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### Diversity of Host Plants of Aphids (Homoptera: Aphididae) Infesting Asteraceae in India

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**Abstract:** Among the flowering plants, the family Asteraceae or Compositae is the largest family in the world, but in India, it occupies seventh place. Few members of this family provide edible oils, lettuce, chicory, artichokes, yacón, sweetening agents, coffee substitutes, and herbal teas and other beverages. Several species are grown as ornamental plants for their flowers, and some are important ornamental crops for the cut flower industry. Several species of this family possess medicinal properties. Out of about 696 plant species described under the family, only 207 species were found to be attacked by 199 aphid (Insecta : Homoptera : Aphididae) species in India. Among the aphid species, *Aphis gossypii* Glover was recorded feeding 77 food plants of Asteraceae followed by *Brachycaudus helichrysi* (Kalt.) (72 species), *Aphis spiraeicola* Patch (70 species), *Myzus persicae* (Sulzer) (45 species), *Myzus ornatus* Laing (35 species), *Aphis fabae* Scopoli (25 species), and *Aphis craccivora* Koch (23 species). *Artemisia* and *Sonchus* were observed to be attacked by 60 and 25 aphid species, respectively.

**Keywords:** Asteraceae, Aphids, *Aphis gossypii*, *Artemisia*.

#### Introduction

Aphids are a group of about 4,700 species of small homopteran phytophagous insects that suck the phloem fluid of plants (Remaudiere and Remaudiere 1997). They are popularly known as plant-lice or ant-cows and vary in size between 0.7 to 7.0 mm in length. Many species of aphids infest important agricultural and horticultural crops and are therefore of major economic importance (Singh *et al.*, 2015). Aphids combine several traits: thelytokous parthenogenetic viviparity (obligate

parthenogenesis where mothers give birth only to daughter young ones), short generation time (about 10 days on average), telescoping of generations (where granddaughters begin developing directly within the daughters which are themselves not yet born), and polymorphism. Because of this they reach very large population sizes very quickly (Singh and Ghosh, 2002). These reproductive characteristics allow aphids to quickly colonize ephemeral resources and quickly growing plants and make them ideal enemies of monocultured crops. Many

species of aphids display complex life cycles with alternation of sexual and asexual generations and host plant alternation (Ghosh and Singh, 2000). Their plant-sap-sucking way of feeding is unique. Once they fasten their piercing mouthparts to a juicy plant, they tend to stay put (Dixon, 1998). They produce characteristic sticky honeydew which attracts wasps, butterflies, some moths and famously, some species of ants, which adore the sweet honeydew (Singh *et al.*, 2000). They like honeydew so much that they protect the aphid from predators. Some ants even herd collections of aphids like so many tiny cows. Many species of aphids transmit viruses to crop plants that have important implications on crop management strategies. Although aphids are the pest of crops, they are extremely important hosts for a number of parasitoids, predators, and an essential meal for numerous other insects, as well as birds.

The plant family Asteraceae or Compositae are herbs, shrubs, or less commonly trees and are arguably the largest family of flowering plants (Angiospermae), and commonly known as the aster, daisy, composite, or sunflower family. The family includes more than 23000 valid species under 1620 genera belonging to 12 subfamilies throughout the world and characterized by having the flowers reduced and organized into an involucre pseudanthium in the form of a head or capitulum. The family is distributed widely from the Polar Regions to the tropics, colonizing all available habitats but most common in the arid and semiarid regions of subtropical and lower temperate. The Asteraceae comprise about 696 species in India (Singh *et al.*, 2002). This family has a remarkable ecological and economical importance.

Few members of the family Asteraceae provide us edible oils (e.g., *Helianthus annuus* (sunflower), *Carthamus tinctorius* (safflower), lettuce (*Lactuca sativa*), chicory

(*Cichorium* sp.), artichokes (*Cynara scolymus*, *Helianthus tuberosus*), yacón (*Smallanthus sonchifolius*), sweetening agents, coffee substitutes, and herbal teas and other beverages. Several species are grown as ornamental plants for their flowers, and some are important ornamental crops for the cut flower industry, e.g., marigold (*Tagetes* spp.), calendula (*Calendula* spp.), coneflowers (*Echinacea* spp.), daisies (*Argyranthemum* spp., *Gerbera* spp.), fleabane (*Eron* spp.), chrysanthemums (*Chrysanthemum* spp., *Dendranthema* spp.), dahlias (*Dahlia* spp.), zinnias (*Zinnia* spp.), and heleniums (*Helenium* spp.) (Dempewolf *et al.*, 2008). Several species of this family possess medicinal properties (Singh *et al.*, 2003). Asteraceae have also been used for industrial purposes. Marigold oil is used in the cola and cigarette industries. Several plants of this family produce plentiful nectar (honey plants). Certain genera, such as *Chrysanthemum*, *Pulicaria*, *Tagetes* and *Tanacetum* contain species with useful insecticidal properties (Ishman, 2006). *Parthenium argentatum* (guayule) is a source of hypoallergenic latex while its another species *Parthenium hysterophorus* (congress grass) is a major weed grown throughout the country (Oudhia *et al.*, 2000).

Earlier, the Indian aphids and their host plants were catalogued in 1983 (Raychaudhuri, 1983) and additions were made in 2001 (Chakrabarti and Sarkar, 2001) and later on by several authors but most of the names of aphid species as well as plant species mentioned therein are either invalid or misnomer. Following article deals with the updated checklist of aphids and its host plants belonging to the family Asteraceae based on the records in literatures and surveys upto June 2015. In the present compilation, attempts have been made to provide the valid scientific names of the species following updated taxonomic informations provided by <http://aphid.speciesfile.org> for

aphids and <http://www.ars-grin.gov> and <http://www.theplantlist.org> for plants. At several places, their synonyms were also mentioned. The subgeneric names of the aphids were excluded.

Following is the updated checklist of aphids infesting the plants belonging to the Asteraceae (or Compositae):

#### I: Plant-aphid list

1. ***Acanthospermum hispidum* DC.:** *Aphis gossypii* Glover (David, 1957; Behura, 1963).
2. ***Acmella paniculata* (Wall. ex DC.) Jansen (= *Spilanthes acmella* (L.) Murray):** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Agarwala, 1979), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Myzus persicae* (Sulzer) (Agarwala, 1979).
3. ***Achillea millefolium* L.:** *Macrosiphoniella sudhakarisi* Banerjee *et al.*, (Banerjee *et al.*, 1969; Chakrabarti, 1972), *Macrosiphoniella* sp. (Bhagat, 1984), *Uroleucon achilleae* (Koch) (Rishi, 1975).
4. ***Adenocaulon bicolor* Hook.:** *Nasonovia rostrata* David & Hameed (Chakrabarti and Raychaudhuri, 1978)
5. ***Adenostemma viscosum* J.R. Forst. & G. Forst.:** *Aphis fabae* complex (Raychaudhuri, 1973)
6. ***Ageratum conyzoides* L.:** *Aphis craccivora* Koch (Nayak *et al.*, 1982; Ahmad and Kumar, 2006), *Aphis gossypii* Glover (Raychaudhuri, 1973; Nayak *et al.*, 1982), *Aphis spiraecola* Patch (Raychaudhuri, 1973; Nayak *et al.*, 1982), *Aphis* sp. (Behura, 1965), *Aulacorthum solani* (Kalt.) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Behura, 1963), (Raychaudhuri, 1973, Agarwala, 1979), *Capitophorus hippophaes javanicus* Hille Ris Lambers (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Behura, 1963; Chakrabarti, 1972), *Neomasonaphis anaphalidis* (Basu) (Raychaudhuri, 1973).
7. ***Ageratum* sp.:** *Aphis gossypii* Glover (Raychaudhuri *et al.*, 1980), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri *et al.*, 1980), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1973; Raychaudhuri, 1980), *Myzus persicae* (Sulzer) (Chakrabarti, 1972), *Vesiculaphis pieridis* Basu (Chakrabarti *et al.*, 1974; Ghosh, 1986).
8. ***Ainsliaea aptera* DC.:** *Macrosiphoniella grandicauda* Takahashi & Moritsu (Chakrabarti and Sarkar, 2001).
9. ***Amberboa moschata* (L.) DC. (= *Centaurea moschata* L.):** *Aphis* sp. (Ghosh, 1970), *Myzus persicae* (Sulzer) (Behura, 1965), *Uroleucon compositae* (Theobald) (Verma *et al.*, 1975).
10. ***Ambrosia artemisiaefolia* L.:** *Aphis spiraecola* Patch (Raychaudhuri, 1973; Rao, 1969).
11. ***Anaphalis araneosa* DC.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973).
12. ***Anaphalis busca* Prodr. (DC.):** *Oedisiphum compositarum* van der Goot (Medda and Chakrabarti, 1998), *Dysaphis atina* Ghosh *et al.*, (Chakrabarti and Sarkar 2001).
13. ***Anaphalis cinnomea* C.B. Clarke:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri *et al.*, 1980), (Chakrabarti *et al.*, 2002), *Brachycaudus* sp. (Chakrabarti *et al.*, 2002), *Capitophorus formosartemisiae* (Takahashi) (Chakrabarti and Sarkar, 2001), *Capitophorus* sp. (Chakrabarti *et al.*, 2002).
14. ***Anaphalis contorta* Hook. f.:** *Aphis fabae* Scopoli (Ghosh, 1986), *Aphis gossypii* Glover (Raychaudhuri *et al.*, 1980), *Aphis spiraecola* Patch (Raychaudhuri, 1973; Ghosh, 1977),

- Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Oedisiphum compositarum* van der Goot (Agarwala, 1979).
15. **Anaphalis marginata** L.: *Brachycaudus helichrysi* (Kalt.) (Ghosh *et al.*, 1985).
  16. **Anaphalis nepalensis** (DC.) Aswal: *Aphis frangulae* Kalt. (Chakrabarti and Sarkar, 2001), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Sarkar, 2001), *Uroleucon budhium* (Basu *et al.*) (Chakrabarti and Sarkar 2001).
  17. **Anaphalis subumbellata** C.B. Clarke: *Oedisiphum soureni* Basu (Ghosh, 1969).
  18. **Anaphalis triplinervis** Benth. Ex Hance: *Aphis gossypii* Glover (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973; Ghosh, 1977), *Neomasonaphis anaphalidis* (Basu) (Basu, 1964), *Oedisiphum compositarum* van der Goot (Medda and Chakrabarti, 1998), *Oedisiphum soureni* Basu (Basu, 1964).
  19. **Anaphalis sp.:** *Aphis fabae* complex (Raychaudhuri *et al.*, 1980), *Aphis gossypii* Glover (Raychaudhuri, 1973; Raychaudhuri *et al.*, 1980), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979; Raychaudhuri *et al.*, 1980; Chakrabarti *et al.*, 2002), *Brachycaudus* sp. (Chakrabarti *et al.*, 2002), *Capitophorus* sp. (Chakrabarti *et al.*, 2002), *Neomasonaphis anaphalidis* (Basu) (Agarwala, 1979, Raychaudhuri, 1983), *Oedisiphum soureni* Basu (Medda and Chakrabarti, 1998), *Uroleucon erigeronense* (Thomas) (Chakrabarti and Sarkar, 2001), *Uroleucon budhium* (Basu *et al.*) (Banerjee *et al.*, 1969, Chakrabarti 1972).
  20. **Arctotis arctotoides** (L. f.) O. Hoffm. (= **Venidium arctotoides** auct.): *Myzus persicae* (Sulzer) (Verma *et al.*, 1975)
  21. **Arctotis grandiflora** Jacq.: *Uroleucon jaceae* (Linn.) (Behura, 1963; Trehan and Halleppnawar, 1949).
  22. **Argyroxiphium sp.:** *Macrosiphum* sp. (Ghosh, 1977).
  23. **Artemisia absinthium** Linn.: *Macrosiphoniella pseudoartemisiae* Shinji (Verma and Mathur, 1966, Bhagat, 1984).
  24. **Artemisia caruifolia** Buch.-Ham. Ex Roxb. : *Aphis kurosawai* Takahashi (Mondal *et al.*, 1978), *Aphis spiraeicola* Patch (Agarwala, 1979), *Macrosiphoniella spinipes* Basu (Agarwala, 1979), *Macrosiphoniella kikungshana* Takahashi (Agarwala, 1979), *Macrosiphoniella yomogifoliae* (Shinji) (Agarwala, 1979), *Tuberocephalus sasakii* (Matsumura) (Agarwala, 1979).
  25. **Artemisia dentate** Willd.: *Capitophorus formosartemisiae* (Takahashi) (Behura, 1965; Raychaudhuri, 1973).
  26. **Artemisia nepalensis** Nees: *Brachycaudus helichrysi* (Kalt.) (Raha, 1979), *Capitophorus formosartemisiae* (Takahashi) (Raha, 1979; 1981).
  27. **Artemisia nilagirica** (Clarke) Pamp.: *Aphis kurosawai* Takahashi (Ghosh, 1990), *Aphis gossypii* Glover (Ghosh, 1990).
  28. **Artemisia roxburghiana** Bess: *Aphis kurosawai* Takahashi (Chakrabarti and Sarkar, 2001), *Capitophorus formosartemisiae* (Takahashi) (Maity and Chakrabarti, 1979).
  29. **Artemisia scoparia** Waldst. & Kit: *Macrosiphoniella alata* (Nevsky) (Verma 1969), (Verma 1971), *Macrosiphoniella pseudoartemisiae* Shinji (Khuda-Bukhsh and Pal, 1986).
  30. **Artemisia vulgaris** L.: *Aphis gossypii* Glover (Dharmadhikari and Ramaseshiah, 1970; Raychaudhuri *et al.*, 1981), *Aphis kurosawai* Takahashi (Raychaudhuri, 1973; Ghosh, 1977; Mondal *et al.*, 1978; Raha, 1979), *Aphis spiraeicola* Patch (Raychaudhuri, 1973;

