GESA
GLOCAL ENVIRONMENT & SOCIAL ASSOCIATION

International Journal of Biological Innovations
http: //ijbi.org.in | http://www.gesa.org.in/journals.php
https://doi.org/10.46505/IJBI.2023.5102
IJBI 5(1): 14-54 **(2023)**
E-ISSN: 2582-1032

ASSOCIATION OF APHIDS (HOMOPTERA: APHIDIDAE) WITH THE FLOWERING PLANTS OF NITROGEN-FIXING CLADE OF FABIDS (ANGIOSPERMS: EUDICOTS) IN INDIA

Rajendra Singh[1]*, Garima Singh[2] and Ruhi Agrawal[3]

[1]Department of Zoology
Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur (U.P.), India
[2]Department of Zoology, Rajasthan University, Rajasthan, Jaipur, India
[3]Department of Zoology, St. Joseph's College for Women, Gorakhpur (U.P.), India

*Corresponding author: rsinghgpu@gmail.com

Article Info:
Review Article
Received
15.12.2022
Reviewed
18.01.2023
Accepted
29.01.2023

Abstract: The present checklist deals with the association of aphids with the plants belonging to the four orders of nitrogen-fixing clade of fabids eudicot angiosperms, i.e. Cucurbitales, Fabales, Fagales and Rosales recorded in India. Total 294 species of plants of these orders belonging to 124 genera and 13 families are associated with 239 species of aphids put into 102 genera and 7 subfamilies of aphids. The aphids are related with only two families of Cucurbitales, Begoniaceae and Cucurbitaceae. Single species of Begoniaceae and 21 species of Cucurbitaceae are associated with 2 and 25 species of aphids, respectively. Almost 67 species of aphids are associated with 111 species of plants belonging to Fabaceae. Fagales includes 3 families, Betulaceae, Fagaceae and Juglandaceae and 38, 89 and 20 species of aphid use 6, 16 and 3 species of plants of these families, respectively. Among Rosales, maximum species of plants (89 species) of Rosaceae are infested by 166 species of aphids followed by Moraceae (17 species of plants by 27 species of aphids), Urticaceae (13 species of plants by 28 species of aphids), Cannabaceae (6 species of plants by 7 species of aphids), and less than it on Rhamnaceae, Ulmaceae and Elaeagnaceae. *Aphis (Aphis) gossypii* Glover is highly polyphagous on this clade of eudicots infesting 73 plant species, followed by *Aphis (Aphis) spiraecola* Patch (36 plant species), *Myzus (Nectarosiphon) persicae* (Sulzer) (27 plant species), *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe and *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach) (26 plant species each) and *Myzus (Myzus) ornatus* Laing (25 plant species).

Keywords: Aphid, Begoniaceae, Cannabaceae, checklist, Cucurbitaceae Betulaceae, Elaeagnaceae, Fagaceae, Juglandaceae, Moraceae, Rhamnaceae, Rosaceae, Ulmaceae, Urticaceae.

Cite this article as: Singh Rajendra, Singh Garima and Agrawal Ruhi (2023). Association of aphids (Homoptera: Aphididae) with the flowering plants of nitrogen-fixing clade of fabids (Angiosperms: Eudicots) in India *International Journal of Biological Innovations*. 5(1): 14-54. https://doi.org/10.46505/IJBI.2023.5102.

INTRODUCTION

The Eudicots (Eudicotidae/Eudicotyledons) is one of the clades of flowering plants (angiosperms) characterized by having two seed leaves upon germination and is usually divided into the basal eudicots (a paraphyletic group) and the core eudicots (a monophyletic group) (Worberg *et al.*, 2007). The basal eudicots includes 4 paraphyletic orders (Ranunculales, Proteales, Trochodendrales, Buxales) while the

core eudicots include 2 orders (Gunnerales, Dilleniales) and 2 clades (superrosids, superasterids). The clades superrosids and superasterids include majority of orders and families of eudicots. The clade superrosids comprises 2 orders, Saxifragales and Vitales and a clade eurosids that includes 2 clades, fabids and malvids (APG IV, 2016). The clade fabids comprises 8 orders under two clades: Zygophyllales, Celastrales, Oxalidales and Malpighiales (COM clade); and Fabales, Rosales, Cucurbitales and Fagales (nitrogen-fixing clade) (Figure 1). The present checklist deals with the association of aphids with the plants belonging to the orders of nitrogen-fixing clades, *i.e.* Cucurbitales, Fabales, Fagales and Rosales recorded in India.

The aphids (Hemiptera: Aphididae) are small, plant sap-sucking bugs and its many species are injurious to crops. They belong to class Insecta, the largest class of animals (Verma and Prakash, 2020). The small size of aphids, complex life-cycles with alternation of sexual and asexual generations, host plant alternation, polymorphism, short and telescopic generations are the major traits that make them highly prolific in reproduction (Singh and Singh, 2022a). They not only suck the nutrients of the plants but also obstruct their normal physiology by secreting high amount of honeydew that blocks stomata and promotes growth of black sooty moulds. In addition, they also transmit hundreds of viral diseases (Singh and Singh, 2021). Presently, all aphids belong to a single family Aphididae comprising 23 subfamilies and 5109 species under 527 genera (Favret, 2022). In India, 794 species of aphids of 208 genera are recorded (Singh and Singh, 2019).

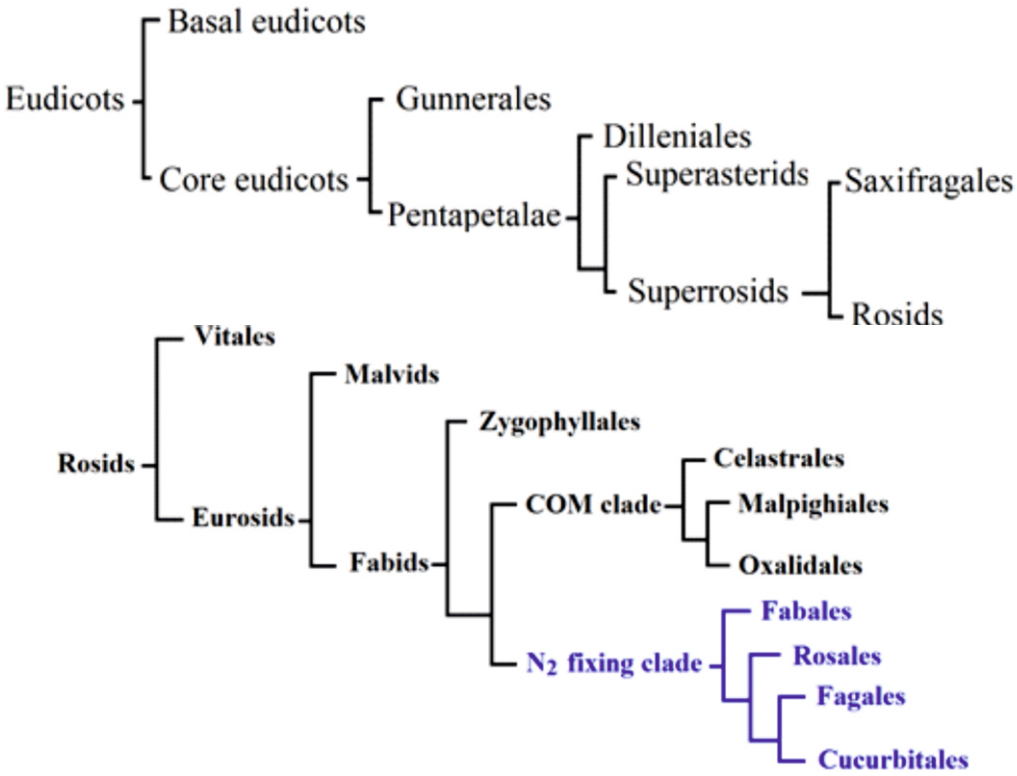

Figure 1: Cladofram of eudicots showing the phylogeny of nitrogen-fixing clade of fabids in angiosperm (based on APG IV, 2016).

