CHAPTER-VI

6. SIGNIFICANT FINDINGS

1. From the four selected sub-sites from Jambughoda Wildlife Sanctuary namely, Natural Forest, Riparian Habitat, Agricultural Fields and Forest Plantations a total of 148 species belonging to 90 genera and 29 families were collected (Table 31).
2. Natural forest has 136 species of spiders belonging to 84 genera and 28 families whereas Riparian Habitat has 79 species of spiders belonging to 50 genera and 17 families and in Forest plantations 46 species of spiders belonging to 37 genera and 15 families were recorded (Table 32 & 33).
3. In total five major agricultural fields of Jambughoda Wildlife Sanctuary harbours 62 species of spiders belonging to 43 genera and 16 families. Out of which:
    a. Castor fields harbours 50 species of spiders belonging to 41 genera and 16 families.
    b. Corn fields have 62 species of spiders from 43 genera and 16 families.
    c. Cotton fields have 51 species of spiders belonging to 39 genera and 16 families.
    d. Paddy fields sustain 47 species of spiders belonging to 35 genera and 14 families.
    e. Pigeonpea fields have 55 species of spiders belonging to 42 genera and 16 families.
4. Forest Plantations have minimum spider diversity because of less complex and uniform vegetation which reduces the hiding places for spiders.
5. Riparian habitat has average spider fauna but have unique spider diversity due to presence of humid atmosphere.
6. Family Pisauridae was recorded only from Riparian habitat as these spiders prefers to hunt for prey at the surface of water, also their eggs needs more humid atmosphere for successful hatching.

7. Maximum diversity of spiders was recorded from Natural Forest because of complex habitat structure and with variety of vegetation including herbs, shrubs and trees.
8. Dominant families were Araneidae and Salticidae followed by Theridiidae, Gnaphosidae and Thomisidae.
9. 24 interesting records were found from the study area which includes two new records for India namely, *Cephalobares globiceps* and *Pandava laminate*; 16 new records for Gujarat namely, *Gea subarmata*, *Lipocrea fusiformis*, *Poltys columnaris*, *Poltys nagpurensis*, *Clubiona foliata*, *Ctenus narashinhai*, *Cheiracanthium inornatum*, *Murricia hyderabadensis*, *Hygropoda mahendriensis*, *Nilus phipsoni*, *Pisaura podilensis*, *Myrmarachne tristis*, *Stenochilus hobsoni*, *Tylorida ventralis*, *Yaginumena maculosa*, *Zosis geniculata* and six new species i.e. *Singa sp.*, *Brinolia sp.*, *Prodidomus sp.*, *Epocilla sp.*, *Euryopis sp.* and *Storena sp.* were documented.
10. From ecology parameters, guilt structure of spiders includes Stalkers (2 families), Ambushers (3 families), Foliage runners (4 families), Ground runners (13 families), Sheet web-builders (2 families), Orb weavers (3 families) and Space web-builders (2 families).
11. Maximum species of ground runners were found from natural forest habitat due to availability of more hiding place in leaf litter.
12. Eight different types of webs were recorded form the study site namely, orb-webs, funnel web, irregular web, sheet web, tangle web, tube web, tent web and cob web.
13. The web structure of *N. vigilans* and its efficiency of prey capture revealed that these spiders construct webs at different heights and of different sizes but always maintain the basic web structure (i.e. number of radii, number of spirals, web symmetry, web-orientation and mesh width).
14. The insect orders maximally preferred by spiders were Coleoptera, Diptera, Ephemeroptera, Hemiptera, Hymenoptera, Isoptera, Lepidoptera, Neuroptera, Odonata and Orthoptera.

15. Nocturnal spiders were recorded to be abundant in the study site and their breeding behaviour was observed in the months of post monsoon season.
16. All spiders protect their eggs in silk, forming cocoon which has variety of shapes namely, simple flat multilayered silk cocoon (Salticidae), spherical shaped eggsac (Lycosidae), star shaped eggsac (Uloboridae); arrow shaped and bell shaped eggsac (Theridiidae); dorsoventrally flat cocoon attached to bark (Hersiliidae).
17. Parental care behaviour was also prominent in many spider species which includes guarding of egg-sac by female (Lycosidae, Oxyopidae, Salticidae, Sparassidae, Theridiidae); spiderlings carried by female on its back (Lycosidae); spiderlings being feed by mother (Scytodidae).
18. Spiders provide various ecological services like they act as generalist predator which helps in keeping check on insect population, they acts as food for ants, mites, wasp and birds.
19. Few birds like paradise fly catcher uses spider web in gluing its web while constructing.
20. Spiders also act as biological indicators for monitoring biodiversity and their presence and absence indicates the changes in environmental conditions or disturbance.