Agarwala, 1979), *Aphis* sp. (Rao, 1969), *Aulacorthum perillae* (Shinji) (Raychaudhuri, 1978), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Capitophorus formosartemisiae* (Takahashi) (Agarwala, 1979; Raha, 1979; 1981), *Capitophorus* sp. (Rao, 1969; Chakrabarti *et al.*, 2002), *Chaetosiphon gracilicorne* David *et al.*, (Chakrabarti, 1972), *Chaitophorus clarus* Tseng & Tao (Chakrabarti, 1972; Chakrabarti and Raychaudhuri, 1975), *Coloradoa artemisiae* (del Guercio) (Basu *et al.*, 1973; 1974), *Coloradoa artemisicola* Takahashi (Agarwala and Raychaudhuri, 1980), *Coloradoa rufomaculata* (Wilson) (Raychaudhuri, 1973; 1980), *Cryptosiphum aertemisiae* Buckton (Agarwala, 1979, Raha, 1979), *Dysaphis microsiphon* (Nevsky) (Chakrabarti and Sarkar, 2001), *Dysaphis hirsutissima* (Börner) (Rao, 1969), *Greenidea ficicola* Takahashi (Raychaudhuri, 1973), *Macrosiphoniella spinipes* Basu (Raychaudhuri, 1978; 1980), *Macrosiphoniella formosartemisiae* Takahashi (Raychaudhuri, 1973; 1980), *Macrosiphoniella kalimpongensis* Basu & Raychaudhuri (Raychaudhuri, 1980), *Macrosiphoniella kikumshana* Takahashi (Maity and Chakrabarti, 1979, Raychaudhuri, 1973; 1980), *Macrosiphoniella pseudoartemisiae* Shinji (Chakrabarti, 1972; Basu *et al.*, 1973; Basu and Raychaudhuri, 1976), *Macrosiphoniella sanborni* (Gillette) (Agarwala and Raychaudhuri, 1980), *Macrosiphoniella yomogifoliae* (Shinji) (Ghosh, 1977; Raychaudhuri, 1980), *Macrosiphoniella hikosanensis* Moritsu (Bindra and Shekhon, 1969), *Macrosiphoniella* sp. (Rao, 1969), *Myzus cerasi* (Fabricius) (Raychaudhuri, 1973; Basu *et al.*, 1974), *Myzus dycei* Carver (Raychaudhuri, 1978), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Ghosh and Agarwala, 1985), *Pleotrichophorus glandulosus* (Kalt.) (Chakrabarti, 1972; Chakrabarti *et al.*, 1972), *Sappaphis piri* Matsumura (Raychaudhuri, 1978), *Schoutedenia* sp. (Rao, 1969), *Sitobion gravelii* (van der Goot) (Kar *et al.*, 1990), *Toxoptera aurantii* (B. de Fonsc.) (Agarwala, 1979), *Trichaitophorus aceris* Takahashi (Chakrabarti, 1977), *Tuberocephalus sasakii* (Matsumura) (Raychaudhuri, 1978; Agarwala, 1979), *Uroleucon* sp. (Rao 1969, Dharmadhikari and Ramaseshiah, 1970).

31. **Artemisia sp.:** *Aphis gossypii* Glover (Sengupta *et al.*, 1962; Raychaudhuri *et al.*, 1981), *Aphis kurosawai* Takahashi (Raychaudhuri, 1980), *Aphis raji* (Kumar & Burkhardt) (Chakrabarti and Sarkar, 2001), *Aphis spiraeicola* Patch (Agarwala, 1979), *Aulacorthum dasi* Ghosh *et al.*, (Raychaudhuri, 1973), *Aulacorthum* sp. (Raychaudhuri, 1973; 1980), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Brachycaudus* sp. (Chowdhuri *et al.*, 1968; 1969), *Capitophorus* sp. (Chakrabarti *et al.*, 2002), *Capitophorus formosartemisiae* (Takahashi) (Ghosh and Agarwala, 1980; Raychaudhuri, 1980), *Coloradoa indica* Verma (Verma, 1974), *Coloradoa rufomaculata* (Wilson) (Raychaudhuri, 1973; 1980), *Cryptomyzus taoi* Hille Ris Lambers (Raha and Raychaudhuri, 1981), *Cryptosiphum aertemisiae* Buckton (Raychaudhuri, 1973; 1980), *Dysaphis microsiphon* (Nevsky) (Chakrabarti and Medda, 1993), *Greenidea ficicola* Takahashi (Raychaudhuri, 1973), *Hyalomyzus raoi* Hille Ris Lambers (Raychaudhuri 1980), *Longisiphoniella subterranea* Chakrabarti, Saha & Mandal (Chakrabarti *et al.*, 1988), *Macrosiphoniella spinipes* Basu<sup>32</sup>,

- (Raha, 1979), (Basu and Raychaudhuri, 1976), *Macrosiphoniella alata* (Nevsky) (Rishi, 1975), *Macrosiphoniella himalayana* Saha & Chakrabarti (Saha and Chakrabarti, 1988), *Macrosiphoniella kalimpongensis* Basu & Raychaudhuri (Basu and Raychaudhuri 1976), *Macrosiphoniella kkungshana* Takahashi (Chakrabarti et al., 2002), *Macrosiphoniella pseudoartemisiae* Shinji (Maity and Chakrabarti, 1979, Raychaudhuri, 1980), *Macrosiphoniella sanborni* (Gillette) (Basu and Raychaudhuri, 1976, Raychaudhuri, 1980), *Macrosiphoniella sikkimartemisiae* Agarwala & Raychaudhuri (Agarwala, 1979), *Macrosiphoniella yomogifoliae* (Shinji) (Raychaudhuri, 1980; Agarwala and Raychaudhuri, 1980), *Macrosiphoniella grandicauda* Takahashi & Moritsu (Basu and Raychaudhuri, 1976), *Macrosiphoniella oblonga* (Mordvilko) (Agarwala, 1979), *Macrosiphoniella paraoblonga* Basu & Raychaudhuri (Basu and Raychaudhuri, 1976), *Macrosiphoniella hikosanensis* Moritsu (Chakrabarti and Sarkar, 2001), *Macrosiphoniella* sp. (Chakrabarti et al., 2002), *Myzackaia verbasci* (Chawdhuri et al.) (Raychaudhuri 1973; 1980), *Myzus cerasi* (Fabricius) (Raychaudhuri, 1973), *Myzus kalimpongensis* (Ghosh et al.) (Raychaudhuri, 1980, Raha and Raychaudhuri, 1981), *Myzus siegesbeckicola* Strand (Raychaudhuri et al., 1981), *Myzus persicae* (Sulzer) (Agarwala, 1979), *Neomasonaphis anaphalidis* (Basu) (Raychaudhuri, 1973; 1980), *Paraphorodon cannabis* (Passerini) (Behura, 1963), *Pleotrichophorus glandulosus* (Kalt.) (Raychaudhuri, 1973; 1980), *Protrama longitarsus sclerodensus* Kumar (Ghosh, 1982), *Sappaphis piri* Matsumura (Sharma and Bhalla, 1964; Kumar, 1973), *Sitobion gravelii* (van der Goot) (Agarwala, 1979), *Toxoptera aurantii* (B. de Fonsc.) (Agarwala, 1979), *Tuberocephalus sasaki* (Matsumura) (Raychaudhuri, 1973, 1980), *Uroleucon pseudotanaceti* (Verma) (Raychaudhuri, 1973; Agarwala, 1979), *Uroleucon sonchi* (Linn.) (Raychaudhuri, 1973), *Uroleucon* sp. (Ghosh and Agarwala, 1985).
32. **Aster amellus** L.: *Aphis spiraecola* Patch (Joshi and Poorani, 2007)
  33. **Aster trinervius** Roxb. ex D. Don: *Aphis gossypii* Glover (Verma et al., 1975), *Myzus persicae* (Sulzer) (Verma et al., 1975).
  34. **Aster** sp.: *Aphis gossypii* Glover (Raychaudhuri, 1978), *Myzus ornatus* Laing (Raychaudhuri et al., 1981), *Myzus siegesbeckicola* Strand (Raychaudhuri et al., 1981), *Toxoptera aurantii* (B. de Fonsc.) (Raychaudhuri et al., 1981).
  35. **Astragalus nuttallii** (Torr. & Gray) Howell (= *Erigeron asteroides* Roxb.): *Aphis craccivora* Koch (David, 1956a).
  36. **Bidens bipinnata** L. (= *Bidens wallichii* DC.): *Aphis gossypii* Glover (Ghosh, 1977), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Sarkar, 2001), *Aphis fabae* Scopoli (Ghosh, 1986), *Aphis spiraecola* Patch (Dharmadhikari and Ramaseshiah, 1970; Ghosh, 1977), *Macrosiphoniella yomogifoliae* (Shinji) (Chakrabarti, 1972; Ghosh, 1977), *Toxoptera aurantii* (B. de Fonsc.) (Chakrabarti and Sarkar, 2001).
  37. **Bidens biternata** (Lour.) Merr. & Sherff: *Aphis craccivora* Koch (Ghosh, 1990), *Aphis spiraecola* Patch (Ghosh and Agarwala, 1985), *Myzus ornatus* Laing (Rao, 1969).
  38. **Bidens pilosa** L.: *Aphis craccivora* Koch (Agarwala, 1979), *Aphis fabae* complex (Raha, 1979), *Aphis gossypii*

- Glover (Ghosh and Agarwala, 1980, Raychaudhuri *et al.*, 1981), *Aphis spiraecola* Patch (Chakrabarti and Raychaudhuri, 1975; Agarwala and Raychaudhuri, 1980), *Brachycaudus helichrysi* (Kalt.) (Raha, 1979), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Sengupta *et al.*, 1962; Maity and Chakrabarti, 1979), *Rhopalosiphum padi* (Linn.) (Raha *et al.*, 1977), *Rhopalosiphum rufiabdominalis* (Sasaki) (Raychaudhuri *et al.*, 1980), *Sitobion graminis* Takahashi (Behura, 1963), *Toxoptera aurantii* (B. de Fonsc.) (Chakrabarti and Sarkar, 2001), *Tricaudatus polygoni* (Narzikulov) (Chakrabarti and Raychaudhuri, 1975).
39. ***Bidens pilosa* L. var. *pinnata*:** *Aphis spiraecola* Patch (Ghosh and Agarwala, 1985)
40. ***Bidens* sp.:** *Aulacorthum solani* (Kalt.) (Raychaudhuri *et al.*, 1980), *Capitophorus litanensis* Raychaudhuri *et al.*, (Raychaudhuri *et al.*, 1984), *Uroleucon compositae* (Theobald) (Raychaudhuri, 1978).
41. ***Blumea aromatica* DC.:** *Uroleucon sonchi* (Linn.) (Singh and Singh, 1986; Devi and Singh, 1987).
42. ***Blumea lacera* (Burm.f.) DC.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Behura, 1963, Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973).
43. ***Blumea laciniata* (Roxb.) DC.:** *Aphis gossypii* Glover (Rao, 1969).
44. ***Blumea mollis* (D. Don) Merr.:** *Brachycaudus helichrysi* (Kalt.) (Joshi and Poorani, 2007).
45. ***Blumea witiara* DC.:** *Aphis gossypii* Glover (Agarwala, 1979).
46. ***Blumea* sp.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Rao, 1969), *Uroleucon budhium* (Basu *et al.*,) (Raychaudhuri, 1973; 1980), *Uroleucon compositae* (Theobald) (Raychaudhuri, 1978).
47. ***Calendula* sp.:** *Aphis gossypii* Glover (David and Hameed, 1975), *Aphis gossypii* Glover (Ghosh, 1977), *Aphis spiraecola* Patch (Agrawal and Singh, 2005), *Lipaphis erysimi* (Kalt.) (Raychaudhuri, 1973; 1980), *Uroleucon kashmiricum* (Verma) (Ghosh, 1977), *Uroleucon compositae* (Theobald) (Behura, 1963), *Uroleucon jaceae* (Linn.) (Trehan and Halleppnawar, 1949; Behura, 1963).
48. ***Carduus edelbergii* Rech.f.:** *Brachycaudus cardui* (Linn.) (Raychaudhuri *et al.*, 1982), *Capitophorus elaeagni* (del Guercio) (Chakrabarti *et al.*, 1974).
49. ***Carduus nutans* L.:** *Aphis verbasci* Schrank (Chakrabarti, 1972).
50. ***Carduus onopordioides* Fisch. ex Bieb.:** *Dysaphis atina* Ghosh *et al.*, (Chakrabarti *et al.*, 1974).
51. ***Carduus* sp.:** *Brachycaudus cardui* (Linn.) (Verma, 1969), *Dysaphis* sp. (Rishi, 1975).
52. ***Carthamus oxyacantha* Bieb. (= *Carthamus oxycarpi* m.i.):** *Aphis carthami* (Das) (Ghulam-Ullah, 1940), *Uroleucon solidaginis* (Fabricius) (Ghulam-Ullah, 1940).
53. ***Carthamus tinctorius* L.:** *Aphis craccivora* Koch (Patel and Patel, 1971), *Aphis* sp. (Deshpandey, 1938), *Myzus persicae* (Sulzer) (Behura, 1963, Verma *et al.*, 1975), *Uroleucon sonchi* (Linn.) (Behura, 1963), *Uroleucon carthami* (H.R.L.) (Behura, 1963), (David, 1956c), *Uroleucon compositae* (Theobald) (Behura, 1965; Rao, 1969), *Uroleucon jaceae* (Linn.) (Behura, 1963), *Uroleucon orientalis* (Kulkarni) (Kulkarni, 1980), *Uroleucon solidaginis* (Fabricius) (George, 1927).