The catalogue of of aphids and their food plants is a database that provides an index of known species of aphid associated with a known species of plant. As several species of aphids are notorious crop pests, their cataloguing along with their food plants is important. Food plants of Indian aphids were earlier catalogued (Raychaudhuri, 1983) and updated in recent years (Chakrabarti and Sarkar, 2001; Singh and Singh, 2016a, b, 2017a-h, 2018; Singh et al., 2018). In recent years, several new associations of aphids with food plants were recorded and traced in literature. In the series of updation of food plant association of aphids (Singh, 2023a, b;

Singh and Agrawal, 2021, 2022a, b, 2023; Singh and Khan, 2022; Singh and Singh, 2022b, c; Singh and Srivastava, 2022a-d; Singh et al., 2023), this article deals with the aphids infesting food plants belonging to the nitrogen-fixing clade of fabids in the eudicots angiosperms (Figure 1).

MATERIALS AND METHODS

The aphids and host plant records in this checklist are taken from wide resources such as books, journals, proceedings, few authentic theses and websites up to December 30, 2022. It may inevitably contain some percentage of misidentifications, both of aphids and their host plants. Some aphid species may also be vagrant individuals on a given host plant. The names of aphids, as well as plants that were misspelt in the original records have been corrected where we logically ascertain the intended species. If the specific name of the plant is invalid, only generic name is given. In the present checklist, attempts have been made to present the valid scientific names of the aphids following Favret (2022), and of the plants following (WFO, 2022). In the first inventory of plant names, their synonyms recorded in India are also provided. For the synonymies of the aphids Favret (2022) should be consulted. If an aphid species is identified only up to a generic level, it was considered as species if no other species of that genus is reported on that host plant and vice versa. Multiple references are avoided.

RESULTS AND DISCUSSION

Eudicots flowering plants that possess the nitrogen-fixing nodulation trait are distributed in four orders, Cucurbitales, Fabales, Fagales and Rosales (Doyle, 2011) and together these orders are known as the nitrogen-fixing clade in the clade fabids, in spite of many lineages of nonnodulating species in this clade (Huisman and Geurts, 2020).

Table 1 demostrates that 295 species of aphids grouped into 105 genera and 7 subfamilies infest 294 species of nitrogen-fixing clade of fabids clade of eudicots flowering plants belonging to

Table 1: Number of aphid species belonging to different subfamilies/tribes infesting plants in the nitrogen-fixing clade of fabids clade of eudicot angiosperms in India, excluding the families Fabaceae and Fagaceae.

Subfamiles/tribes of Aphididae		Number of aphid species		Total	
Subfamilies	**Tribes**	**Genera**	**Species**	**Genera**	**Species**
Aphidinae	Aphidini	5	36	66	170
	Macrosiphini	61	134		
Calaphidinae	Calaphidini	5	14	16	32
	Myzocallidini	2	3		
	Panaphidini	2	3		
	Pterocallidini	2	3		
	Shivaphidini	1	2		
	Therioaphidini	4	7		
Eriosomatinae	Eriosomatini	4	11	9	20
	Fordini	2	4		
	Pemphigini	3	5		
Greenideinae	Cervaphidini	2	7	7	59
	Greenideini	4	50		
	Schoutedeniini	1	2		
Hormaphidinae	Cerataphidini	1	2	2	3
	Hormaphidini	1	1		
Lachninae	Eulachnini	1	1	4	10
	Lachnini	3	9		
			Total	105	295

Following is the associations of these plants with aphids, recorded in India. The food plant – aphid checklist is given below.

Food plant-aphid checklist

I. Order: Cucurbitales

The Cucurbitales, mostly distributed in tropics, are shrubs, trees, herbs and climbers. It includes 8 families; however, only two families Begoniaceae (begonia family) and Cucurbitaceae (gourd family) are highly economically important and also associated with aphids in India.

A. Family: Begoniaceae

Begoniaceae is represented in India by 73 species of its type genus *Begonia* L., most of them are cultivated as popular ornamental houseplants, only one identified and one unidentified species of *Begonia* L. were recorded as host plant of two species of aphids ad given below.

1. ***Begonia rex* Putz.**
   - *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

2. ***Begonia* sp.**
   - *Myzus (Myzus) ornatus* Laing, 1932 (Chakrabarti, 1972)
   - *Neomyzus circumflexus* (Buckton, 1876) (Basu and Banerjee, 1958)

Table 2: Number of plant species belonging to the different families of the nitrogen-mixing clade of fabids in the world and in India; number of host plant species of each family infested by aphids; and the number of aphid species infesting these plants in India.

Families	Distribution in world*		Distribution in India**		Plant species in fested in India		Infesting aphid species in India	
	Genera	Species	Genera	Species	Genera	Species	Genera	Species
Order: Cucurbitales								
Begoniaceae	2	2040	1	73	1	1	1	2
Cucurbitaceae	95	965	32	106	11	21	9	22
Order: Fabales	0	0	0	0	0	0	0	0
Fabaceae	765	20000	250	1420	61	111	38	67
Order: Fagales								
Betulaceae	6	167	4	11	4	6	19	38
Fagaceae	10	1300	4	53	3	16	31	89
Juglandaceae	10	50	3	6	3	3	10	20
Order: Rosales								
Cannabaceae	11	170	6	13	4	6	6	7
Elaeagnaceae	3	60	2	16	2	2	1	3
Moraceae	38	1100	12	142	3	17	15	27
Rhamnaceae	55	950	15	64	3	5	6	12
Rosaceae	150	5000	39	469	18	90	81	166
Ulmaceae	7	45	2	9	1	3	7	11
Urticaceae	60	2700	26	50	10	13	16	28
Total	**1212**	**34547**	**396**	**2432**	**124**	**294**	**105**	**295**

*Approximate number (Christenhusz and Byng, 2016; WFO, 2022); ** BSI, 2022

B. Family: Cucurbitaceae

The Cucurbitaceae comprises 106 species described under 32 genera in India (BSI, 2022), many of them are cultivated as vegetable crops and fruits. The cucurbit vegetables such as pumpkin, gourds and cucumber have been used for centuries, not only for consumption, but also for their medicinal values. In India, 21 species of cucurbits under 11 genera are used as host plants by 25 species of aphids of 9 genera (Table 2), of which *Aphis (Aphis) gossypii* Glover infests all species of plants as stated below.

1. ***Benincasa hispida* Cogn.**
   - *Aphis (Aphis) craccivora* Koch, 1854 (Singh *et al*., 1999)
   - *Aphis (Aphis) fabae evonymi* Fabricius, 1775 (Ghosh, 1975)
   - *Aphis (Aphis) fabae* Scopoli, 1763 (Behura, 1963)
   - *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh, 1990)
   - *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Ahmad *et al*., 2020)
   - *Aphis (Aphis) rumicis* Linnaeus, 1758 (Lefroy and Howlett, 1909)
   - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
   - *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Tamilnayagan *et al*., 2017)

2. ***Bryonia* sp.**
   - *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)

3. ***Citrullus lanatus* (Thunb.) Matsum. and Nakai (syn. *Citrullus vulgaris* Schrad.**
   - *Aphis (Aphis) gossypii* Glover, 1877 (Banerjee and Basu, 1955)
   - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
   - *Neomyzus circumflexus* (Buckton, 1876) (Agarwala, 1979)

5. ***Coccinia grandis* (L.) Voigt. (=*Coccinia indica* Wight and Arn.)**
   - *Aphis (Aphis) craccivora* Koch, 1854 (Chaudhary *et al*., 2009)
   - *Aphis (Aphis) gossypii* Glover, 1877 (Chaudhary *et al*., 2009)
   - *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Rao and Kulkarni, 1977)
   - *Aphis (Aphis) nerii* Boyer de Fonscolombe, 1841 (Ahmad *et al*., 2020)
   - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)

6. ***Coccinia* sp.**
   - *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh, 1990)

7. ***Cucumis maderaspatanus* L. (syn. *Coccinia cordifolia* Cogn.)**
   - *Aphis (Aphis) gossypii* Glover, 1877 (David, 1957a)
   - *Aphis (Aphis) craccivora* Koch, 1854 (Ghosh, 1990)

8. ***Cucumis melo* L. (syn. *Cucumis melo* var. *momordica* (Roxb.) Duthie and Fuller; *Luffa cylindrica* M.Roem.)**
   - *Aphis (Aphis) craccivora* Koch, 1854 (Ahmad and Kumar, 2006)
   - *Aphis (Aphis) fabae* Scopoli, 1763 (Ahmad *et al*., 2020)
   - *Aphis (Aphis) gossypii* Glover, 1877 (Banerjee and Basu, 1955)
   - *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Ahmad and Singh, 2005)
   - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)

