form as fascinating a group as birds or butterflies. Among the wonders of natural history a few things are more remarkable than is the multitude of these small many legged animals, often seldom obtruding themselves upon our notices. Their external morphological characters, their protective adaptations and colouration, their habits all present such a range of complexity and variety that really form engrossing subjects for study (Subrahmanyam, 1968).

Spiders make up a considerable portion of the animal life of this vast and diversified land. They are widespread and are found in all types of habitats and occupy all but a few niches. Spiders may be found near water’s edge, on the ground, in underground caves and the top of mountains. In fact Jumping spiders are collected from Mt. Everest (22,000 ft), the highest elevation at which any animal has ever been found. Almost every plant has its spider fauna, as do dead leaves, on the forest floor and on the trees in winter. They may be found under bark, under stones, under fallen logs, among foliage, house dwellings, grass leaves etc. Some run over the branches and trunk and hide under loose bark and in crevices; many live in ground burrows or in webs. (Tikader, 1976e).

Although many species of spiders have a fairly wide distribution, both within and between the continents of the world, the majority tends to be found within a fairly restricted habitat because they are specially adapted to live in that particular area. Spiders adapted for living in damp marshy habitat, for example, would find it impossible to live in the hot, dry conditions met with in deserts.
All spiders are carnivorous and feed almost exclusively upon prey, which they have caught for themselves, although a few species take advantage of food, which has been taken by other spiders, and one family feeds exclusively upon other spiders. They prey upon other arthropods, mainly insects; although woodlice and centipedes may also be taken. Some of the large mygalomorph spiders are capable of eating small vertebrates like small birds or lizards. Despite this enormous benefit of spiders to members of human race, man’s attitude towards them remains highly ambivalent (Mafham & Mafham, 1984).

1.1. RELEVANCE OF THE STUDY

Conservation of spiders: Spiders are clearly an integral part of global biodiversity since they play many important roles in ecosystems as predators and sources of food for other creatures. Spiders also have utilitarian value. For many years, spiders have been model organisms for research in ecology, behaviour and communication. They may also be important as biological control agents in agro-ecosystems, providers of silk for materials science, and suppliers of venom for both medical and insecticide research. Some exciting research in these areas is currently underway. Spiders as a group may even provide useful conservation tools as ecological indicators or in rapid biodiversity measurement.

Threats to spiders: Many threats to spider diversity have been documented. The primary threat is habitat loss and degradation, as with many other elements of biodiversity. More specifically, some spiders have become imperiled due to urban development, land-use management techniques, air and groundwater pollution by pesticides and fertilizers, the introduction of alien species, and in some cases, collection and trafficking due to the pet trade. For a few species, these threats have pushed them to the threshold of extinction, attracting the attention of conservation professionals. Many other species may be threatened, but research on them is lacking. Without the appropriate baseline information on status, distribution and abundance, it is difficult to target appropriate habitats for protection, develop appropriate management techniques, or consolidate the necessary resources for obtaining legal conservation status for these species.
Though spiders play a significant role in maintaining the ecological balance, tropical spiders are least studied the world over. Spiders play an important role in the control of insect pests and thereby helping in the reduced use of pesticides. This in turn helps in conserving the natural ecological balance.

Kerala, with its varied geographic, climatic, and ecological features, exhibits a rich assemblage of various types of spiders. However, no studies on their diversity have ever been undertaken here, with the result that many of them still remain unnamed and unrecorded. Further, deforestation and environmental pollution have led many species to the verge of extinction. Hence the present work is undertaken with a goal to achieve the objectives envisaged in the proposal.

1.2. OBJECTIVES OF THE PRESENT WORK

1. Collection of spiders primarily from Ernakulam district and from other selected areas in Kerala.
2. Identification of spiders up to species level.
3. To study the taxonomical features of various families found in Kerala.
4. To report new species that may be collected.