54. ***Carthamus* sp.:** *Aphis* sp. (Behura 1963), *Uroleucon gobonis* (Matsumura) (Raychaudhuri, 1980).
55. ***Catamixis baccaroides* Thomson:** *Acyrtosiphon rubi* (Narzikulov) (Ghosh, 1977).
56. ***Catamixis* sp.:** *Acyrtosiphon* sp. (Bhalla and Pawar, 1980).
57. ***Centaurea cyanus* L.:** *Uroleucon jaceae* (Linn.) (Verma, 1971).
58. ***Centaurea* sp.:** *Aphis fabae* complex<sup>14</sup>, *Uroleucon sonchi* (Linn.) (Ghosh et al., 1997).
59. ***Chromolaena odorata* (L.) King & H.E. Robins.:** *Brachycaudus helichrysi* (Kalt.) (Joshi and Poorani, 2007), *Aphis gossypii* Glover (Agarwala and Raychaudhuri, 1982), *Aphis spiraeicola* Patch (Joshi and Poorani, 2007).
60. ***Chrysanthemum hortorum* W. Mill.:** *Aphis gossypii* Glover (Devi et al., 2002).
61. ***Chrysanthemum indicum* L.:** *Aphis craccivora* Koch (Patel and Patel, 1971), *Aphis gossypii* Glover (Patel and Patel, 1971), *Aphis nasturtii* Kalt. (Raha, 1979), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Capitophorus formosartemisiae* (Takah.) (Raha, 1979), *Coloradoa rufomaculata* (Wilson) (Ghosh and Agarwala, 1980), *Macrosiphoniella sanborni* (Gillette) (Behura, 1963), (Chakrabarti, 1972), (Raychaudhuri 1980), (Basu and Raychaudhuri, 1976), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Kar et al., 1990).
62. ***Chrysanthemum xmorifolium* Ramat. (= *Chrysanthemum sinense* Sabine ex Sweet):** *Aphis gossypii* Glover (Behura, 1963), *Coloradoa rufomaculata* (Wilson) (Behura, 1963), *Macrosiphoniella sanborni* (Gillette) (Behura, 1963), (Bhagat, 1984), *Macrosiphum centranthi* Theobald (David, 1975), *Myzus persicae* (Sulzer) (David, 1958).
63. ***Chrysanthemum* sp.:** *Aphis craccivora* Koch (Agarwala, 1979), *Aphis gossypii* Glover (Raychaudhuri, 1973; Raha 1979), *Aphis kurosawai* Takahashi (Raha et al., 1977), *Aphis spiraeicola* Patch (Raychaudhuri, 1973, Raychaudhuri, 1978), *Aulacorthum solani* (Kalt.) (Raychaudhuri et al., 1980), *Brachycaudus helichrysi* (Kalt.) (Behura, 1963, Raychaudhuri et al., 1980), *Coloradoa rufomaculata* (Wilson) (Singh and Ghosh, 2002), *Macrosiphoniella spinipes* Basu (Ghosh and Agarwala, 1985), *Macrosiphoniella formosartemisiae* Takahashi (Chakrabarti and Sarkar, 2001), *Macrosiphoniella kikungshana* Takahashi (Maity and Chakrabarti, 1979), *Macrosiphoniella pseudoartemisiae* Shinji (Chakrabarti and Sarkar, 2001), *Macrosiphoniella sanborni* (Gillette) (Chakrabarti, 1972, Maity and Chakrabarti, 1979), *Macrosiphoniella* sp. (Bindra and Shekhon, 1969), *Macrosiphum centranthi* Theobald (Behura, 1963), *Macrosiphum euphorbiae* (Thomas) (Ghosh, 1977), *Macrosiphum pachysiphon* H.R.L. (Raychaudhuri, 1973), *Macrosiphum* sp. (Deshpandey, 1938), *Myzus ascalonicus* Doncaster (Raychaudhuri, 1973; 1980), *Myzus persicae* (Sulzer) (Behura, 1963; Raychaudhuri, 1973), *Sinomegoura citricola* (van der Goot) (Raychaudhuri, 1978), *Tetraneura basui* H.R.L. (Agarwala, 1979), *Tetraneura nigriabdominalis* (Sasaki) (Ghosh and Raychaudhuri, 1968), *Uroleucon formosanum crepidis* Ghosh et al., (Raychaudhuri, 1978), *Uroleucon pseudotanaceti* (Verma) (Ghosh and Agarwala, 1985).
64. ***Cicerbita cyanea* (D. Don) Beauv. (= *Lactuca hastata* DC.):** *Dysaphis emicis* (Mimeur) (Chakrabarti et al., 1972), *Uroleucon formosanum formosanum* (Takahashi) (Chakrabarti



- et al., 1972), *Uroleucon longisetosum* Chakrabarti & Verma (Chakrabarti and Verma, 1975)
65. ***Cicerbita macrorrhiza* (Royle) Beauv. (= *Lactuca macrorrhiza* (Royle) Hook.f.):** *Uroleucon longisetosum* Chakrabarti & Verma (Maity and Chakrabarti, 1979).
  66. ***Cineraria* sp.:** *Aphis umbrella* (Borner) (Behura, 1963), *Aulacorthum solani* (Kalt.) (David, 1958), *Aulacorthum circumflexum* (Buckton) (Behura, 1963), *Brachycaudus helichrysi* (Kalt.) (Behura, 1963; Raychaudhuri, 1973), *Macrosiphum centranthi* Theobald (David, 1975), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Behura, 1963), *Sitobion miscanthi* (Takahashi) (Ghosh and Raychaudhuri, 1968).
  67. ***Cirsium arvense* (L.) Scop. (= *Cnicus arvensis* (L.) Roth):** *Aphis fabae* complex (Behura, 1963), *Paraphorodon cannabidis* (Passerini) (Behura, 1963).
  68. ***Cnicus argyranthus* (DC.) C.B. Clarke:** *Hyperomyzus lactucae* (Linn.) (Ghosh, 1977), *Uroleucon kumaoni* Banerjee et al., (Chakrabarti, 1972).
  69. ***Cnicus involucratus* Wall. ex DC.:** *Capitophorus elaeagni* (del Guercio) (Rao, 1969).
  70. ***Cnicus wallichii* Hook.f.:** *Aphis craccivora* Koch (Agarwala et al., 1980), *Aphis fabae* complex (Raychaudhuri, 1973; Ghosh, 1977), *Brachycaudus helichrysi* (Kalt.) (Ghosh et al., 1986), *Capitophorus carduinus* (Walker) (Das and Chakrabarti, 1988; Saha and Chakrabarti, 1988), *Capitophorus elaeagni* (del Guercio) (Saha and Chakrabarti, 1988), *Dysaphis atina* Ghosh et al., (Ghosh, 1977), *Dysaphis* sp. (Ghosh, 1977).
  71. ***Cnicus* sp.:** *Aphis craccivora* Koch (Agarwala et al., 1980), *Aphis spiraecola* Patch (Raychaudhuri, 1973), (Sengupta et al., 1962), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Capitophorus carduinus* (Walker) (Raychaudhuri, 1973; 1980), *Capitophorus cirsiiphagus* Takahashi (Basu et al., 1973), *Capitophorus elaeagni* (del Guercio) (Raychaudhuri, 1973; 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973; Ghosh and Agarwala, 1980), *Paraphorodon cannabidis* (Passerini) (Behura, 1963), *Protrama longitarsus sclerodensus* Kumar (Chakrabarti and Sarkar, 2001), *Uroleucon kumaoni* Banerjee et al., (Chakrabarti and Sarkar, 2001).
  72. ***Consularia* sp.:** *Aulacorthum solani* (Kalt.) (Raychaudhuri et al., 1980).
  73. ***Conyza angustifolia* Horst. Par. ex DC.:** *Aphis spiraecola* Patch (Chakrabarti, 1972), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972).
  74. ***Conyza bonariensis* (L.) Cronq. (= *Erigeron bonariensis* L., = *E. linifolius* Willd.):** *Aphis gossypii* Glover (Jha, 1998), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Banerjee, 1993), *Longisiphoniella subterranea* Chakrabarti et al., (Chakrabarti and Sarkar, 2001), *Protrama longitarsus sclerodensus* Kumar (Chakrabarti and Sarkar, 2001).
  75. ***Conyza canadensis* (L.) Cronq. (= *Erigeron canadensis* L.):** *Brachycaudus helichrysi* (Kalt.) (Behura, 1963, Chakrabarti, 1972), *Protrama longitarsus sclerodensus* Kumar (Ghosh, 1977).
  76. ***Conyza japonica* (Thunb.) DC.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), (Raychaudhuri et al., 1980), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Macrosiphoniella formosartemisiae* Takahashi (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973, Maity and Chakrabarti, 1979).

77. ***Conyza stricta* Wall.:** *Nasonovia rostrata* David & Hameed (Ghosh, 1986), *Uroleucon erigeronense* (Thomas) (Chakrabarti and Sarkar, 2001).
78. ***Conyza* sp.:** *Aphis gossypii* Glover (Behura, 1963).
79. ***Cosmos bipinnatus* Cav.:** *Aphis gossypii* Glover (Mall *et al.*, 2010), *Aphis spiraecola* Patch (Jha, 1998), *Brachycaudus helichrysi* (Kalt.) (Banerjee *et al.*, 1969, Chakrabarti, 1972).
80. ***Cosmos* sp.:** *Aphis craccivora* Koch (Ganguli and Ghosh, 1965), *Aphis fabae* Scopoli (Ghosh, 1986), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Chakrabarti, 1972, Agrawal and Singh, 2005), *Capitophorus carduinus* (Walker) (Raychaudhuri, 1973), *Capitophorus formosartemisiae* (Takahashi) (Chakrabarti and Sarkar, 2001), *Capitophorus mitegoni* Eastop (Kar *et al.*, 1990), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Uroleucon kashmiricum* (Verma) (Ghosh 1977), *Uroleucon compositae* (Theobald) (Behura, 1963).
81. ***Cotonis* sp.:** *Aphis spiraecola* Patch (Chakrabarti, 1972).
82. ***Cotula hemispherica* (Roxb.) Wall.:** *Aphis spiraecola* Patch (Raychaudhuri, 1973).
83. ***Cotula* sp.:** *Acutosiphon obliquoris* Basu *et al.*, (Raychaudhuri, 1980), *Aphis nasturtii* Kalt. (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973).
84. ***Cousinia thomsoni* Clarke (= *Cnicus thomsoni* auct. nonn.):** *Capitophorus elaeagni* (del Guercio) (Saha and Chakrabarti, 1988; Chakrabarti and Sarkar, 2001).
85. ***Crepis* sp.:** *Aphis gossypii* Glover (Agarwala, 1979), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979).
86. ***Cynara cardunculus* L. (= *Cynara scolymus* L.):** *Capitophorus elaeagni* (del Guercio) (Behura, 1963).
87. ***Dahlia pinnata* Cav. (= *Dahlia variabilis* (Willd.) Desf.):** *Aphis craccivora* Koch (Mall *et al.*, 2010), *Aphis gossypii* Glover (Raha), *Aphis spiraecola* Patch (Ahmad and Singh, *Uroleucon jaceae* (Linn.) (Behura, 1963), (Trehan and Halleppnawar, 1949).
88. ***Dahlia* sp.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis nasturtii* Kaltenbach (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri *et al.*, 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973, Agarwala, 1979).
89. ***Dichrocephala integrifolia* (L.f.) Kuntze (= *Dichrocephala latifolia* (Pers.) DC.):** *Aphis gossypii* Glover (Chakrabarti and Sarkar, 2001), *Aphis fabae* complex (Ghosh, 1990), *Aphis nasturtii* Kalt. (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Eutrichosiphum pyri* Chakrabarti *et al.*, (Agrawal and Singh, 2005), *Hysteroneura setariae* (Thomas) (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973).
90. ***Dichrocephala* sp.:** *Aphis gossypii* Glover (Chakrabarti and Sarkar, 2001).
91. ***Echinops cornigerus* DC. :** *Uroleucon budhium* (Basu *et al.*,) (Banerjee *et al.*, 1969; Chakrabarti, 1972).