9. ***Cucumis sativus* L.**
   - *Aphis (Aphis) craccivora* Koch, 1854 (Bhat *et al*., 2020)
   - *Aphis (Aphis) gossypii* Glover, 1877 (Bhat *et al*., 2020)
   - *Aphis (Aphis) spiraecola* Patch, 1914 (Sarkar and Chakrabarti, 2015)
   - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
   - *Aulacorthum (Aulacorthum) spinacaudatum* (Kumar and Burkhardt, 1971) (Ghosh, 1977)
   - *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Rao, 1969)
   - *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Ghosh, 1977; Sarkar and Chakrabarti, 2015)

10. ***Cucurbita maxima* Duchesne**
    - *Aphis (Aphis) craccivora* Koch, 1854 (Singh *et al*., 1999)
    - *Aphis (Aphis) gossypii* Glover, 1877 (Lefroy and Howlett, 1909)
    - *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
    - *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1965)

- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Bhat *et al*., 2020)
- *Neomyzus circumflexus* (Buckton, 1876) (Raychaudhuri, 1973)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Chaudhary *et al*., 2009)

11. *Cucurbita moschata* Duchesne
- *Aphis (Aphis) gossypii* Glover, 1877 (Behura, 1963)
- *Aphis (Aphis) longisetosa* Basu, 1969 (1970) (Mondal *et al*., 1978a)
- *Aphis (Aphis) nerii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1978a)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aulacorthum (Aulacorthum) linderae* (Shinji, 1922) (Agarwala *et al*., 1982a)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Basu and Raychaudhuri, 1980)

12. *Cucurbita pepo* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Banerjee and Basu, 1955)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Rao and Kulkarni, 1977)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Basu, 1969a)

13. *Cucurbita* sp.
- *Aphis (Aphis) gossypii* Glover, 1877 (Banerjee and Basu, 1955)
- *Aphis (Aphis) umbrella* (Borner, 1950) (David, 1957a)
- *Myzus (Myzus) ornatus* Laing, 1932 (Rao, 1969)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Behura, 1963)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Raychaudhuri, 1980)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Basu and Raychaudhuri, 1980)

14. *Lagenaria siceraria* (Molino) Standl. (syn. *Lagenaria leucantha* Rusby)
- *Aphis (Aphis) craccivora* Koch, 1854 (Ahmad and Kumar, 2006)
- *Aphis (Aphis) fabae* Scopoli, 1763 (Ahmad *et al*., 2020)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chaudhary *et al*., 2009)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Ahmad *et al*., 2020)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Ahmad *et al*., 2020)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1973)

15. *Luffa acutangula* Roxb.
- *Aphis (Aphis) gossypii* Glover, 1877 (Ahmad *et al*., 2020)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Raychaudhuri, 1973)

16. *Luffa aegyptiaca* Mill. (syn. *Luffa cylindrica* M. Roem.)
- *Aphis (Aphis) craccivora* Koch, 1854 (Singh *et al*., 1999)
- *Aphis (Aphis) gossypii* Glover, 1877 (Singh *et al*., 1999)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Chaudhary *et al*., 2009)

17. *Luffa* sp.
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1978)

18. *Momordica charantia* L.
- *Aphis (Aphis) craccivora* Koch, 1854 (Chaudhary *et al*., 2009)
- *Aphis (Aphis) fabae* Scopoli, 1763 (Basu, 1969a)
- *Aphis (Aphis) gossypii* Glover, 1877 (Ahmad *et al*., 2020)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Ahmad and Singh, 2005)
- *Aphis (Aphis) odinae* (van der Goot, 1917) (Raychaudhuri, 1973)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Suman and Suman, 2017)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1976)

- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Ghosh, 1970)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Chaudhary *et al*., 2009)

19. *Momordica cochinchinensis* (Lour.) Spreng.
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Rao and Kulkarni, 1977)

20. *Momordica* sp.
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1976)

21. *Sicyos edulis* Jacq. (syn. *Sechium edule* Sw.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Agarwala and Raychaudhuri, 1980)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1978)
- *Aulacorthum (Aulacorthum) nipponicum* (Essig and Kuwana, 1918) (Agarwala, 1979)
- *Aulacorthum (Aulacorthum) solani* (Kaltenbach, 1843) (Raha *et al*., 1977)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Agarwala and Raychaudhuri, 1980)
- *Pseudomegoura magnoliae* (Essig and Kuwana, 1918) (Debnath and Chakrabarti, 2020)

22. *Solena heterophylla* Lour. (syn. *Melothria heterophylla* (Lour.) Cogn.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh, 1990)

23. *Solena umbellata* (J.G.Klein ex Willd.) W.J. de Wilde and Duyfjes (syn. *Zehneria umbellata* (J.G. Klein ex Willd.) Thwaites)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)

24. *Trichosanthes cucumerina* L. (syn. *Trichosanthes anguina* L.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Sengupta *et al*., 1962)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Ghosh, 1970)

25. *Trichosanthes dioica* Roxb.
- *Aphis (Aphis) gossypii* Glover, 1877 (Sengupta *et al*., 1962)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)

***26.* Undetermined species**
- *Eumyzus himalaya* Agarwala, Pramanik and Raychaudhuri, 1982 (Agarwala *et al*., 1982a)
- *Myzus (Myzus) dycei* Carver, 1961 (Ghosh *et al*., 1970a)

II. Order: Fabales

Fabales includes 4 families, Fabaceae (legumes), Quillajaceae, Polygalaceae (milkwort family) and Surianaceae, but aphids have been recorded only on the plants belonging to the single family Fabaceae (also Leguminoceae).

A. Family: Fabaceae

The Fabaceae, also known as legume, pea or bean family is the third largest family of the flowering plants and have a remarkable ecological and economical importance. It includes trees, shrubs and perennial or annual herbaceous plants, which are easily recognized by their fruit (legume) and their compound, stipulated leaves. The association of aphid species with this family has already been provided by Singh *et al*., (2016). Including the present data, 67 species of aphids in 38 genera colonise on 111 species of legumes in 61 genera out of over 1420 species described under 250 genera (BSI, 2022) in India (Table 2). Among the aphids, *Aphis craccivora* Koch is the dominating species and feeds on 84 species of legumes followed by *Aphis gossypii* Glover (40 species) and *Acyrthosiphon (Acyrthosiphon) pisum* (Harris) (21 species). The higher number of aphid species (16 species) are found to colonise *Cajanus cajan* (L.) Millsp. followed by *Lablab purpureus* ssp. *purpureus* (L.) Sweet (12 aphid species) and *Vigna unguiculata* (8 aphid species) (Singh et al., 2016).

1. *Arachis hypogaea* L.
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Deshmukh, 1992)
- *Macrosiphoniella (Macrosiphoniella) pseudoartemisiae* Shinji, 1933 (Dey and De, 2018)

2. *Astragalus polyacanthus* Benth.
- *Aphis (Aphis) solanella* Theobald, 1914 (Bhagat, 2012)

3. *Crotalaria pallida var. obovata* (G.Don) Polhill (syn. *Crotalaria mucronata* Desvaux)
- *Aphis (Aphis) craccivora* Koch, 1854 (Joshi, 2008)

4. *Leucaena leucocephala* (Lam.) de Wit.
- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Jadhav and Sathe, 2006)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Jadhav and Sathe, 2006)

5. Phaseolus sp.
- *Acyrthosiphon (Acyrthosiphon) pisum* (Harris, 1776) (Khan and Shah, 2017)
- *Aphis (Aphis) solanella* Theobald, 1914 (Khan and Shah, 2017)

6. *Robinia pseudoacacia* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Khan and Shah, 2017)

7. *Senegalia catechu* (L.f.) P.J.H.Hurter and Mabb.
- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Jadhav and Sathe, 2006)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Jadhav and Sathe, 2006)

8. *Trifolium alexandrinum* L.
- *Rhopalosiphum padi* (Linnaeus, 1758) (Mall, 2013)

9. *Trifolium repens* L.
- *Nearctaphis bakeri* (Cowen, 1895) (Dutta and Gautam, 1993)

10. *Vicia faba* L.
- *Chaetogeoica foliodentata* Remaudière and Tao, 1957 (Ghosh and Raychaudhuri, 1968a)

11. *Vicia sativa* L.
- *Acyrthosiphon* sp. (Chakrabarti and Debnath, 2009)

12. *Vigna unguiculata* (L.) Walp. (syn. *Vigna catjang* (Burm.f.) Walp.)
- *Aphis (Aphis) fabae evonymi* Fabricius, 1775 (Ghosh, 1975)

III. Order: Fagales

The order Fagales includes some of the best-known trees. It comprises 7 families, Betulaceae, Casuarinaceae, Fagaceae, Juglandaceae, Myricaceae, Nothofagaceae, and Ticodendraceae. However, in India, aphids are associated with only plants belonging to only three families, Betulaceae, Fagaceae and Juglandaceae as mentioned below.

