Zoo-geographically, the valley of Kashmir is situated between latitudes 32° and 37° and longitudes 73° and 80°, and lies between the Palaearctic and Oriental regions being marked by extreme climatic conditions with temperatures ranging from -14°C to 34°C. The forests, a characteristic of this region are constituted mainly by pure coniferous trees mixed with scattered broad leaved plantations. The main economically important species being Cedrus deodara, Pinus wallichiana, P. rexburghi, Abies pindrow, Pices sp., Acer sp., Juglans regia, Acacia catechum, Populus sp. and Salix sp.

In the valley, the main plantations comprise of agricultural, horticultural and ornamental species viz., Brassica sp., Zea mays, Oryza sativa, Malus sylvestris, Prunus avium, P. bokharensis, Amygdalus persicae, A. vulgaris, Punica granatum, Rosa indica, Berberis vulgaris and Robinia pseudo-acacia. These plantations have been observed infested with large number of aphid species, first in the plains and subsequently in the higher altitudes, as it is in the plains first that the foliage appears on the plants as compared to forests on upper reaches.

Aphids, by and large, constitute an economically important group of small, soft bodied, pear shaped
hemipterous insects. They cause serious damage to almost all parts of a plant i.e. shoots, stems, buds and foliage by sucking their life sustaining sap. Chemical control of aphids is rather difficult to achieve and the insecticides may exert adverse effects on the biotic community, including man. It is therefore highly desirable to determine the feasibility of aphid control through biological agents like insect predators, such as coccinellids. The aphidophagous coccinellids, by virtue of being well known and established entomophagous insects, are an important tool in the hands of applied entomologists in this regard.

Coccinellids are commonly known as ladybird beetles and are familiar to people by their attractiveness and scientific importance. These beetles belong to order Coleoptera, sub-order Polyphaga and superfamily Cucujoidea. The term 'lady' in the word ladybird is in reference to biblical Mother Mary (Roache 1960). These insects are extremely diverse in their habits and are characteristically spotted, variously coloured and medium sized, oval with strongly convex dorsum. The larvae of these resemble to a great extent with those of the Chrysomelids from which they are distinguished by the presence of three distinct segments in hind tarsi. The forewings of the adults are hardened into wing cases or elytra which meet in a straight mid dorsal line when the beetle is at rest. The hind wings
are membranous and are mainly responsible for flight operation. When not in use, the wings remain folded underneath the elytra. These beetles feed both during larval as well as in adult stages. Adults as well as larvae have biting type of mouth parts. Mandibles are sickle shaped and the ligula is bilobed. The larvae are compodeiform having chitinised dorsal plates and possess three pairs of thoracic legs. Head is well developed and thoroughly chitinised. Besides prothoracic spiracles, the abdominal segments numbering from 1-8 have spiracles in peripneustic condition. The pupa is exarate.

Coccinellids form an economically important group of insects and the family comprises upto-date, since Linnaeus (1758), about 495 genera and nearly 5000 described species throughout the world. They may be harmful or beneficial, the former being reputed pests of certain crops and vegetables while the latter including predaceous and mycophagous species. The zoophagous coccinellids feed upon a wide range of insect pests, viz. aphids, scale insects, different developmental stages of arthropods like spiders and mites which prove injurious to various agricultural and forest plants. Due to the predaceous food habits of these beetles, they prove to be potential agents in the implementation of biological control measures. The phytophagous
members of this family prove injurious to some cultivated plants belonging to families, Leguminaceae (beans, cowpeas and soyabeans) and Cucurbitaceae (squashes, pumpkins and cucurbits) thereby causing serious destruction and damage to agricultural and horticultural plants.

The first report of a coccinellid was made by Linnaeus in 1758, who used but one genus wherein all coccinellid species were placed. Later on, several workers extensively added to the taxonomic literature on the ladybird beetles from all over the globe - Mulsant (1866), Crotch (1874), Boving (1917), Gage (1920), Mader (1926) and Korschefsky (1931). In India, investigation on this group dates back to 1903 when Stebbing published an account of sixteen predaceous species. Since then a lot of literature has been added by a number of workers who include - Lefroy (1909), Clausen (1915), Subramanyam (1923), Strouhal (1927), Pradhan (1935), Kapur (1940,42), Puttarudriah and Basavanna (1953), Abraham and Mathew (1975) and Saharla (1980-81).

More than 300 species of coccinellids have been reported from India till date. In the State of Jammu and Kashmir very little work has been carried out on this subject and some stray record made by Potinder (1941) who reported Chilocorus bijugus on Sanjose Scale is however
available. Kapur (1954) made systematic and biological observations on ladybird beetles predating on Sanjose Scale in the valley.

Keeping the scientific and agricultural importance of these beetles in view, a comprehensive study on the coccinellids of Kashmir valley was undertaken. The thesis is presented in two parts and whereas Part I deals with the biology of predominant forms and biological notes on the rather scanty ones, Part II comprises of biological control measures against the abundantly found seven aphid species.