92. **Echinops echinatus Roxb.:** *Myzus persicae* (Sulzer) (Behura, 1963), *Uroleucon compositae* (Theobald) (Behura, 1963), *Uroleucon echinatus* (Kulkarni) (Kulkarni, 1980).
93. **Echinops sp.:** *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1973; 1980).
94. **Eclipta prostrata (L.) L. (=Eclipta alba (L.) Hassk.) :** *Aphis gossypii* Glover (Raychaudhuri *et al.*, 1981), *Aphis fabae* complex (Raha, 1979).
95. **Elephantopus sp.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri 1978).
96. **Emilia sonchifolia L.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Behura, 1963), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1973; Raychaudhuri, 1980; Agarwala and Raychaudhuri, 1980), *Ipuka dispersum* (v. d. Goot) (Behura, 1963; Joshi and Poorani, 2007), *Lipaphis erysimi* (Kalt.) (Raychaudhuri, 1980), *Uroleucon formosanum crepidis* Ghosh *et al.*, (Raychaudhuri, 1973; 1980), *Uroleucon sonchi* (Linn.) (Raychaudhuri, 1980).
97. **Emilia sp.:** *Aphis gossypii* Glover (Agarwala, 1979).
98. **Erechtites valerianaefolia DC. :** *Aphis gossypii* Glover (Raychaudhuri, 1978), (Raychaudhuri *et al.*, 1979), *Aphis spiraecola* Patch (Rao, 1969), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973).
99. **Erechtites sp.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raha, 1979), *Myzus persicae* (Sulzer) (Agarwala, 1979).
100. **Erigeron alpinus L.:** *Uroleucon simile* (H.R.L.) (Verma, 1969).
101. **Erigeron sp.:** *Aphis fabae* complex (Raychaudhuri, 1973), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Sengupta *et al.*, 1962), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Capitophorus formosartemisiae* (Takahashi) (Raychaudhuri, 1973), *Eutrichosiphum pseudopasaniae* Szelegiewicz (Agarwala, 1979), *Impatientinum asiaticum dalhousiensis* Verma (Ghosh, 1977), *Myzus ornatus* Laing (Raychaudhuri, 1973; Ghosh and Agarwala, 1980), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Sitobion miscanthi* (Takahashi) (Ghosh, 1977), *Sitobion sikkimense* (Ghosh & Raychaudhuri) (Ghosh, 1977), *Sitobion smilacicola* (Takahashi) (Chakrabarti and Ghosh, 1970; 1971), *Uroleucon simlaense* Chakrabarti *et al.*, (Chakrabarti and Ghosh, 1971).
102. **Eupatorium adenophorum Spreng.:** *Aphis fabae* complex (Agarwala, 1979), *Aphis spiraecola* Patch (Rao, 1969), *Aulacorthum circumflexum* (Buckton) (Rao, 1969), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Myzus ornatus* Laing (Rao, 1969).
103. **Eupatorium cannabinum L.:** *Aphis spiraecola* Patch (Rao, 1969), *Aphis gossypii* Glover (Ghosh, 1990).
104. **Eupatorium glandulosum Michx.:** *Aphis nasturtii* Kaltenbach (Raychaudhuri, 1973).
105. **Eupatorium heteroclinum Griseb.:** *Aphis gossypii* Glover (Behura, 1963).
106. **Eupatorium odoratum L.:** *Aphis craccivora* Koch (Raychaudhuri, 1973), *Aphis fabae* complex (Raychaudhuri *et al.*, 1981), *Aphis gossypii* Glover (Rao, 1969; Raychaudhuri *et al.*, 1981), *Aphis nasturtii* Kaltenbach (Raychaudhuri, 1973), *Aphis spiraecola* Patch, (Raha, 1979), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1978; Raha, 1979), *Macrosiphoniella kikungshana* Takahashi (Raychaudhuri, 1973),

- Micromyzodium levipes* (Basu & Raychaudhuri) (Raychaudhuri, 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973; Ghosh and Agarwala, 1980), *Myzus siegesbeckicola* Strand (Raychaudhuri, 1973; 1980), *Myzus persicae* (Sulzer) (Sengupta *et al.*, 1962; Raha, 1979), *Toxoptera aurantii* (B. de Fonsc.) (Sengupta *et al.*, 1962).
- 107. *Eupatorium riparium* Rigel.:** *Aphis spiraecola* Patch (Ghosh and Agarwala, 1985), *Myzus persicae* (Sulzer) (Ghosh and Agarwala, 1985).
- 108. *Eupatorium wallichii* DC.:** *Aphis fabae* complex (Raychaudhuri, 1973), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Capitophorus hippophaes javanicus* H.R.L. (Raychaudhuri, 1973), *Capitophorus mitegoni* Eastop (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973).
- 109. *Eupatorium* sp.:** *Aphis craccivora* Koch (Nayak *et al.*, 1982), *Aphis gossypii* Glover (Rao, 1969), *Aphis kurosawai* Takahashi (Mondal *et al.*, 1978), *Aphis spiraecola* Patch (Nayak *et al.*, 1982), *Aphis* sp. (Rao, 1969), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri 1978), *Brachycaudus helichrysi* (Kalt.) (Maity and Chakrabarti, 1979), *Myzus ornatus* Laing (Rao, 1969).
- 110. *Flaveria australasica* Hook.:** *Aphis gossypii* Glover (Behura, 1963).
- 111. *Gaillardia pulchella* Foug. :** *Uroleucon compositae* (Theobald) (Bhatt *et al.*, 2006).
- 112. *Gaillardia* sp.:** *Myzus ornatus* Laing (Chakrabarti, 1972), *Uroleucon compositae* (Theobald) (David, 1969).
- 113. *Galinsoga parviflora* Cav.:** *Aphis fabae* complex (Raychaudhuri, 1973), *Aphis gossypii* Glover (Raychaudhuri *et al.*, 1979), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Myzus persicae* (Sulzer) (Sengupta *et al.*, 1962), *Smynthuroides betae* Westwood (Ghosh, 1977).
- 114. *Gamochaeta purpurea* (L.) Cabrera (= *Gnaphalium purpurium* L.):** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973).
- 115. *Gerbera macrophylla* Benth. & Hook.f.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Trichosiphonaphis gerberae* Ghosh & Raychaudhuri (Raychaudhuri, 1980), *Trichosiphonaphis polygoniformosana* (Takahashi) (Raychaudhuri, 1973).
- 116. *Gerbera* sp. :** *Aphis spiraecola* Patch (Agarwala, 1979), *Aulacorthum solani* (Kalt.) (Chakrabarti and Raychaudhuri, 1975), *Brachycaudus helichrysi* (Kalt.) (Behura, 1963), *Neomasonaphis anaphalidis* (Basu) (Chakrabarti *et al.*, 1972), *Neomasonaphis rumicis* (Chakrabarti & Raychaudhuri) (Chakrabarti *et al.*, 1972), *Trichosiphonaphis gerberae* Ghosh & Raychaudhuri (Raychaudhuri, 1980), *Trichosiphonaphis polygoniformosana* (Takahashi) (Raychaudhuri, 1973).
- 117. *Glebionis coronaria* (L.) Cass. ex Spach (= *Chrysanthemum coronarium* L.):** *Aphis gossypii* Glover (Agarwala, 1979), *Aphis spiraecola* Patch (Agarwala, 1979), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Coloradoa rufomaculata* (Wilson) (Raychaudhuri, 1973; 1980), *Macrosiphoniella pseudoartemisiae* Shinji (Raychaudhuri *et al.*, 1978), *Macrosiphoniella sanborni* (Gillette) (Raychaudhuri, 1980).
- 118. *Gnaphalium* sp.:** *Aphis nasturtii* Kalt. (Chakrabarti and Sarkar, 2001), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti *et al.*, 2002), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti

- et al.*, 1974; 2002), *Brachycaudus* sp. (Chakrabarti *et al.*, 2002), *Capitophorus* sp. (Chakrabarti *et al.*, 2002), *Cavariella salicicola* (Matsumura) (Raychaudhuri, 1980), *Dysaphis microsiphon* (Nevsky) (Chakrabarti and Medda, 1993), *Macrosiphoniella yomogifoliae* (Shinji) (Chakrabarti and Sarkar, 2001), *Oedisiphum compositarum* v. d. Goot (Chakrabarti and Sarkar, 2001), *Pemphigus matsumurai* Monzen (Chakrabarti, 2007), *Uroleucon erigeronense* (Thomas) (Chakrabarti and Sarkar, 2001).
- 119. *Granotia* sp.:** *Aulacorthum circumflexum* (Buckton) (Agarwala 1979), *Micromyzus granotiae* Ghosh *et al.*, (Raychaudhuri, 1973; 1980), *Sitobion miscanthi* (Takahashi) (Raychaudhuri, 1973; 1980).
- 120. *Guizotia abyssinica* (L.f.) Cass.:** *Aphis craccivora* Koch (Behura, 1965), *Melanaphis* sp. (Behura, 1965), *Rhopalosiphum maidis* (Fitch) (Behura, 1963; 1965), *Uroleucon jaceae* (Linn.) (Behura, 1963).
- 121. *Gynura crepidioides* Benth.:** *Aphis spiraecola* Patch (Rao, 1969), *Brachycaudus helichrysi* (Kalt.) (Rao, 1969; Ghosh and Agarwala, 1985), *Myzus persicae* (Sulzer) (Ghosh and Agarwala, 1985).
- 122. *Gynura cusimbua* (D. Don) S. Moore (= *Gynura angulosa* DC.):** *Aphis gossypii* Glover (Devi and Singh, 1987), *Aphis spiraecola* Patch (Raychaudhuri, 1978; Devi and Singh, 1987), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri *et al.*, 1982), *Hyperomyzus carduellinus* (Theobald) (Agarwala, 1979), *Melanaphis vanderhooti* Raychaudhuri & Banerjee (Raychaudhuri, 1978), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973).
- 123. *Gynura nepalensis* DC.:** *Aphis gossypii* Glover (Raychaudhuri *et al.*, 1980), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri *et al.*, 1981), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Toxoptera aurantii* (B. de Fonsc.) (Raychaudhuri, 1973).
- 124. *Gynura* sp.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1980), *Aulacorthum circumflexum* (Buckton) (Sengupta *et al.*, 1962), *Myzus ornatus* Laing (Ghosh and Agarwala, 1980), *Myzus persicae* (Sulzer) (Sengupta *et al.*, 1962), *Toxoptera aurantii* (B. de Fonsc.) (Sengupta *et al.*, 1962), *Uroleucon sonchi* (Linn.) (Basu *et al.*, 1974).
- 125. *Helianthus annuus* L.:** *Aphis craccivora* Koch (Agrawal and Singh, 2005), *Aphis fabae* complex (Raychaudhuri, 1973), *Aphis gossypii* Glover (Agrawal and Singh, 2005), *Aphis kurosawai* Takahashi (Raha *et al.*, 1977), *Aphis spiraecola* Patch (Raychaudhuri, 1978), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1978), *Hyadaphis coriandri* (Das) (Chakrabarti, 1972), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1978), *Myzus siegesbeckicola* Strand (Raychaudhuri *et al.*, 1981), *Sitobion miscanthi* (Takahashi) (Raychaudhuri 1980), *Uroleucon budhium* (Basu *et al.*) (Raychaudhuri, 1978), *Uroleucon pseudotanaceti* (Verma) (Raychaudhuri, 1973), *Uroleucon tanaceti* (Linn.) (Rao, 1969).
- 126. *Helianthus tuberosus* L.:** *Trama penecaeca* (Stroyan) (Ghosh and Agarwala, 1980), *Uroleucon*

- pseudotanaceti* (Verma) (Verma, 1969).
127. ***Helianthus* sp.:** *Aphis craccivora* Koch (Ahmad and Singh, 1996), *Aphis spiraecola* Patch (Agarwala, 1979), *Kurisakia indica* Basu (Agarwala, 1979), *Myzus persicae* (Sulzer) (Bhattacharya, 1990), *Protrama longitarsus sclerodensus* Kumar (Bhattacharya, 1990), *Protrama longitarsus sclerodensus* Kumar (Bhattacharya, 1990), *Protrama* sp. (Bhattacharya, 1991).
128. ***Helichrysum* sp.:** *Aphis spiraecola* Patch (Rao, 1969).
129. ***Hieracium lachenalii* Gmel. (= *Hieracium vulgatum* Fr.):** *Acyrtosiphon rubi* (Narzikulov) (Ghosh, 1977).
130. ***Hieracium* sp. :** *Acyrtosiphon* sp. (Bhalla and Pawar, 1980)
131. ***Hypochoeris glabara* L.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri *et al.*, 1981).
132. ***Hypochoeris radicata* L.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis nasturtii* Kaltenbach (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus ascalonicus* Doncaster (Raychaudhuri 1980), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Myzus cymbalariae* Stroyan (Raychaudhuri, 1980), *Uroleucon hypochoeridis* (Fabricius) (Rao and Kulkarni, 1975).
133. ***Inula cappa* (Buch.-Ham. Ex D. Don) DC.:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972), *Macrosiphum rosae* (Linn.) (Chakrabarti and Sarkar, 2001), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Neomasonaphis anaphalidis* (Basu) (Chakrabarti *et al.*, 1974, Ghosh, 1977), *Neomasonaphis inulae* (Ghosh & Raychaudhuri) (Raychaudhuri, 1973; 1980), *Subovatomyzus leucosceptri* Basu (Raychaudhuri, 1980), *Tetraneura nigriabdominalis* (Sasaki) (Bhattacharya, 1990), *Toxoptera aurantii* (B. de Fonsc.) (Raychaudhuri, 1973), *Uroleucon budhium* (Basu *et al.*) (Raychaudhuri 1980), *Uroleucon compositae* (Theobald) (Kar *et al.*, 1990).
134. ***Inula cuspidata* C.B. Clarke:** *Aphis spiraecola* Patch (Bhalla and Pawar, 1980), *Neomasonaphis inulae* (Ghosh & Raychaudhuri) (Chakrabarti and Sarkar, 2001), *Aphis nerii* B. de Fonsc. (Ghosh, 1990).
135. ***Inula orientalis* Lam. (= *Inula grandiflora* Willd.):** *Capitophorus formosartemisiae* (Takahashi) (Chakrabarti and Sarkar, 2001).
136. ***Inula rubricaulis* (DC.) Benth.:** *Uroleucon fuscaudatum* Chakrabarti & Raychaudhuri (Chakrabarti and Raychaudhuri, 1978).
137. ***Inula* sp.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Sarkar, 2001), *Capitophorus formosartemisiae* (Takahashi) (Chakrabarti and Sarkar, 2001), *Neomasonaphis chakrabartii* (Bhattacharya) (Bhattacharya, 1991), *Uroleucon budhium* (Basu *et al.*) (Bhattacharya, 1991), *Uroleucon fuscaudatum* Chakrabarti & Raychaudhuri (Khuda-Bukhsh and Pal, 1986), *Uroleucon longisetosum* Chakrabarti & Verma (Khuda-Bukhsh and Pal, 1986; Kar *et al.*, 1990).
138. ***Lactuca dolichophylla* Kitam. (= *Lactuca longifolia* DC.) :** *Dysaphis microsiphon* (Nevsky) (Chakrabarti and Medda, 1993), *Protrama longitarsus sclerodensus* Kumar (Chakrabarti and Sarkar, 2001),