A. Family: Betulaceae

Betulaceae, the birch family, consists of six genera of deciduous nut-bearing trees and shrubs, including the alders, birches, hazels, and hornbeams mostly distributed in northern Hemisphere. Several species are grown as popular ornamental trees, widely planted in parks and large gardens. In India, 11 species under 4 genera are recorded (BSI, 2022), out of which 6 species of 4 genera are associated with 38 species of aphids belonging to 19 genera (Table 2) as stated below.

1. *Alnus nepalensis* D. Don
- *Aphis (Aphis) spiraecola* Patch, 1914 (Agarwala, 1979)
- *Cervaphis quercus* Takahashi, 1918 (Chakrabarti *et al*., 2012)
- *Chromaphis hirsutustibis* Kumar and Lavigne, 1970 (Chakrabarti, 1988)
- *Eutrichosiphum alnicola* (Basu, 1968) (Raychaudhuri, 1980)
- *Eutrichosiphum nepalense* Ghosh and Agarwala, 1993 (Ghosh and Agarwala, 1993)
- *Eutrichosiphum raychaudhurii* (Ghosh, 1969) (Raha and Raychaudhuri, 1981)
- *Eutrichosiphum tattakanum* (Takahashi, 1925) (Bindra and Sekhon, 1969a)
- *Greenidea (Trichosiphum) manii* Ghosh, Basu and Raychaudhuri, 1970 (Agarwala, 1979)
- *Mesocallis (Mesocallis) alnicola* Ghosh, 1974 (Chakrabarti and Raychaudhuri, 1975a)
- *Mesocallis (Mesocallis) obtusirostris* Ghosh, 1974 (Chakrabarti and Raychaudhuri, 1975a)
- *Mollitrichosiphum (Metatrichosiphon) montanum* (van der Goot, 1918) (Basu and Raychaudhuri, 1980)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Basu, 1964)
- *Mollitrichosiphum (Metatrichosiphon) niitakaensis* (Takahashi, 1937) (Basu, 1969a)
- *Mollitrichosiphum (Metatrichosiphon)* sp. (Raychaudhuri, 1978
- *Neobetulaphis chaetosiphon* Quednau and Chakrabarti, 1980 (Chakrabarti and Raychaudhuri, 1975a)

- *Neobetulaphis pusilla* BASU, 1964 (Chakrabarti and Raychaudhuri, 1975a)
- *Panaphis* sp. (Basu, 1969a)
- *Prociphilus (Prociphilus) osmanthae* Essig and Kuwana, 1918 (Bhagat, 1985a)
- *Taoia chuansiensis* (Tao, 1964) (Bindra and Sekhon, 1969a)
- *Taoia indica* (Ghosh and Raychaudhuri, 1972) (Agarwala and Raychaudhuri, 1980)

2. *Alnus* sp.

- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1976)
- *Eriosoma kashmiricum* Ghosh, Verma and Raychaudhuri, 1976 (Ghosh, 1984)
- *Eutrichosiphum raychaudhurii* (Ghosh, 1969) (Basu *et al*., 1973)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Agarwala and Raychaudhuri, 1981)
- *Mesocallis (Mesocallis) alnicola* Ghosh, 1974 (Raychaudhuri, 1978)
- *Mesocallis (Mesocallis) obtusirostris* Ghosh, 1974 (Chakrabarti and Sarkar, 2001)
- *Mollitrichosiphum (Metatrichosiphon) montanum* (van der Goot, 1918) (Ghosh and Agarwala, 1993)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Agarwala and Raychaudhuri, 1981)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Neobetulaphis pusilla* Basu, 1964 (Chakrabarti, 1988)
- *Sinomegoura citricola* (van der Goot, 1917) (Raychaudhuri, 1973)
- *Taoia chuansiensis* (Tao, 1964) (Chakrabarti *et al*., 1971)
- *Taoia indica* (Ghosh and Raychaudhuri, 1972) (Chakrabarti, 1972)

3. *Betula alnoides* Buch.–Ham.

- *Betacallis sikkimensis* Basu, Ghosh and Raychaudhuri, 1974 (Chakrabarti, 1988)
- *Betulaphis hissarica* Narzikulov, 1963 (Chakrabarti and Sarkar, 2001)
- *Betulaphis longicornis* Quednau and Chakrabarti, 1980 (Chakrabarti, 1988)
- *Clethrobius comes* (Walker, 1848) (Chakrabarti, 1988)
- *Clethrobius dryobius* Chakrabarti and Raychaudhuri, 1976 (Chakrabarti, 1988)
- *Hamamelistes miyabei* (Matsumura, 1917) (Ghosh, 1988)
- *Mesocallis (Mesocallis) obtusirostris* Ghosh, 1974 (Chakrabarti and Raychaudhuri, 1975a)
- *Mollitrichosiphum (Metatrichosiphon) montanum* (van der Goot, 1918) (Agarwala, 1979)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Agarwala, 1979)
- *Neobetulaphis chaetosiphon* Quednau and Chakrabarti, 1980 (Quednau and Chakrabarti, 1980)
- *Neobetulaphis immaculata* Ghosh, 1976 (Chakrabarti, 1988)
- *Neobetulaphis pusilla* BASU, 1964 (Chakrabarti, 1988)
- *Taoia indica* (Ghosh and Raychaudhuri, 1972) (Chakrabarti and Raychaudhuri, 1975a)

4. *Betula utilis* D. Don

- *Betulaphis hissarica* Narzikulov, 1963 (Chakrabarti and Sarkar, 2001)
- *Betulaphis longicornis* Quednau and Chakrabarti, 1980 (Quednau and Chakrabarti, 1980)
- *Clethrobius dryobius* Chakrabarti and Raychaudhuri, 1976 (Chakrabarti *et al*., 1988)
- *Eutrichosiphum manaliensis* Agarwala and Ghosh, 1993 (Ghosh and Agarwala, 1993)
- *Eutrichosiphum* sp. (Ghosh, 1977)
- *Neobetulaphis chaetosiphon* Quednau and Chakrabarti, 1980 (Chakrabarti and Raychaudhuri, 1975a)
- *Neobetulaphis pusilla* BASU, 1964 (Chakrabarti and Raychaudhuri, 1975a)
- *Neobetulaphis* sp. (Bhagat, 1985a)
- *Panaphis* sp. (Chakrabarti and Raychaudhuri, 1975a)

5. *Betula* sp.

- *Aphis (Aphis) odinae* (van der Goot, 1917) (Raychaudhuri, 1978)
- *Betacallis sikkimensis* Basu, Ghosh and Raychaudhuri, 1974 (Chakrabarti, 1988)
- *Betulaphis longicornis* Quednau and Chakrabarti, 1980 (Quednau and Chakrabarti, 1980)
- *Clethrobius comes* (Walker, 1848) (Ghosh, 1977)
- *Clethrobius vermai* Ghosh and Quednau, 1990 (Banerjee and Chakrbarti, 1991)
- *Eutrichosiphum alnicola* (Basu, 1968) (Agarwala, 1979)

- *Eutrichosiphum betulae* Mandal, Chatterjee and Raychaudhuri, 1979 (Quednau and Chakrabarti, 1980)
- *Eutrichosiphum raychaudhurii* (Ghosh, 1969) (Agarwala, 1979)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Agarwala and Raychaudhuri, 1981)
- *Mollitrichosiphum (Metatrichosiphon) montanum* (van der Goot, 1918) (Raychaudhuri, 1980)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Agarwala, 1979)
- *Neobetulaphis chaetosiphon* Quednau and Chakrabarti, 1980 (Quednau and Chakrabarti, 1980)
- *Neobetulaphis pusilla* Basu, 1964 (Ghosh, 1977)
- *Neobetulaphis* sp. (Rishi, 1975)
- *Taoia chuansiensis* (Tao, 1964) (Ghosh, 1986)
- *Taoia indica* (Ghosh and Raychaudhuri, 1972) (Chakrabarti and Raychaudhuri, 1975a)