- Uroleucon longisetosum* Chakrabarti & Verma (Chakrabarti and Sarkar, 2001).
139. ***Lactuca runcinata* DC. :** *Uroleucon sonchi* (Linn.) (Behura, 1963).
140. ***Lactuca sativa* L.:** *Acyrtosiphon moltshanovi* Mordvilko (Bindra and Sekhon, 1969), *Acyrtosiphon ?moltshanovi* Mordvilko (Ghosh, 1977), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Lipaphis erysimi* (Kalt.) (Raychaudhuri, 1973), *Macrosiphum* sp. (Behura, 1965), *Myzus ornatus* Laing (Ghosh, 1977), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), *Sitobion miscanthi* (Takahashi) (Raychaudhuri, 1980).
141. ***Lactuca* sp.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Uroleucon sonchi* (Linn.) (Ghosh and Agarwala, 1985).
142. ***Laggera flava* (DC.) Benth.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1978).
143. ***Laggera pterodonta* (DC.) Benth.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972), *Dysaphis* sp. (Chakrabarti, 1972).
144. ***Laggera* sp.:** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1978).
145. ***Launaea nudicaulis* (Linn.) Hook. f. :** *Acyrtosiphon pisum* (Harris) (Mall et al., 2010), *Aphis achyranthi* Theobald (Mall et al., 2010), *Aphis craccivora* Koch (Mall et al., 2010), *Aphis gossypii* Glover (Mall et al., 2010), *Aphis polygonacea* Matsumura (Mall et al., 2010), *Aphis spiraecola* Patch (Mall et al., 2010), *Hyperomyzus carduellinus* (Theob.) (Mall et al., 2010).
146. ***Launaea sarmentosa* (Willd.) SchBip. ex Kuntze (= *Launaea pinnatifida* Cass., =*Launaea nepalense* auct.) L.:** *Eutrichosiphum alnicola* (Basu) (Agarwala, 1979), *Myzus persicae* (Sulzer) (Agarwala, 1979), *Liosomaphis atra* H.R.L. (Chakrabarti and Sarkar, 2001), *Liosomaphis himalayensis* Basu (Chakrabarti and Sarkar, 2001).
147. ***Launaea* sp.:** *Impatientinum balsamines* (Kalt.) (Chakrabarti and Sarkar, 2001), *Liosomaphis himalayensis* Basu (Chakrabarti and Sarkar, 2001), *Metopolophium simlaense* Chakrabarti & Raychaudhuri (Medda and Chakrabarti, 1989), *Uroleucon sonchi* (Linn.) (Maity et al., 1980).
148. ***Matricaria recutita* (L.):** *Aphis fabae* (Kataria, 2012)?
149. ***Micropus discolor* Pers. (= *Micropsis discolor* m.i.):** *Sinomegoura citricola* (v. d. Goot) (David and Rajasingh, 1969).
150. ***Mikania cordata* (Burn.f.) B.L. Rob.:** *Aphis spiraecola* Patch (Rao, 1969).
151. ***Mikania micrantha* (Linn.) Kunth.:** *Aphis spiraecola* Patch (Joshi and Poorani, 2007).
152. ***Mikania scandens* (L.) Willd.:** *Aphis gossypii* Glover (Raychaudhuri, 1973, Raha, 1979), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973).
153. ***Mikania* sp.:** *Aphis gossypii* Glover (Raychaudhuri, 1973).
154. ***Montanoa bipinnatifida* (Kunth) K. Koch:** *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis nasturtii* Kaltenbach (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Macrosiphoniella sanborni* (Gillette) (Raychaudhuri, 1973), *Myzackaia verbasci* (Chawdhuri et al.) (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus siegesbeckicola* Strand (Raychaudhuri, 1980), *Sinomegoura citricola* (v. d. Goot) (Raychaudhuri, 1973).
155. ***Montanoa* sp.(= *Montana* sp.):** *Aleurodaphis blumeae* van der Goot (Ghosh, 1988).

156. ***Myriactis nepalensis* Less.** (= ***Myriactis wallichii* Less.**): *Aphis gossypii* Glover (Raychaudhuri, 1973), *Sitobion rosaeiformis* (Das) (Chakrabarti and Sarkar, 2001), *Aphis spiraecola* Patch (Raychaudhuri, 1973), (Chakrabarti and Raychaudhuri, 1975), *Protrama longitarsus sclerodensus* Kumar (Ghosh, 1977).
157. ***Notonia grandiflora* DC.:** *Brachycaudus helichrysi* (Kalt.) (Verma, 1971).
158. ***Parthenium hysterophorus* L.:** *Aphis pomi* de Geer (Mall *et al.*, 2010), *Aphis achyranthi* Theobald (Mall *et al.*, 2010), *Aphis spiraecola* Patch (Joshi and Poorani, 2007), *Macrosiphoniella sanborni* (Gillette) (Mall *et al.*, 2010).
159. ***Prenanthes brunoniana* Wall. :** *Uroleucon longisetosum* Chakrabarti & Verma (Ghosh and Agarwala, 1980), *Uroleucon* sp. (Ghosh, 1977).
160. ***Prenanthes violaefolia* (Decne.) Beaub.:** *Uroleucon longisetosum* Chakrabarti & Verma (Chakrabarti and Sarkar, 2001).
161. ***Pseudognaphalium luteoalbum* (L.) Hill & Burt. (= *Anaphalis leuteoalbum* (misident.); *Gnaphalium luteoalbum* L.; *Gnaphalium album* auct.nonn.):** *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Chakrabarti and Raychaudhuri, 1975), *Aulacorthum solani* (Kalt.) (Raychaudhuri, 1980), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), (Sengupta *et al.*, 1962), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972; Raychaudhuri, 1973), *Myzus ornatus* Laing (Ghosh and Agarwala, 1980), *Myzus ascalonicus* Doncaster (Raychaudhuri, 1980), *Myzus persicae* (Sulzer) (Agarwala, 1979), *Oedisiphum soureni* Basu (Kar *et al.*, 1990), *Toxoptera aurantii* (B. de Fonsc.) (Raychaudhuri, 1973).
162. ***Rudbeckia tagetes* James (= *Rudbeckia tageteiodes* (auct.)):** *Aphis gossypii* Glover (Raha, 1979), *Aphis kurosawai* Takahashi (Raha, 1979), *Aphis spiraecola* Patch (Raha, 1979), *Aulacorthum nipponicum* (Essig & Kuwana) (Raha, 1979), *Brachycaudus helichrysi* (Kalt.) (Raha, 1979).
163. ***Rudbeckia* sp.:** *Aphis umbrella* (Borner) (Behura, 1963).
164. ***Saussurea albescens* Hook.f. & Thoms. ex C.B. Clarke:** *Capitophorus formosartemisiae* (Takahashi) (Chakrabarti and Sarkar, 2001).
165. ***Saussurea costus* (Falc.) Lipsch. (= *Saussurea lappa* (Dacne.) C.B. Clarke):** *Acyrtosiphon rubi* (Narzikulov) (Ghosh, 1977), (David and Hameed, 1975), *Brachycaudus helichrysi* (Kalt.) (Ghosh, 1977), *Capitophorus formosartemisiae* (Takahashi) (Raychaudhuri *et al.*, 1982).
166. ***Saussurea nepalensis* Sprengel.:** *Aphis longisetosa* Basu (Basu *et al.*, 1972).
167. ***Saussurea piptathera* Edgew.:** *Dysaphis pavlovskyana indica* Chakrabarti & Medda (Chakrabarti and Medda, 1993).
168. ***Saussurea* sp.:** *Shinjia orientalis* (Mordvilko) (Ghosh and Agarwala, 1980).
169. ***Senecio alatus* Wall. ex DC.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972).
170. ***Senecio chrysanthemoides* DC. :** *Aphis verbasci* Schrank (Ghosh, 1977), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Sarkar, 2001).
171. ***Senecio densiflorus* Wall. ex DC.:** *Aphis gossypii* Glover (Chakrabarti and



- Raychaudhuri, 1975), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972).
172. ***Senecio diversifolius* (Hook. & Arn.) DC.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972).
173. ***Senecio rufinervis* DC.:** *Aphis fabae* Scopoli (Chakrabarti and Sarkar, 2001), *Aphis nasturtii* Kalt. (Chakrabarti and Sarkar, 2001), *Neomasonaphis tuberculata* (Chakrabarti et al.,) (Chakrabarti and Sarkar, 2001).
174. ***Senecio scandens* Buch.-Ham. ex D. Don:** *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Neomasonaphis anaphalidis* (Basu) (Raychaudhuri, 1980).
175. ***Senecio setulosus* Phil. :** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972).
176. ***Senecio triligulatus* Ham.:** *Capitophorus formosartemisiae* (Takahashi) (Raychaudhuri, 1978).
177. ***Senecio* sp.:** *Acyrtosiphon malvae* (Mosley) (Basu et al., 1972), *Acyrtosiphon rubi* (Narzikulov) (Basu et al., 1972), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1978), *Eumyzus nokuli* Raychaudhuri et al., ( Raychaudhuri et al., 1984), *Euthoracaphis longisetosa* Ghosh & Raychaudhuri (Raychaudhuri, 1980), *Myzus ornatus* Laing (David, 1956b), *Megoura vasesiphon* (Das & Ghosh) (Das and Ghosh, 2002), *Nipponaphis* sp. (Ghosh et al., 1971), *Rhopalosiphum nymphaeae* (Linn.) (Raha et al., 1977), *Uroleucon compositae* (Theobald) (Raychaudhuri, 1978), *Uroleucon* sp. (Chakrabarti et al., 2002).
178. ***Siegesbeckia orientalis* L.:** *Aphis gossypii* Glover (Raychaudhuri, 1978), *Myzus siegesbeckicola* Strand (Raychaudhuri, 1973).
179. ***Siegesbeckia* sp.:** *Toxoptera odinae* (van der Goot) (Raychaudhuri, 1978).
180. ***Solidago canadensis* L.:** *Aphis spiraecola* Patch (Raychaudhuri, 1973).
181. ***Solidago virgaurea* L.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972), *Uroleucon kashmiricum* (Verma) (Chakrabarti and Sarkar, 2001).
182. ***Solidago* sp.:** *Brachycaudus helichrysi* (Kalt.) (Chakrabarti and Sarkar, 2001).
183. ***Sonchus arvensis* L.:** *Aphis gossypii* Glover (Ghosh and Agarwala, 1980), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Agarwala, 1979), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1973; 1980), *Hyperomyzus lactucae* (Linn.) (Behura, 1963), *Myzus ornatus* Laing (Ghosh and Agarwala, 1980), *Myzus persicae* (Sulzer) (Ghosh and Agarwala, 1985), *Toxoptera aurantii* (B. de Fonsc.) (Sengupta et al., 1962), *Uroleucon parasonchi* (Raychaudhuri et al.,) (Raychaudhuri et al., 1977), *Uroleucon sonchi* (Linn.) (Raychaudhuri, 1978; Raychaudhuri et al., 1980), *Uroleucon carthami* (H.R.L.) (Behura, 1963), *Uroleucon* sp. (Chakrabarti et al., 2002).
184. ***Sonchus asper* (L.) Hill:** *Aphis craccivora* Koch (Mall et al., 2010), *Aphis spiraecola* Patch (Mall et al., 2010), *Hyperomyzus carduellinus* (Theobald) (Raychaudhuri, 1973), *Hyperomyzus lactucae* (Linn.) (Behura, 1963), *Myzus persicae* (Sulzer) (Mall et al., 2010), *Protrama longitarsus sclerodensus* Kumar (Chakrabarti and Sarkar, 2001), *Uroleucon sonchi* (Linn.) (Raychaudhuri, 1973).
185. ***Sonchus brachyotus* DC.:** *Uroleucon sonchi* (Linn.) (Chakrabarti, 1972), *Myzus ornatus* Laing (Chakrabarti, 1972).
186. ***Sonchus oleraceus* L.:** *Acyrtosiphon rubi* (Narzikulov) (Chakrabarti, 1972),

- Hyperomyzus carduellinus* (Theobald) (Agarwala, 1979), *Hyperomyzus lactucae* (Linn.) (Verma, 1971), *Uroleucon sonchi* (Linn.) (Agarwala 1979), *Uroleucon carthami* (H.R.L.) (Behura, 1963).
- 187. *Sonchus* sp.:** *Aphis craccivora* Koch (Ahmad and Kumar, 2006), *Aphis fabae* complex (Ghosh, 1986) (Ghosh, 1977), *Aphis fabae solanella* Theobald (Ghosh 1986), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Ahmad and Singh, 2005), *Aphis fabae* complex (Chakrabarti *et al.*, 1971), *Aulacorthum magnoliae* (Essig & Kuwana) (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Cryptosiphum aertemisiae* Buckton (Agarwala, 1979), *Hayhurstia atriplicis* (Linn.) (Chakrabarti *et al.*, 1971), *Hyperomyzus carduellinus* (Theobald) (Agarwala, 1979), *Hyperomyzus lactucae* (Linn.) (Ghosh, 1977), *Metopolophium sonchifoliae* Raychaudhuri *et al.* (Raychaudhuri *et al.*, 1980), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Singh *et al.*, 1999), *Myzus* sp. (Kar *et al.*, 1990), *Sitobion rosaeiformis* (Das) (Chakrabarti, 1972), *Toxoptera aurantii* (B. de Fonsc.) (Raychaudhuri, 1973), *Uroleucon formosanum crepidis* Ghosh *et al.* (Agarwala, 1979), *Uroleucon parasonchi* (Raychaudhuri *et al.*) (Raha, 1979), *Uroleucon sonchi* (Linn.) (Agarwala, 1979), (Chakrabarti 1972, Ghosh, 1977; Raha, 1979), *Uroleucon carthami* (H.R.L.) (Behura, 1963), *Uroleucon* sp. (Chakrabarti *et al.*, 2002).
- 188. \**Spilanthus acuminata*:** *Myzus persicae* (Sulzer) (Agarwala, 1979).
- 189. *Spilanthus corymbosus* Sessé & Moc. (= *Sonchus corymbosa* auct. nonn.):** *Myzus persicae* (Sulzer) (Ghosh and Agarwala, 1985).
- 190. *Synedrella nodiflora* (L.) Gaertn:** *Aphis spiraecola* Patch (Raychaudhuri, 1978), *Tetraneura nigriabdominalis* (Sasaki) (Rao and Kulkarni, 1975).
- 191. *Tagetes erecta* L.:** *Aphis craccivora* Koch (Agrawal *et al.*, 2006a), *Aphis fabae* complex (Ahmad and Singh 2005), *Aphis fabae* Scopoli (Agrawal *et al.*, 2006b), *Aphis fabae solanella* Theobald (Singh *et al.*, 1999), *Aphis gossypii* Glover (Verma *et al.*, 1975), *Aphis spiraecola* Patch (Mall *et al.*, 2010).
- 192. *Tagetes patula* L.:** *Aphis fabae* complex (Raychaudhuri, 1978), *Aphis gossypii* Glover (Raychaudhuri, 1978), (Raychaudhuri *et al.*, 1979), *Aphis nasturtii* Kaltentbach (Raha, 1979), *Aphis spiraecola* Patch (Raychaudhuri, 1973), (Raychaudhuri, 1978), *Aulacorthum solani* (Kalt.) (Raha, 1979), *Aulacorthum circumflexum* (Buckton) (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Raychaudhuri, 1973), (Raychaudhuri 1978), *Toxoptera odinae* (van der Goot) (Agarwala, 1979, Nayak *et al.*, 1982).
- 193. *Tagetes* sp.:** *Aphis craccivora* Koch (Singh *et al.*, 1999), *Aphis gossypii* Glover (Rao and Kulkarni, 1975), *Aphis spiraecola* Patch (Chakrabarti, 1972), *Uroleucon gobonis* (Matsumura) (Bhagat, 1981).
- 194. *Taraxacum officinale* F. H. Wigg. aggr. aggr. (Dandelion):** *Aphis gossypii* Glover (Chakrabarti and Raychaudhuri, 1975), *Dysaphis microsiphon* (Nevsky) (Chakrabarti and Medda, 1993).
- 195. *Tithonia tagetiflora* Desf. (= *Tithonia tageteoides* auct. nonn.):** *Aulacorthum nipponicum* (Essig & Kuwana) (Raha and Raychaudhuri, 1981).

196. *Tricholepis elongata* DC.: *Uroleucon sonchi* (Linn.) (Raychaudhuri et al., 1980).
197. *Tricholepis furcata* DC.: *Capitophorus archangelskii* Nevsky (Chakrabarti et al., 1972), *Capitophorus tricholepidis* Chakrabarti (Chakrabarti, 1976), *Uroleucon kumaoni* Banerjee et al. (Chakrabarti, 1972).
198. *Tridax procumbens* L.: *Aphis gossypii* Glover (Rao, 1969), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri, 1973), *Hyperomyzus carduellinus* (Theobald) (Chakrabarti, 1972), *Hysteroneura setariae* (Thomas) (Raychaudhuri et al., 1981), *Myzus ornatus* Laing (Raychaudhuri, 1973), *Myzus persicae* (Sulzer) (Chakrabarti, 1972), *Rhodobium porosum* (Sanderson) (Ghosh, 1969).
199. *Tridax* sp.: *Aphis gossypii* Glover (George, 1927), *Hyperomyzus carduellinus* (Theobald) (Chakrabarti et al., 1971).
200. *Vernonia cinerea* (L.) Less.: *Aphis craccivora* Koch (David, 1956c), *Aphis fabae* complex (Ghosh, 1990), *Aphis gossypii* Glover (David, 1957), *Aphis carthami* (Das) (David, 1957), *Rhopalosiphum padi* (Linn.) (Mondal et al., 1978), *Uroleucon minutum* (van der Goot) (Behura, 1963).
201. *Vernonia roxburghii* Less.: *Uroleucon compositae* (Theobald) (Raychaudhuri, 1980).
202. *Vernonia* sp.: *Aphis gossypii* Glover (Ghosh, 1969), *Aphis spiraecola* Patch (Raychaudhuri, 1978), *Macrosiphoniella sanborni* (Gillette) (Behura, 1963), *Subovatomyzus leucosceptri* Basu (Ghosh and Raychaudhuri, 1968), *Uroleucon minutum* (v. d. Goot) (David et al., 1968).
203. *Wedelia* sp.: *Aphis gossypii* Glover (Raychaudhuri, 1973).
204. *Xanthium* sp.: *Aphis spiraecola* Patch (Raychaudhuri, 1973).
205. *Xerochrysum bracteatum* (Vent.) Tzvelev (= *Helichrysum bracteatum* (Vent.) Andrews): *Aulacorthum solani* (Kalt.) (Raychaudhuri et al., 1981), *Brachycaudus helichrysi* (Kalt.) (Raychaudhuri et al., 1981).
206. *Youngia japonica* (L.) DC. (= *Crepis japonica* (L.) Benth.): *Cryptomyzus taoi* H.R.L. (Raychaudhuri, 1973), *Sitobion miscanthi* (Takahashi) (Agarwala, 1979), *Uroleucon formosanum crepidis* Ghosh et al. (Raychaudhuri, 1980).
207. *Zinnia elegans* Jacq.: *Aphis fabae* complex (Raha, 1979), *Aphis gossypii* Glover (Raychaudhuri, 1973), *Aphis nasturtii* Kaltentbach (Raychaudhuri, 1973), *Aphis spiraecola* Patch (Raychaudhuri, 1973), *Myzus ornatus* Laing (Raychaudhuri, 1973).
208. *Zinnia* sp.: *Aphis gossypii* Glover (Ghosh and Agarwala, 1980), *Aphis spiraecola* Patch (Raychaudhuri et al., 1980), *Myzus persicae* (Sulzer) (Chakrabarti, 1972), *Uroleucon kashmiricum* (Verma) (Ghosh, 1977), *Uroleucon compositae* (Theobald) (Behura, 1963).
209. **Unidentified plants:** *Aphis craccivora* Koch (Raychaudhuri, 1978), *Aphis spiraecola* Patch (Raychaudhuri et al., 1980), *Aulacorthum dasi* Ghosh et al. (Raychaudhuri, 1980), *Aulacorthum solani* (Kalt.) (Ghosh and Raychaudhuri, 1971), *Baizongia pistaciae* (Linn.) (Ghosh, 1977), *Brachycaudus helichrysi* (Kalt.) (Chakrabarti, 1972), *Brachycaudus pilosus* (Mordvilko ex Nevsky) (Bindra and Sekhon, 1969), *Hyperomyzus carduellinus* (Theobald) (Ghosh, 1977), *Macrosiphoniella kikungshana* Takahashi (Ghosh, 1977), *Macrosiphoniella sanborni* (Gillette) (Ghosh, 1977), *Myzus ornatus* Laing

(Raychaudhuri *et al.*, 1980), *Myzus persicae* (Sulzer) (Ghosh, 1970), *Pleotrichophorus chrysanthemi* (Theobald) (Raychaudhuri, 1980), *Sitobion rosaeiformis* (Das) (Raychaudhuri *et al.*, 1981), *Uroleucon budhium* (Basu *et al.*) (Chakrabarti *et al.*, 1994), *Uroleucon pseudotanacetii* (Verma) (Ghosh, 1970), *Uroleucon himachali* Ghosh (Ghosh, 1977), *Uroleucon lambersi* (Ghosh *et al.*) (Raychaudhuri, 1980).

## II: Aphid - pant list

1. ***Aphis craccivora***: *Chrysanthemum* sp.
2. ***Acutosiphon obliquoris***: *Cotula* sp.
3. ***Acyrtosiphon ?moltshanovi***: *Lactuca sativa*
4. ***Acyrtosiphon malvae***: *Senecio* sp.
5. ***Acyrtosiphon moltshanovi***: *Lactuca sativa*
6. ***Acyrtosiphon pisum***: *Launaea nudicaulis*
7. ***Acyrtosiphon rubi***: *Catamixis baccaroides*, *Hieracium lachenalii*, *Saussurea costus*, *Senecio* sp., *Sonchus oleraceus*
8. ***Acyrtosiphon* sp.**: *Catamixis* sp., *Hieracium* sp.
9. ***Aleurodaphis blumeae***: *Montanoa* sp.
10. ***Aphis achyranthi***: *Launaea nudicaulis*, *Parthenium hysterophorus*
11. ***Aphis carthami***: *Vernonia cinerea*, *Carthamus oxyacantha*
12. ***Aphis craccivora***: *Cnicus* sp., *Cnicus wallichii* f., *Launaea nudicaulis*, *Sonchus asper*, *Dahlia pinnata*, *Cosmos* sp., *Helianthus* sp., *Helianthus annuus*, *Vernonia cinerea*, *Astragalus nuttallii*, *Tagetes* sp., *Eupatorium odoratum*, *Bidens pilosa*, *Eupatorium* sp., *Ageratum conyzoides*, *Sonchus* sp., *Tagetes erecta*, *Guizotia abyssinica*, *Carthamus tinctorius*, *Bidens biternata*, *Chrysanthemum indicum*
13. ***Aphis fabae* complex**: *Adenostemma viscosum*, *Anaphalis* sp., *Bidens pilosa*, *Centaurea* sp., *Cirsium arvense*, *Cnicus wallichii*, *Dichrocephala integrifolia*, *Eclipta prostrate*, *Eron* sp.,
14. ***Aphis fabae***: *Eupatorium adenophorum*, *Eupatorium odoratum*, *Eupatorium wallichii*, *Galinsoga parviflora*, *Helianthus annuus*, *Senecio rufinervis*, *Sonchus* sp., *Sonchus* sp., *Tagetes erecta*, *Tagetes erecta*, *Tagetes patula*, *Vernonia cinerea*, *Zinnia elegans*,
15. ***Aphis fabae***: *Anaphalis contorta*, *Bidens bipinnata*, *Cosmos* sp.
16. ***Aphis fabae solanella***: *Sonchus* sp., *Tagetes erecta*
17. ***Aphis frangulae***: *Anaphalis nepalensis*
18. ***Aphis gossypii***: *Acanthospermum hispidum*, *Acmella paniculata*, *Ageratum conyzoides*, *Ageratum* sp., *Anaphalis contorta*, *Anaphalis* sp., *Anaphalis triplinervis*, *Artemisia nilagirica*, *Artemisia vulgaris*, *Artemisia* sp., *Aster* sp., *Aster trinervius*, *Bidens bipinnata*, *Bidens pilosa*, *Blumea lacera*, *Blumea laciniata*, *Blumea* sp., *Blumea witiara*, *Calendula* sp., *Chromolaena odorata*, *Chrysanthemum hortorum*, *Chrysanthemum indicum*, *Chrysanthemum* sp., *Chrysanthemum xmorifolium*, *Conyza bonariensis*, *Conyza japonica*, *Conyza* sp., *Cosmos bipinnatus*, *Cosmos* sp., *Crepis* sp., *Dahlia pinnata*, *Dahlia* sp., *Dichrocephala integrifolia*, *Dichrocephala* sp., *Eclipta prostrate*, *Emilia sonchifolia*, *Emilia* sp., *Erechtites* sp., *Erechtites valerianaefolia*, *Eron* sp., *Eupatorium cannabinum*, *Eupatorium heteroclinum*, *Eupatorium odoratum*, *Eupatorium* sp., *Eupatorium wallichii*, *Flaveria australasica*, *Galinsoga parviflora*, *Gerbera macrophylla*, *Glebionis coronaria*, *Gynura cusimbua*, *Gynura nepalensis*, *Gynura* sp.,
19. ***Aphis fabae***: *Helianthus annuus*, *Hypochaeris radicata*, *Inula cappa*, *Launaea*