6. *Carpinus faginea* Lindl.
- *Greenidea (Trichosiphum) carpinicola* Banerjee and Chakrabarti, 1991 (Banerjee and Chakrabarti, 1991)
- *Mesocallis (Mesocallis) alnicola* Ghosh, 1974 (Banerjee and Chakrabarti, 1991)

7. *Carpinus viminea* Lindl. ex Wall.
- *Greenidea (Trichosiphum) carpinicola* Banerjee and Chakrabarti, 1991 (Banerjee and Chakrbarti, 1991)

8. *Carpinus* sp.
- *Kaltenbachiella carpinicola* Ghosh, Chakrabarti and Bhattacharya, 1981 (Ghosh et al., 1981)

9. *Corylus colurna* L.
- *Pterocallis (Pterocallis) affinis* Chakrabarti, 1988 (Chakrabarti, 1988)

10. *Corylus* sp.
- *Pterocallis (Pterocallis) affinis* Chakrabarti, 1988 (Banerjee and Chakrbarti, 1991)

B. Family: Fagaceae

The Fagaceae comprises beeches, chestnuts and oaks consisting of 10 genera with about 1300 species (WFO, 2022) distributed both in temperate and tropics of the world. The members of the family are mostly deciduous in temperate region while are evergreen trees and shrubs in tropics. Fagaceae is one of the most ecologically and economically important plant families. Several species of oak (*Quercus* spp.), chestnut (*Castanea* spp.), and beech (*Fagus* spp.) are commonly used as timber for floors, furniture, cabinets, cork for stopping wine bottles and wine barrels. A number of species are cultivated as ornamentals. In India, 53 species are known under 4 genera (BSI, 2022). The aphid fauna on the Fagaceae has recently been listed by Singh and Srivastava (2022d). According to them, 16 species of plants of this family were used as host plants by 89 species of aphids belonging to 31 genera in India (Table 2). Maximum number of plant species are associated with aphids belonging to the tribe Greenideini while highest number of aphid species (23 aphid species) are colonised on *Lithocarpus dealbatus* Rehder followed by *Quercus incana* W. Bartram (10 aphid species), *Quercus rubra* L. (5 aphid species) and less than 5 number of species on rest of the plant species (Singh and Srivastava, 2022d). The highest number of plant species (7 plant species) were colonised by *Eutrichosiphum khasyanum* (Ghosh and Raychaudhuri) followed by *Eutrichosiphum pasaniae* (Okajima), *Eutrichosiphum pseudopasaniae* Szelegiewicz, and *Lachnus tropicalis* (van der Goot) (5 plant species of each); and rest of the species colonise less than 5 plant species.

C. Family: Juglandaceae

The Juglandaceae is also known as the walnut family. They include the commercially important drupe-like nut producing trees walnut (edible fruits), pecan and hickory (timber trees). In India, the family consists of 6 species of 3 genera, of which 3 species are associated with 20 species aphids of 10 genera (Table 2) as stated below.

1. *Engelhardia spicata* Lechen ex Blume
- *Aphis (Toxoptera) aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al.*, 1976)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (Mondal *et al.*, 1976)
- *Aphis (Aphis) odinae* (van der Goot, 1917) (Agarwala, 1979)
- *Ceratovacuna silvestrii* (Takahashi, 1927) (Agarwala, 1979)

- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)
- *Greenidea (Greenidea) longicornis* Ghosh, Ghosh and Raychaudhuri, 1971 (Agarwala, 1979)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Raychaudhuri, 1973)
- *Kurisakia indica* Basu, 1968 (Basu, 1968)

2. *Engelhardia* sp.
- *Betacallis querciphaga* Basu, Ghosh and Raychaudhuri, 1974 (Chakrabarti and Raychaudhuri, 1975a)
- *Betacallis sikkimensis* Basu, Ghosh and Raychaudhuri, 1974 (Raychaudhuri, 1983)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)
- *Greenidea (Greenidea) longicornis* Ghosh, Ghosh and Raychaudhuri, 1971 (Raychaudhuri, 1973)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Raychaudhuri, 1973)
- *Kurisakia indica* Basu, 1968 (Raychaudhuri, 1973)
- *Mollitrichosiphum (Metatrichosiphon) montanum* (van der Goot, 1918) (Agarwala, 1979)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Agarwala, 1979)
- *Schoutedenia ralumensis* Rübsaamen, 1905 (Agarwala, 1979)

3. *Juglans regia* L.
- *Betacallis* sp. (Bhagat, 1981)
- *Chromaphis hirsutustibis* Kumar and Lavigne, 1970 (Bhalla and Pawar, 1980)
- *Chromaphis juglandicola* (Kaltenbach, 1843) (Sarkar and Chakrabarti, 2015)
- *Panaphis juglandis* (Goeze, 1778) (Gull *et al*., 2019)
- *Stomaphis mordvilkoi* Hille Ris Lambers, 1933 (Hayat, 1972)

4. *Juglans* sp.
- *Panaphis juglandis* (Goeze, 1778) (Chakrabarti, 1988)
- *Stomaphis mordvilkoi* Hille Ris Lambers, 1933 (Ghosh, 1982)

5. *Pterocarya* sp.
- *Kurisakia indica* Basu, 1968 (Agarwala, 1979)

IV. Order: Rosales

The Rosales is widely distributed and comprises nine families with highly diversed characters, the type family Rosaceae and Urticaceae are the largest ones. Several plants are of highly economically important such as roses, strawberries, blackberries and raspberries, apples and pears, plums, peaches and apricots, almonds, rowan and hawthorn, jujube, elms, banyans, figs, mulberries, breadfruit, nettles, hops, and cannabis. In India, 7 families of the order Rosales are recorded and plants of all these families are infested by the aphids as given below.

A. Family: Cannabaceae

The Cannabaceae is also known as hemp family. The members of this family are economically important. Hop (*Humulus lupulus* L.) has traditionally been used as bittering agent of beer. Some *Cannabis* L. species are cultivated as hemp for the fiber production, as a source of cheap oil, for their nutritious seeds, or their edible leaves. Cannabis is a psychoactive drug from the cannabis plant. Cannabis can be used by smoking, vaporizing, within food, or as an extract. In India, only 13 species kept in 6 genera are known, of which 6 species of 4 genera are infested by 7 species of aphids of 6 genera (Table 2) as mentioned below.

1. *Cannabis indica* subsp. *indica* Lam.
- *Phorodon (Diphorodon) cannabis* Passerini, 1860 (Chakrabarti and Sarkar, 2001)

2. *Cannabis sativa* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (David, 1957b)
- *Phorodon (Diphorodon) cannabis* Passerini, 1860 (Khan and Shah, 2017)
- *Uroleucon (Uromelan) jaceae* (Linnaeus, 1758) (Behura, 1963)

3. *Celtis australis* L.
- *Shivaphis (Shivaphis) celti* Das, 1918 (Behura, 1963)

4. *Celtis tetrandra* Roxb.
- *Shivaphis (Shivaphis) celti* Das, 1918 (David, 1957a)
- *Sumatraphis celti* Takahashi, 1935 (Raychaudhuri *et al*., 1981)

5. *Celtis* sp.
- *Shivaphis (Shivaphis) celticola* (Nevsky, 1929) (Chakrabarti, 1988)
- *Sinomegoura photiniae* (Takahashi, 1936) (Raychaudhuri *et al.*, 1980)

6. *Humulus lupulus* L.
- *Phorodon (Phorodon) humuli* (Schrank, 1801) (Rishi, 1975)

7. *Trema oriantalis* (L.) Blume
- *Aphis (Aphis) gossypii* Glover, 1877 (Kar *et al.*, 1990)

B. Family: Elaeagnaceae

The Elaeagnaceae, the oleaster family, comprises small trees and shrubs, mostly distributed in Asia and Australia. Most of the species are xerophytic. Several species are cultivated as ornamental shrubs for their attractive foliage. In India, only 16 species put into 2 genera are reported (BIS, 2022), but only 2 species are used as host plants by 3 species of aphid *Capitophorus* vander Goot as given below.

1. *Elaeagnus* sp.
- *Capitophorus meghalayensis* Basu and Raychaudhuri, 1976 (Basu and Raychaudhuri, 1976a)

2. *Hippophae salicifolia* D. Don
- *Capitophorus* sp. (Ghosh, 1977)

3. *Hippophae* sp.
- *Capitophorus himalayensis* Ghosh, Ghosh and Raychaudhuri, 1971 (Chakrabarti and Sarkar, 2001)
- *Capitophorus hippophaes* (Walker, 1852) (Bhattacharya and Chakrabarti, 1987)

C. Family: Moraceae

The Moraceae, also called as the mulberry family or fig family is widely distributed in tropics and subtropics. The family includes well-known plants such as the fig, banyan, breadfruit, jackfruit, mulberry, and Osage orange. Moraceae are best known for their fleshy fruits containing seeds. The leaves of mulberry are used to rear silkworms. In India, 142 species kept in 12 genera are known (BSI, 2022), of which 17 species under 3 genera are associated with 27 species of aphids belonging to 15 genera (Table 2) as mentioned below. *Aphis (Aphis) gossypii* Glover infests 11 species of plants of this family followed by *Greenidea (Greenidea) ficicola* Takahashi that infests 9 species of the plants.

1. *Artocarpus altilis* (Parkinson) Fosberg (syn. *Artocarpus communis* J. R. Forst. and G. Forst.; *Artocarpus incisus* (Thunb.).L.f.)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Joshi and Poorani, 2007)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (David, 1957a)
- *Greenidea (Greenidea) artocarpi* (Westwood, 1890) (David, 1956)

2. *Artocarpus heterophyllus* Lam.
- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti *et al.*, 2012)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (David, 1956)
- *Greenidea (Greenidea) artocarpi* (Westwood, 1890) (David, 1956)

3. *Artocarpus integer* (Thunb.) Merr. (syn. *Artocarpus integrifolia* L.f.)
- *Aphis (Aphis) craccivora* Koch, 1854 (Jadhav and Sathe, 2006)
- *Aphis (Aphis) gossypii* Glover, 1877 (Sarkar and Chakrabarti, 2015)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Basu and Banerjee, 1958)
- *Greenidea (Greenidea) artocarpi* (Westwood, 1890) (George, 1927)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)

4. *Artocarpus vulgaris* ?
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Agarwala, 1979)
- *Greenidea (Greenidea) artocarpi* (Westwood, 1890) (Raychaudhuri *et al.*, 1981)

5. *Ficus amplissima* Sm. (syn. *Ficus tsiela* Roxb.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Behura, 1963, David, 1956)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Joshi, 2008)

6. *Ficus benghalensis* L. (syn. *Ficus banyana* Oken.)
- *Aphis (Aphis) gossypii* Glover, 1877 (George, 1927)

- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Chaudhary *et al*., 2009)

7. *Ficus carica* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Singh and Kaur, 2017)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Rao, 1969)

8. *Ficus elastica* Roxb. ex Hornem.
- *Aphis (Aphis) gossypii* Glover, 1877 (Chaudhary *et al*., 2009)

9. *Ficus heterophylla* L.f.
- *Aphis (Aphis) craccivora* Koch, 1854 (Behura, 1965)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Rao and Kulkarni, 1977)
- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Behura, 1965)
- *Sinomegoura citricola* (van der Goot, 1917) (Raychaudhuri, 1973)

10. *Ficus mollis* Vahl (syn. *Ficus tomentosa* Roxb. ex Willd.)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Raha, 1979)

11. *Ficus pumila* L. (syn. *Ficus stipulata* Thunb.)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)

12. *Ficus recemosa* L. (=*Ficus glomerata* Roxb.)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Joshi and Poorani, 2007)

13. *Ficus religiosa* L.
- *Aphis (Aphis) craccivora* Koch, 1854 (Mall, 2013)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chaudhary et al., 2009)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Mall, 2013)
- *Uroleucon (Uromelan) jaceae* (Linnaeus, 1758) (Behura, 1963)

14. *Ficus ribes* var. *cuneata* (Miq.) Corner (syn. *Ficus cuneata* (Miq.) Miq.)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)

15. *Ficus semicordata* Buch.-Ham. ex Sm. (syn. *Ficus cunia* Buch.-Ham. ex Roxb.)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Raychaudhuri, 1973)

16. *Ficus* sp.
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri *et al*., 1981)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Ahmad *et al*., 2020)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri *et al*., 1980)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Basu *et al*., 1974)
- *Brevicoryne brassicae* (Linnaeus, 1758) (Chakrabarti, 1972)
- *Cervaphis rappardi indica* Basu, 1961 (Raychaudhuri, 1978)
- *Eutrichosiphum pseudopasaniae* Szelegiewicz, 1968 (Raychaudhuri, 1973)
- *Greenidea (Greenidea) ficicola* Takahashi, 1921 (Basu *et al*., 1973)
- *Greenidea (Trichosiphum) formosana formosana* (Maki, 1917) (Raychaudhuri, 1980)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Raychaudhuri, 1980)
- *Kurisakia indica* Basu, 1967 (Agarwala and Raychaudhuri, 1981)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1973)
- *Neomyzus circumflexus* (Buckton, 1876) (Raychaudhuri, 1973)
- *Sitobion (Sitobion) indicum* Basu, 1964 (Raychaudhuri et al., 1981)
- *Tetraneura (Tetraneurella) nigriabdominalis* (Sasaki, 1899) (Rao and Kulkarni, 1975)
- *Uroleucon (Uroleucon) budhium* (Basu, Ghosh and Raychaudhuri, 1969) (Basu *et al*., 1974)

17. *Morus alba* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (David, 1957a)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Singh *et al*., 1999)
- *Neomasonaphis anaphalidis* (Basu, 1964) (Ghosh *et al*., 1971a)
- *Pemphigus* sp. (Rishi, 1975)

18. *Morus indica* L.
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1978)

19. *Morus* sp.
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri *et al.*, 1980)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

D. Family: Rhamnaceae

The Rhamnaceae, commonly called as buckthorn family, are mostly trees, shrubs, and some vines with worldwide distribution, mostly in tropics and subtropics. Few species are ornamental and source of brilliant green and yellow dyes. In India, 64 species belonging to 15 genera are reported (BSI, 2022), among which 5 species of 3 genera (Table 2) are associated with 12 species of aphids of 6 genera as mentioned below.

1. *Berchemia floribunda* (Wall.) Brougn.
- *Longistigma liquidambarus* (Takahashi, 1925) (Ghosh, 1982)

2. *Holoptelea integrifolia* (Roxb.) Planch.
- *Aphis (Aphis) craccivora* Koch, 1854 (Raychaudhuri *et al.*, 1981)
- *Aphis (Aphis) gossypii* Glover, 1877 (David, 1956)

3. *Rhamnus napalensis* (Wall.) M.A. Lawson
- *Aphis (Aphis) fabae* Scopoli, 1763 (Raychaudhuri, 1973)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al.*, 1976)
- *Aulacorthum (Aulacorthum) rhamni* Ghosh, Ghosh and Raychaudhuri, 1971 (Raychaudhuri, 1973)
- *Greenidea (Trichosiphum) formosana formosana* (Maki, 1917) (Ghosh and Agarwala, 1993)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri *et al.*, 1980)

4. *Rhamnus triquetra* Wall.
- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti and Sarkar, 2001)

5. *Rhamnus virgata* Roxb.
- *Aphis (Aphis) rhamniphila* David, Narayanan and Rajasingh, 1971 (Chakrabarti, 1972)

6. *Rhamnus* sp.
- *Aphis (Aphis) fabae* Scopoli, 1763 (Raychaudhuri et al., 1980)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti, 1972)
- *Aphis (Aphis) rhamniphila* David, Narayanan and Rajasingh, 1971 (Chakrabarti and Sarkar, 2001)
- *Greenidea (Trichosiphum) psidii* van der Goot, 1917 (Raychaudhuri, 1980)
- *Myzakkaia verbasci* (Chawdhuri Basu Chakrabarti and Raychaudhuri, 1969) (Raychaudhuri *et al.*, 1980)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri et al., 1980)

E. Family: Rosaceae

Rosaceae, the rose family, is a medium sized family comprising about 5000 species in 150 genera (WFO, 2022) and have several economically important edible fruits trees and shrubs, such as the almonds, apples, apricots, blackberries, cherries, peaches, pears, plums, raspberries, strawberries etc., in addition to several ornamentals, such as roses, meadowsweets, rowans, firethorns, and photinias. It is mostly distributed in Northern Hemisphere. In India, the family is represented by 469 species in 39 genera (2022), of which 89 species in 18 genera are associated with 166 species of aphids in 81 genera (Table 2). *Aphis (Aphis) gossypii* Glover, alone infests 24 species of Rosaceae followed by *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach) (22 species) and *Aphis (Aphis) spiraecola* Patch (21 species) as given below.