- nudicaulis*, *Mikania scandens*, *Mikania* sp., *Montanoa bipinnatifida*, *Myriactis nepalensis*, *Pseudognaphalium luteoalbum*, *Senecio densiflorus*, *Senecio* sp., *Siegesbeckia orientalis*, *Sonchus arvensis*, *Sonchus* sp., *Tagetes erecta*, *Tagetes patula* *Tagetes* sp., *Taraxacum officinale*, *Tridax procumbens*, *Tridax* sp., *Vernonia cinerea*, *Vernonia* sp., *Wedelia* sp., *Zinnia elegans*, *Zinnia* sp.
20. **Aphis kurosawai:** *Artemisia caruifolia*, *Artemisia nilagirica*, *Artemisia roxburghiana*, *Artemisia* sp., *Artemisia vulgaris*, *Chrysanthemum* sp., *Eupatorium* sp., *Helianthus annuus*, *Rudbeckia tagetes*
21. **Aphis longisetosa:** *Saussurea nepalensis*
22. **Aphis nasturtii:** *Chrysanthemum indicum*, *Cotula* sp., *Dahlia* sp., *Dichrocephala integrifolia*, *Eupatorium glandulosum*, *Eupatorium odoratum*, *Gnaphalium* sp., *Hypochaeris radicata*, *Montanoa bipinnatifida*, *Senecio rufinervis*, *Tagetes patula*, *Zinnia elegans*
23. **Aphis nerii:** *Inula cuspidata*
24. **Aphis polygonacea:** *Launaea nudicaulis*
25. **Aphis pomi:** *Parthenium hysterophorus*
26. **Aphis raji:** *Artemisia* sp.
27. **Aphis sp.:** *Carthamus* sp., *Amberboa moschata*, *Artemisia vulgaris*, *Eupatorium* sp., *Carthamus tinctorius*
28. **Aphis spiraecola:** *Acmella paniculata*, *Ageratum conyzoides*, *Ambrosia artemisiaefolia*, *Anaphalis contorta*, *Artemisia caruifolia*, *Artemisia* sp., *Artemisia vulgaris*, *Aster amellus*, *Bidens bipinnata*, *Bidens biternata*, *Bidens pilosa*, *Bidens pilosa* var. *pinnata*, *Calendula* sp., *Chromolaena odorata*, *Chrysanthemum* sp., *Cnicus* sp., *Conyza angustifolia*, *Conyza japonica*, *Cosmos bipinnatus*, *Cosmos* sp., *Cotonis* sp., *Cotula hemispherica*, *Dahlia pinnata*, *Dahlia* sp., *Dichrocephala integrifolia*, *Emilia sonchifolia*, *Erechtites* sp., *Erechtites valerianaefolia*, *Eron* sp., *Eupatorium adenophorum*, *Eupatorium cannabinum*, *Eupatorium odoratum*, *Eupatorium riparium*, *Eupatorium* sp., *Eupatorium wallichii*, *Gerbera* sp., *Glebionis coronaria*, *Gynura crepidioides*, *Gynura cusimbua*, *Gynura nepalensis*, *Gynura* sp., *Helianthus annuus*, *Helianthus* sp., *Helichrysum* sp., *Hypochaeris radicata*, *Inula cuspidate*, *Lactuca sativa*, *Launaea nudicaulis*, *Mikania cordata*, *Mikania micrantha*, *Mikania scandens*, *Montanoa bipinnatifida*, *Myriactis nepalensis*, *Parthenium hysterophorus*, *Pseudognaphalium luteoalbum*, *Rudbeckia tagetes*, *Senecio* sp., *Solidago canadensis*, *Sonchus arvensis*, *Sonchus asper*, *Sonchus* sp., *Synedrella nodiflora*, *Tagetes erecta*, *Tagetes patula*, *Tagetes* sp., *Tridax procumbens*, *Vernonia* sp., *Xanthium* sp., *Zinnia elegans*, *Zinnia* sp.
29. **Aphis umbrella:** *Rudbeckia* sp., *Cineraria* sp.
30. **Aphis verbasci:** *Senecio chrysanthemoides*, *Carduus nutans*
31. **Aulacorthum circumflexum:** *Cineraria* sp., *Cnicus* sp., *Dahlia* sp., *Dichrocephala integrifolia*, *Eupatorium adenophorum*, *Eupatorium odoratum*, *Eupatorium* sp., *Eupatorium wallichii*, *Granotia* sp., *Gynura nepalensis*, *Gynura* sp., *Pseudognaphalium luteoalbum*, *Tagetes patula*
32. **Aulacorthum dasi:** *Artemisia* sp.
33. **Aulacorthum magnoliae:** *Sonchus* sp.
34. **Aulacorthum nipponicum:** *Rudbeckia tagetes*, *Tithonia tagetiflora*
35. **Aulacorthum perillae:** *Artemisia vulgaris*
36. **Aulacorthum solani:** *Ageratum conyzoides*, *Bidens* sp., *Chrysanthemum* sp., *Cineraria* sp., *Consularia* sp., *Gerbera* sp., *Pseudognaphalium*

- luteoalbum*, *Tagetes patula*, *Xerochrysum bracteatum*
37. **Aulacorthum sp.:** *Artemisia* sp.
38. **Brachycaudus cardui:** *Carduus edelbergii*
39. **Brachycaudus cardui:** *Carduus* sp.
40. **Brachycaudus helichrysi:** *Acmella paniculata*, *Ageratum conyzoides*, *Ageratum* sp., *Anaphalis araneosa*, *Anaphalis cinnomea*, *Anaphalis contorta*, *Anaphalis nepalensis*, *Anaphalis* sp., *Anaphalis triplinervis*, *Artemisia nepalensis*, *Artemisia* sp., *Artemisia vulgaris*, *Bidens bipinnata*, *Bidens pilosa*, *Blumea lacera*, *Blumea mollis*, *Blumea* sp., *Chromolaena odorata*,
41. *Chrysanthemum indicum*, *Chrysanthemum* sp., *Cineraria* sp., *Cnicus* sp., *Cnicus wallichii*, *Conyza angustifolia*, *Conyza bonariensis*, *Conyza canadensis*, *Cosmos bipinnatus*, *Crepis* sp., *Dichrocephala integrifolia*, *Elephantopus* sp., *Erechtites* sp., *Erechtites valerianaefolia*, *Eron* sp., *Eupatorium adenophorum*, *Eupatorium odoratum*, *Eupatorium* sp., *Eupatorium wallichii*, *Galinsoga parviflora*, *Gamochaeta purpurea*, *Gerbera* sp., *Glebionis coronaria*, *Gnaphalium* sp., *Gynura crepidioides*, *Gynura cusimbua*, *Gynura nepalensis*, *Helianthus annuus*, *Hypochaeris glabara*, *Inula cappa*, *Inula* sp., *Lactuca* sp., *Laggera flava*, *Laggera pterodonta*, *Laggera* sp., *Mikania scandens*, *Notonia grandiflora*, *Pseudognaphalium luteoalbum*, *Rudbeckia tagetes*, *Saussurea costus*, *Senecio alatus*, *Senecio chrysanthemoides*, *Senecio densiflorus*, *Senecio diversifolius*, *Senecio scandens*, *Senecio setulosus*, *Senecio* sp., *Solidago* sp., *Solidago virgaurea*, *Sonchus arvensis*, *Sonchus* sp., *Tridax procumbens*, *Xerochrysum bracteatum*
42. **Brachycaudus sp.:** *Anaphalis cinnomea*, *Anaphalis* sp., *Artemisia* sp., *Gnaphalium* sp.
43. **Capitophorus archangelskii:** *Tricholepis furcata*
44. **Capitophorus carduinus:** *Cnicus wallichii*, *Cnicus* sp., *Cosmos* sp.
45. **Capitophorus cirsiiphagus:** *Cnicus* sp.
46. **Capitophorus elaeagni:** *Carduus edelbergii*, *Cnicus involucratus*, *Cnicus* sp., *Cnicus wallichii*, *Cousinia thomsoni*, *Cynara cardunculus*
47. **Capitophorus formosartemisiae:** *Anaphalis cinnomea*, *Artemisia dentata*, *Artemisia nepalensis*, *Artemisia roxburghiana*, *Artemisia* sp., *Artemisia vulgaris*, *Chrysanthemum indicum*, *Cosmos* sp., *Eron* sp., *Inula orientalis*, *Inula* sp., *Saussurea albescens*, *Saussurea costus*, *Senecio triligulatus*
48. **Capitophorus hippophaes javanicus:** *Ageratum conyzoides*, *Eupatorium wallichii*
49. **Capitophorus litanensis:** *Bidens* sp.
50. **Capitophorus mitegoni:** *Cosmos* sp., *Eupatorium wallichii*
51. **Capitophorus sp.:** *Anaphalis cinnomea*, *Anaphalis* sp., *Artemisia* sp., *Artemisia vulgaris*, *Gnaphalium* sp.
52. **Capitophorus tricholepidis:** *Tricholepis furcata*
53. **Cavariella salicicola:** *Gnaphalium* sp.
54. **Chaetosiphon gracilicorne :** *Artemisia vulgaris*
55. **Chaitophorus clarus:** *Artemisia vulgaris*
56. **Coloradoa artemisiae:** *Artemisia vulgaris*
57. **Coloradoa artemisicola:** *Artemisia vulgaris*
58. **Coloradoa indica:** *Artemisia* sp.
59. **Coloradoa rufomaculata:** *Artemisia* sp., *Artemisia vulgaris*, *Chrysanthemum indicum*, *Chrysanthemum* sp., *Chrysanthemum xmorifolium*, *Glebionis coronaria*

60. **Cryptomyzus taoi**: *Artemisia* sp., *Youngia japonica*
61. **Cryptosiphum aertemisiae**: *Artemisia* sp., *Artemisia vulgaris*, *Sonchus* sp.
62. **Dysaphis atina**: *Anaphalis busca*, *Carduus onopordioides*, *Cnicus wallichii*
63. **Dysaphis emicis**: *Cicerbita cyanea*
64. **Dysaphis hirsutissima**: *Artemisia vulgaris*
65. **Dysaphis microsiphon**: *Artemisia vulgaris*, *Artemisia* sp., *Gnaphalium* sp., *Lactuca dolichophylla*, *Taraxacum officinale*
66. **Dysaphis pavlovskyana indica**: *Saussurea piptathera*
67. **Dysaphis sp.**: *Carduus* sp., *Cnicus wallichii*, *Laggera pterodonta*
68. **Eumyzus nokuli**: *Senecio* sp.
69. **Euthoracaphis longisetosa**: *Senecio* sp.
70. **Eutrichosiphum alnicola**: *Launaea sarmentosa*
71. **Eutrichosiphum pseudopasaniae**: *Eron* sp.
72. **Eutrichosiphum pyri**: *Dichrocephala integrifolia*
73. **Greenidea ficicola**: *Artemisia vulgaris*, *Artemisia* sp.
74. **Hayhurstia atriplicis**: *Sonchus* sp.
75. **Hyadaphis coriandri**: *Helianthus annuus*
76. **Hyalomyzus raoi**: *Artemisia* sp.
77. **Hyperomyzus lactucae**: *Cnicus argyracanthus*
78. **Hyperomyzus carduellinus**: *Ageratum* sp., *Echinops* sp., *Emilia sonchifolia*, *Gynura cusimbua*, *Gynura nepalensis*, *Hypochaeris radicata*, *Launaea nudicaulis*, *Sonchus arvensis*, *Sonchus asper*, *Sonchus oleraceus*, *Sonchus* sp., *Tridax procumbens*, *Tridax* sp.
79. **Hyperomyzus lactucae**: *Sonchus arvensis*, *Sonchus asper*, *Sonchus oleraceus*, *Sonchus* sp.
80. **Hysteroneura setariae**: *Dichrocephala integrifolia*, *Tridax procumbens*
81. **Impatientinum asiaticum dalhousiensis**: *Eron* sp.
82. **Impatientinum balsamines**: *Launaea* sp.
83. **Ipuka dispersum**: *Emilia sonchifolia*
84. **Kurisakia indica**: *Helianthus* sp.
85. **Liosomaphis atra**: *Launaea sarmentosa*
86. **Liosomaphis himalayensis**: *Launaea sarmentosa*, *Launaea* sp.
87. **Lipaphis erysimi**: *Calendula* sp., *Emilia sonchifolia*, *Lactuca sativa*,
88. **Longisiphoniella subterranea**: *Artemisia* sp., *Conyza bonariensis*
89. **Macrosiphoniella grandicauda**: *Artemisia* sp.
90. **Macrosiphoniella kikumshana**: *Artemisia vulgaris*
91. **Macrosiphoniella oblonga**: *Artemisia* sp.
92. **Macrosiphoniella paraoblonga**: *Artemisia* sp.
93. **Macrosiphoniella pseudoartemisiae**: *Artemisia vulgaris*
94. **Macrosiphoniella alata**: *Artemisia scoparia*, *Artemisia* sp.
95. **Macrosiphoniella formosartemisiae**: *Artemisia vulgaris*, *Chrysanthemum* sp., *Conyza japonica*
96. **Macrosiphoniella grandicauda**: *Ainsliaea aptera*
97. **Macrosiphoniella hikosanensis**: *Artemisia vulgaris*, *Artemisia* sp.
98. **Macrosiphoniella himalayana**: *Artemisia* sp.
99. **Macrosiphoniella kalimpongensis**: *Artemisia vulgaris*, *Artemisia* sp.
100. **Macrosiphoniella kikumshana**: *Artemisia caruifolia* Buch.- Ex Roxb., *Artemisia* sp.,
101. *Chrysanthemum* sp., *Eupatorium odoratum*
102. **Macrosiphoniella pseudoartemisiae**: *Artemisia absinthium*, *Artemisia scoparia*, *Artemisia* sp., *Chrysanthemum* sp., *Glebionis coronaria*