1. *Chaenomeles japonica* (Thunb.) Lindl. ex Spach
- *Uroleucon* sp. (Bhagat, 2012)

2. *Cotoneaster aitchisoni* Schneider
- *Eriosoma* sp. (Bhagat, 1984)

3. *Cotoneaster bacillaris* Wall. ex Lindl.
- *Dysaphis (Cotoneasteria) microsiphon* (Nevsky, 1929) (Ghosh, 1977)
- *Dysaphis* sp. (Chakrabarti, 1972)

4. *Cotoneaster obtusus* Wall. ex Lindl.
- *Sappaphis* sp. (Ghosh *et al*., 1991)
- *Aspidophorodon (Eoessigia) indica* (David, Rajasingh and Narayanan, 1972) (Chakrabarti, 1987)

5. *Cotoneaster* sp.
- *Aspidophorodon (Eoessigia) indica* (David Rajasingh and Narayanan, 1972) (Ghosh, 1986)
- *Eriosoma lanigerum* (Hausmann, 1802) (Chakrabarti and Sarkar, 2001)
- *Prociphilus (Stagona)* himalayaensis Chakrabarti, 1976 (Chakrabarti and Debnath, 2009)

6. *Crataegus laevigata* (Poir.) DC. (syn. *Crataegus spinosa* Gilib.)
- *Liosomaphis himalayensis* Basu, 1964 (Agarwala, 1979)

7. *Crataegus songarica* K. Koch
- *Prociphilus (Stagona)* sp. (Bhagat, 1985a)

8. *Crataegus* sp.
- *Dysaphis* sp. (Rishi, 1975)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Raychaudhuri, 1973)

9. *Eriobotrya dubia* Decne.
- *Nippolachnus bengalensis* Basu and Hille Ris Lambers, 1968 (Basu and Hille Ris Lambers, 1968)
- *Tuberolachnus (Tuberolachniella) scleratus* Hille Ris Lambers and Basu, 1966 (Ghosh, 1982)

10. *Eriobotrya japonica* (Thunb.) Lindl. (syn. (Thunb.) Franch. and Sav.
- *Aphis (Aphis) gossypii* Glover, 1877 (Kar *et al*., 1990)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aphis (Aphis) verbasci* Schrank, 1801 (Chakrabarti and Sarkar, 2001)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (David, 1957a)

11. *Eriobotrya petiolata* Hook.f.
- *Nippolachnus himalayensis* (van der Goot, 1917) (Basu and Hille Ris Lambers, 1968)
- *Tuberolachnus (Tuberolachniella) scleratus* Hille Ris Lambers and Basu, 1966 (Ghosh, 1982)

12. *Fragaria* ×*ananassa* (Duchesne ex Weston) Duchesne ex Rozier
- *Chaetosiphon (Pentatrichopus) fragaefolii* (Cockerell, 1901) (Raina *et al*., 2022)

13. *Fragaria nilgerrensis* Schltdl. ex J. Gay
- *Acutosiphon obliquoris* Basu, Ghosh and Raychaudhuri, 1970 (Sarkar and Chakrabarti, 2015)
- *Dysaphis (Cotoneasteria) microsiphon* (Nevsky, 1929) (Basu and Raychaudhuri, 1980)
- *Dysaphis* sp. (Chakrabarti, 1972)
- *Myzus (Myzus) ornatus* Laing, 1932 (Basu and Raychaudhuri, 1976b)
- *Trichosiphonaphis (Trichosiphonaphis) gerberae* Ghosh and Raychaudhuri, 1972 (Chakrabarti, 1972)
- *Trichosiphonaphis (Xenomyzus) polygoni* (van der Goot, 1917) (Chakrabarti and Raychaudhuri, 1975b)

14. *Fragaria* sp.
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Chaetosiphon (Pentatrichopus) fragaefolii* (Cockerell, 1901) (Ghosh, 1977)
- *Dysaphis (Cotoneasteria) microsiphon* (Nevsky, 1929) (Ghosh, 1977)
- *Dysaphis (Dysaphis) foeniculus* (Theobald, 1923) (Ghosh, 1977)
- *Dysaphis* sp. (Chakrabarti, 1972)
- *Hyalomyzus fragaricola* Ghosh, 1986 (Ghosh, 1986)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) ascalonicus* Doncaster, 1946 (Chowdhuri *et al*., 1968)

15. *Malus baccata* var. *baccata* (L.) Borkh. (syn. *Pyrus baccata* L.)
- *Eriosoma lanigerum* (Hausmann, 1802) (Behura, 1965)

16. *Malus domestica* (Suckow) Borkh. (syn. *Pyrus malus* L.)
- *Anuraphis* sp. (Altaf et al., 2019)

- *Aphis (Aphis) gossypii* Glover, 1877 (Khan and Shah, 2017)
- *Aphis (Aphis) pomi* de Geer, 1773 (Bhalla and Pawar, 1980)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Sarkar and Chakrabarti, 2015)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Agarwala, 1979)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (Mondal et al., 1976)
- *Baizongia pistaciae* (Linnaeus, 1767) (Ghosh, 1977)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti and Sarkar, 2001)
- *Brevicoryne brassicae* (Linnaeus, 1758) (Khan and Shah, 2017)
- *Dysaphis (Pomaphis) pyri* (Boyer de Fonscolombe, 1841) (Raha and Raychaudhuri, 1981)
- *Epipemphigus imaicus* (Cholodkovsky, 1912) (Raychaudhuri et al., 1980)
- *Eriosoma lanigerum* (Hausmann, 1802) (Lefroy and Howlett, 1909)
- *Hyalopterus amygdali* (Blanchard, 1840) (Khan and Shah, 2017)
- *Hyalopterus pruni* (Geoffroy, 1762) (Khan and Shah, 2017)
- *Hysteroneura setariae* (Thomas, 1878) (Ghosh and Raychaudhuri, 1981)
- *Lachnus tropicalis* (van der Goot, 1916) (Raychaudhuri et al., 1980)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Behura, 1965)
- *Pyrolachnus pyri* (Buckton, 1899) (Khan and Shah, 2017)
- *Rhopalosiphoninus (Rhopalosiphoninus) latysiphon* (Davidson, 1912) (Raychaudhuri, 1978)

17. *Malus pumila* Mill.
- *Schizoneurella indica* Hille Ris Lambers, 1973 (Ghosh, 1979)

18. *Malus sieversii* M. Roem.
- *Aphis (Aphis) craccivora* Koch, 1854 (Chakrabarti and Sarkar, 2001)
- *Aphis (Aphis) fabae* Scopoli, 1763 (Chakrabarti and Sarkar, 2001)

19. *Malus sylvestris* (L.) Mill. (syn. *Pyrus sylvestris* L.)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1978)
- *Eriosoma lanigerum* (Hausmann, 1802) (Rao and Kulkarni, 1975)

20. *Malus* sp.
- *Dysaphis (Pomaphis) plantaginea* (Passerini, 1860) (Ghosh, 1975)
- *Eriosoma lanigerum* (Hausmann, 1802) (Verma, 1971)

21. *Micromeles cuspidata* C.K.Schneid. (syn. *Pyrus polycarpa* Hook.f.)
- *Eriosoma lanigerum* (Hausmann, 1802) (Ghosh, 1984)

22. *Neillia* sp.
- *Brachymyzus jasmini* Basu, 1964 (Basu and Raychaudhuri, 1980)

23. *Photinia arguta* Wall. ex Lindl.
- *Nippolachnus bengalensis* Basu and Hille Ris Lambers, 1968 (Ghosh, 1982)

24. *Photinia integrifolia* Lindl. (syn. *Photinia notoniana* Wight and Arn.)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Basu, 1961)
- *Prociphilus* sp. (Ghosh et al., 1970a)
- *Rhopalosiphum padi* (Linnaeus, 1758) (Rao and Kulkarni, 1975)
- *Sinomegoura citricola* (van der Goot, 1917) (Ghosh, 1975)
- *Sinomegoura photiniae* (Takahashi, 1936) (Debnath and Chakrabarti, 2020)

25. *Photinia* sp.
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Greenidea (Greenidea) photiniphaga* Raychaudhuri, Ghosh, Banerjee and Ghosh, 1973 (Raychaudhuri *et al*., 1973)
- *Myzakkaia verbasci* (Chawdhuri, Basu, Chakrabarti and Raychaudhuri, 1969) (Raychaudhuri, 1973)
- *Sinomegoura photiniae* (Takahashi, 1936) (Basu *et al*., 1974)