103. **Macrosiphoniella sanborni**: *Artemisia* sp., *Artemisia vulgaris*, *Chrysanthemum indicum*, *Chrysanthemum* sp., *Chrysanthemum xmorifolium*, *Glebionis coronaria*, *Montanoa bipinnatifida*, *Parthenium hysterophorus*, *Vernonia* sp.
104. **Macrosiphoniella sikkimartemisiae**: *Artemisia* sp.
105. **Macrosiphoniella** sp.: *Achillea millefolium*, *Artemisia vulgaris*, *Artemisia* sp., *Chrysanthemum* sp.
106. **Macrosiphoniella spinipes**: *Artemisia caruifolia*, *Artemisia* sp., *Artemisia vulgaris*, *Chrysanthemum* sp.
107. **Macrosiphoniella sudhakarisi**: *Achillea millefolium*
108. **Macrosiphoniella yomogifoliae**: *Artemisia caruifolia*, *Artemisia* sp., *Artemisia vulgaris*, *Bidens bipinnata*, *Gnaphalium* sp.
109. **Macrosiphum centranthi**: *Chrysanthemum xmorifolium*, *Chrysanthemum* sp., *Cineraria* sp.
110. **Macrosiphum euphorbiae**: *Chrysanthemum* sp.
111. **Macrosiphum pachysiphon**: *Chrysanthemum* sp.
112. **Macrosiphum rosae** : *Inula cappa*
113. **Macrosiphum** sp. : *Argyroxiphium* sp., *Chrysanthemum* sp., *Lactuca sativa*
114. **Megoura vasesiphon**: *Senecio* sp.
115. **Melanaphis** sp. : *Guizotia abyssinica*
116. **Melanaphis vandergooti**: *Gynura cusimbua*
117. **Metopolophium simlaense**: *Launaea* sp.
118. **Metopolophium sonchifoliae**: *Sonchus* sp.
119. **Micromyzodium levipes**: *Eupatorium odoratum*
120. **Micromyzus granotiae**: *Granotia* sp.
121. **Myzackaia verbasci**: *Artemisia* sp., *Montanoa bipinnatifida*
122. **Myzus ascalonicus**: *Chrysanthemum* sp., *Hypochaeris radicata*, *Pseudognaphalium luteoalbum*
123. **Myzus cerasi**: *Artemisia vulgaris*, *Artemisia* sp.
124. **Myzus cymbalariae**: *Hypochaeris radicata*
125. **Myzus dycei**: *Artemisia vulgaris*
126. **Myzus kalimpongensis**: *Artemisia* sp.
127. **Myzus ornatus**: *Ageratum conyzoides*, *Artemisia vulgaris*, *Aster* sp., *Bidens biternata*, *Bidens pilosa*, *Blumea lacera*, *Chrysanthemum indicum*, *Cineraria* sp., *Cnicus* sp., *Conyza japonica*, *Cosmos* sp., *Cotula* sp., *Dahlia* sp., *Dichrocephala integrifolia*, *Eron* sp., *Eupatorium adenophorum*, *Eupatorium odoratum*, *Eupatorium* sp., *Eupatorium wallichii*, *Gaillardia* sp., *Gynura nepalensis*, *Gynura* sp., *Helianthus annuus*, *Hypochaeris radicata*, *Inula cappa*, *Lactuca sativa*, *Montanoa bipinnatifida*, *Pseudognaphalium luteoalbum*, *Senecio* sp., *Sonchus arvensis*, *Sonchus brachyotus*, *Sonchus* sp., *Tagetes patula*, *Tridax procumbens*, *Zinnia elegans*
128. **Myzus persicae**: *Acmella paniculata*, *Ageratum conyzoides*, *Ageratum* sp., *Amberboa moschata*, *Arctotis arctotoides*, *Artemisia* sp., *Artemisia vulgaris*, *Aster trinervius*, *Bidens pilosa*, *Blumea lacera*, *Carthamus tinctorius*, *Chrysanthemum indicum*, *Chrysanthemum* sp., *Chrysanthemum xmorifolium*, *Cineraria* sp., *Cosmos* sp., *Dahlia* sp., *Dichrocephala integrifolia*, *Echinops echinatus*, *Erechtites* sp., *Eron* sp., *Eupatorium odoratum*, *Eupatorium riparium*, *Eupatorium wallichii*, *Galinsoga parviflora*, *Gynura crepidioides*, *Gynura cusimbua*, *Gynura nepalensis*, *Gynura* sp., *Helianthus annuus*, *Helianthus* sp., *Hypochaeris radicata*, *Inula cappa*, *Lactuca sativa*, *Launaea sarmentosa*, *Pseudognaphalium luteoalbum*, *Sonchus arvensis*, *Sonchus asper*, *Sonchus* sp., *Spilanthes acuminata*, *Spilanthes corymbosus*,



- Tagetes patula*, *Tridax procumbens*,  
*Zinnia* sp.
129. **Myzus siegesbeckicola**: *Artemisia* sp.,  
*Aster* sp., *Eupatorium odoratum*,  
*Helianthus annuus*, *Montanoa*  
*bipinnatifida*, *Siegesbeckia orientalis*
130. **Myzus** sp.: *Sonchus* sp.
131. **Nasonovia rostrata**: *Adenocaulon*  
*bicolor*, *Conyza stricta*
132. **Neomasonaphis anaphalidis**:  
*Ageratum conyzoides*, *Anaphalis* sp.,  
*Anaphalis triplinervis*, *Artemisia* sp.,  
*Gerbera* sp., *Inula cappa*, *Senecio*  
*scandens*
133. **Neomasonaphis chakrabartii**: *Inula*  
sp.
134. **Neomasonaphis inulae**: *Inula cappa*,  
*Inula cuspidata*
135. **Neomasonaphis rumicis**: *Gerbera* sp.
136. **Neomasonaphis tuberculata**: *Senecio*  
*rufinervis*
137. **Nipponaphis** sp.: *Senecio* sp.
138. **Oedisiphum compositarum**:  
*Anaphalis busca*, *Anaphalis contorta*,  
*Anaphalis triplinervis*, *Gnaphalium* sp.
139. **Oedisiphum soureni**: *Anaphalis* sp.,  
*Anaphalis subumbellata*, *Anaphalis*  
*triplinervis*, *Pseudognaphalium*  
*luteoalbum*
140. **Paraphorodon cannabis**: *Artemisia*  
sp.
141. **Paraphorodon cannabis**: *Cirsium*  
*arvense*, *Cnicus* sp.
142. **Pemphigus matsumurai**: *Gnaphalium*  
sp.
143. **Pleotrichophorus glandulosus**:  
*Artemisia* sp., *Artemisia vulgaris*
144. **Protrama longitarsus sclerodensus**:  
*Artemisia* sp., *Cnicus* sp., *Conyza*  
*bonariensis*, *Conyza Canadensis*,  
*Helianthus* sp., *Helianthus* sp., *Lactuca*  
*dolichophylla*, *Myriactis nepalensis*,  
*Sonchus asper*
145. **Protrama** sp.: *Helianthus* sp.
146. **Rhodobium porosum**: *Tridax*  
*procumbens*
147. **Rhopalosiphum maidis**: *Guizotia*  
*abyssinica*
148. **Rhopalosiphum nymphaeae**: *Senecio*  
sp.
149. **Rhopalosiphum padi**: *Bidens pilosa*,  
*Vernonia cinerea*
150. **Rhopalosiphum rufiabdominalis**:  
*Bidens pilosa*
151. **Sappaphis piri**: *Artemisia* sp.,  
*Artemisia vulgaris*
152. **Schoutedenia** sp.: *Artemisia vulgaris*
153. **Shinjia orientalis**: *Saussurea* sp.
154. **Sinomegoura citricola**: *Chrysan-*  
*themum* sp., *Micropus discolor*,  
*Montanoa bipinnatifida*
155. **Sitobion gravelii**: *Artemisia vulgaris*
156. **Sitobion graminis**: *Bidens pilosa*
157. **Sitobion gravelii**: *Artemisia* sp.
158. **Sitobion miscanthi**: *Cineraria* sp., *Eron*  
sp., *Granotia* sp., *Helianthus annuus*,  
*Lactuca sativa*, *Youngia japonica*
159. **Sitobion rosaeiformis**: *Myriactis*  
*nepalensis*, *Sonchus* sp.
160. **Sitobion sikkimense**: *Eron* sp.
161. **Sitobion smilacicola**: *Eron* sp.
162. **Smynthuodes betae**: *Galinsoga*  
*parviflora*
163. **Subovatomyzus leucosceptri**: *Inula*  
*cappa*, *Vernonia* sp.
164. **Tetraneura basui**: *Chrysanthemum* sp.
165. **Tetraneura nigriabdominalis**:  
*Chrysanthemum* sp., *Inula cappa*,  
*Synedrella nodiflora*
166. **Toxoptera aurantii**: *Artemisia* sp.,  
*Artemisia vulgaris*, *Aster* sp., *Bidens*  
*bipinnata*, *Bidens pilosa*, *Eupatorium*  
*odoratum*, *Gynura nepalensis*, *Gynura*  
sp., *Inula cappa*, *Pseudognaphalium*  
*luteoalbum*, *Sonchus arvensis*, *Sonchus*  
sp.
167. **Toxoptera odinae**: *Siegesbeckia* sp.,  
*Tagetes patula*
168. **Trama penecaeca**: *Helianthus*  
*tuberosus*
169. **Tricaudatus polygoni**: *Bidens pilosa*
170. **Trichaitophorus aceris**: *Artemisia*  
*vulgaris*

171. **Trichosiphonaphis gerberae:** *Gerbera macrophylla*, *Gerbera* sp.
172. **Trichosiphonaphis polygoniformosana:** *Gerbera macrophylla*, *Gerbera* sp.
173. **Tuberocephalus sasakii:** *Artemisia caruifolia*, *Artemisia* sp., *Artemisia vulgaris*
174. **Uroleucon achilleae:** *Achillea millefolium*
175. **Uroleucon budhium:** *Anaphalis nepalensis*, *Anaphalis* sp., *Blumea* sp., *Echinops cornigerus*, *Helianthus annuus*, *Inula cappa*, *Inula* sp.
176. **Uroleucon carthami:** *Carthamus tinctorius*, *Sonchus arvensis*, *Sonchus oleraceus*, *Sonchus* sp.
177. **Uroleucon compositae:** *Amberboa moschata*, *Bidens* sp., *Blumea* sp., *Calendula* sp., *Carthamus tinctorius*, *Cosmos* sp., *Echinops echinatus*, *Gaillardia pulchella*, *Gaillardia* sp., *Inula cappa*, *Senecio* sp., *Vernonia roxburghii*, *Zinnia* sp.
178. **Uroleucon echinatus:** *Echinops echinatus*
179. **Uroleucon eronense:** *Anaphalis* sp., *Conyza stricta*, *Gnaphalium* sp.
180. **Uroleucon formosanum crepidis:** *Chrysanthemum* sp., *Emilia sonchifolia*, *Sonchus* sp., *Youngia japonica*
181. **Uroleucon formosanum formosanum:** *Cicerbita cyanea*
182. **Uroleucon fuscaudatum:** *Inula rubricaulis*, *Inula* sp.
183. **Uroleucon gobonis:** *Carthamus* sp., *Tagetes* sp.
184. **Uroleucon hypochoeridis:** *Hypochoeris radicata*
185. **Uroleucon jaceae:** *Arctotis grandiflora*, *Calendula* sp., *Carthamus tinctorius*, *Centaurea cyanus*, *Dahlia pinnata*, *Guizotia abyssinica*
186. **Uroleucon kashmiricum:** *Calendula* sp., *Cosmos* sp., *Solidago virgaurea*, *Zinnia* sp.
187. **Uroleucon kumaoni:** *Cnicus argyracanthus*, *Cnicus* sp., *Tricholepis furcata*
188. **Uroleucon longisetosum:** *Cicerbita cyanea*, *Cicerbita macrorrhiza*, *Inula* sp., *Lactuca dolichophylla*, *Prenanthes brunoniana*, *Prenanthes violaefolia*
189. **Uroleucon minutum:** *Vernonia cinerea*, *Vernonia* sp.
190. **Uroleucon orientalis:** *Carthamus tinctorius*
191. **Uroleucon parasonchi:** *Sonchus arvensis*, *Sonchus* sp.
192. **Uroleucon pseudotanaceti:** *Artemisia* sp., *Chrysanthemum* sp., *Helianthus annuus*, *Helianthus tuberosus*
193. **Uroleucon simile:** *Eron alpinus*
194. **Uroleucon simlaense:** *Eron* sp.
195. **Uroleucon solidaginis:** *Carthamus oxyacantha*, *Carthamus tinctorius*
196. **Uroleucon sonchi:** *Artemisia* sp., *Blumea aromatica*, *Carthamus tinctorius*, *Centaurea* sp., *Emilia sonchifolia*, *Gynura* sp., *Lactuca runcinata*, *Lactuca* sp., *Launaea* sp., *Sonchus arvensis*, *Sonchus asper*, *Sonchus brachyotus*, *Sonchus oleraceus*, *Sonchus* sp., *Tricholepis elongata*
197. **Uroleucon sp.:** *Artemisia* sp., *Artemisia vulgaris*, *Prenanthes brunoniana*, *Senecio* sp., *Sonchus arvensis*, *Sonchus* sp.
198. **Uroleucon tanaceti:** *Helianthus annuus*
199. **Vesiculaphis pieridis:** *Ageratum* sp.

The literature survey established that at least 199 Indian species of aphids feed upon almost 208 plant species belonging to the family Asteraceae or Compositae. Among the aphid species, *Aphis gossypii* Glover was recorded feeding 77 food plants followed by *Brachycaudus helichrysi* (Kalt.) (72 species), *Aphis spiraecola* Patch (70 species), *Myzus persicae* (Sulzer) (45 species), *Myzus ornatus* Laing (35 species), *Aphis fabae* Scopoli (25 species), and *Aphis craccivora* Koch (23

species). Most suffered plants belong to the genera *Artemisia* (60 aphid species) and *Sonchus* (25 aphid species).

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