- *Sitobion (Sitobion) sikkimense* (Ghosh and Raychaudhuri, 1968) (Basu *et al*., 1974)

26. *Potentilla argyrophylla* Wall. ex Lelum.
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (Chowdhuri *et al*., 1968)

27. *Potentilla nepalensis* Hook
- *Acyrthosiphon (Acyrthosiphon) rubifoliae* (Raychaudhuri, Ghosh and Basu, 1975 (1978)) (Raychaudhuri *et al*., 1980)

28. *Potentilla polyphylla* Wall. ex Lelum. (syn. *Potentilla mooniana* Wight)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Chakrabarti and Raychaudhuri, 1975b)
- *Trichosiphonaphis (Trichosiphonaphis) gerberae* Ghosh and Raychaudhuri, 1972 (Chakrabarti, 1972)
- *Trichosiphonaphis (Xenomyzus) polygoni* (van der Goot, 1917) (Basu and Raychaudhuri, 1980)

29. *Potentilla* sp.
- *Acyrthosiphon (Acyrthosiphon) malvae* (Mosley, 1841) (Raychaudhuri, 1973)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti and Sarkar, 2001)
- *Aspidophorodon (Eoessigia) indica* (David Rajasingh and Narayanan, 1972) (Chakrabarti and Medda, 1989)

30. *Prinsepia utilis* Royle
- *Acyrthosiphon (Acyrthosiphon) pisum* (Harris, 1776) (Chakrabarti, 1972, Raychaudhuri, 1973)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Chowdhuri *et al*., 1968)

31. *Prinsepia* sp.
- *Liosomaphis* sp. (Chowdhuri et al., 1969, Ghosh, 1977)

32. *Prunus americana* Marshall
- *Hyalopterus pruni* (Geoffroy, 1762) (Ghosh, 1975)

33. *Prunus amygdalus* Batsch
- *Aphis (Aphis) craccivora* Koch, 1854 (Singh *et al*., 1999)
- *Aphis (Aphis) gossypii* Glover, 1877 (Sarkar and Chakrabarti, 2015)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Rao, 1969)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti *et al*., 2002)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Sarkar and Chakrabarti, 2015)
- *Hayhurstia atriplicis* (Linnaeus, 1761) (Chakrabarti *et al*., 2002)
- *Myzus (Myzus) mumecola* (Matsumura, 1917) (Subhrani *et al*., 2006)
- *Myzus (Myzus) varians* Davidson, 1912 (Singh and Raychaudhuri, 1987)
- *Pterochloroides persicae* (Cholodkovsky, 1898) (Mann *et al*., 1979)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Singh and Raychaudhuri, 1987)

34. *Prunus armeniaca* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Khan and Shah, 2017)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Sarkar and Chakrabarti, 2015)
- *Hyalopterus amygdali* (Blanchard, 1840) (Khan and Shah, 2017)
- *Hyalopterus pruni* (Geoffroy, 1762) (Khan and Shah, 2017)
- *Myzus (Myzus) varians* Davidson, 1912 (Raychaudhuri *et al*., 1981)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Behura, 1963)
- *Pterochloroides persicae* (Cholodkovsky, 1898) (Ghosh, 1982)
- *Pyrolachnus pyri* (Buckton, 1899) (Khan and Shah, 2017)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Sarkar and Chakrabarti, 2015)

35. *Prunus avium* (L.) L.
- *Anuraphis* sp. (Altaf *et al*., 2019)
- *Aphis (Aphis) pomi* de Geer, 1773 (Altaf *et al*., 2019)

36. *Prunus bokhariensis* Royle ex C.K.Schneid.
- *Pterochloroides persicae* (Cholodkovsky, 1899) (Ghosh, 1975)

37. *Prunus cerasoides* D. Don (syn. *Prunus puddum* (Rox. Ex Wall.))

- *Aphis (Aphis) gossypii* Glover, 1877 (Sarkar and Chakrabarti, 2015)
- *Aphis (Aphis) punicae* Passerini, 1863 (Bhalla, 1971)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Sarkar and Chakrabarti, 2015)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Sarkar and Chakrabarti, 2015)
- *Greenidea (Paragreenidea) symplocosis* Ghosh, Basu and Raychaudhuri, 1969 (Raychaudhuri, 1973)
- *Hysteroneura setariae* (Thomas, 1878) (Raychaudhuri, 1973)
- *Mollitrichosiphum (Metatrichosiphon) nandii* Basu, 1964 (Raychaudhuri, 1973)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Basu and Raychaudhuri, 1976b)
- *Myzus (Myzus) ornatus* Laing, 1932 (Sarkar and Chakrabarti, 2015)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1973)
- *Neomyzus circumflexus* (Buckton, 1876) (Raychaudhuri, 1973)
- *Rhopalosiphum maidis* (Fitch, 1856) (Raychaudhuri, 1973)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Sarkar and Chakrabarti, 2015)
- *Therioaphis (Rhizoberlesia) riehmi* (Börner, 1949) (Ghosh, 1977)
- *Tinocalloides montanus* Basu, 1969 (1970) (Chakrabarti and Raychaudhuri, 1975a)

38. *Prunus cerasus* L.

- *Aphis (Aphis) gossypii* Glover, 1877 (Sarkar and Chakrabarti, 2015)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Sarkar and Chakrabarti, 2015)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Rao and Kulkarni, 1977)
- *Betacallis odaiensis* Takahashi, 1961 (Ghosh and Raychaudhuri, 1971)
- *Betacallis prunicola* Basu, Ghosh and Raychaudhuri, 1974 (Ghosh and Raychaudhuri, 1981)
- *Betacallis querciphaga* Basu, Ghosh and Raychaudhuri, 1974 (Ghosh and Basu, 1997)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Sarkar and Chakrabarti, 2015)
- *Clethrobius dryobius* Chakrabarti and Raychaudhuri, 1976 (Raha and Raychaudhuri, 1981)
- *Hyalopterus amygdali* (Blanchard, 1840) (Khan and Shah, 2017)
- *Hyalopterus pruni* (Geoffroy, 1762) (Raha and Raychaudhuri, 1981)
- *Myzus (Myzus) ornatus* Laing, 1932 (Sarkar and Chakrabarti, 2015)
- *Myzus (Myzus) siegesbeckicola* Strand, 1929 (Sarkar and Chakrabarti, 2015)
- *Myzus (Myzus) varians* Davidson, 1912 (Raychaudhuri et al., 1981)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1978)
- *Pemphigus* sp. (Ghosh, 1977)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Raychaudhuri, 1978)
- *Schoutedenia ralumensis* Rübsaamen, 1905 (Agarwala, 1979)
- *Sinomegoura citricola* (van der Goot, 1917) (Raychaudhuri, 1973)
- *Tinocalloides montanus* Basu, 1970 (Chakrabarti and Raychaudhuri, 1975a)

39. *Prunus cornuta* (Wall. ex Royle) Steud.

- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti, 2007)
- *Eumyzus darjeelingensis* Basu and Raychaudhuri, 1974 (Chakrabarti and Sarkar, 2001)
- *Eumyzus pruni* Chakrabarti and Bhattacharya, 1985 (Chakrabarti, 1987)
- *Eumyzus prunicolus* Medda and Chakrabarti, 1986 (Chakrabarti, 1987)
- *Hyalopterus pruni* (Geoffroy, 1762) (Chakrabarti, 2006)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Basu and Raychaudhuri, 1976b)
- *Myzus (Myzus) cornutus* Medda and Chakrabarti, 1986 (Chakrabarti et al., 2002)
- *Myzus (Myzus) dycei* Carver, 1961 (Chakrabarti and Sarkar, 2001)

- *Myzus (Myzus) mumecola* (Matsumura, 1917) (Basu and Raychaudhuri, 1976b)
- *Myzus (Myzus) ornatus* Laing, 1932 (Chakrabarti, 2006)
- *Pyrolachnus imbricatus* (David, Narayanan and Rajasingh, 1971) (Ghosh, 1982)
- *Tumoranuraphis indica* (Chakrabarti and Maity, 1984) (Ghosh et al., 1991)
- *Vesiculaphis pruni* Chakrabarti and Medda, 1989 (Chakrabarti and Medda, 1989)

40. *Prunus domestica* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Bhalla, 1971)
- *Aphis (Aphis) spiraecola* Patch, 1914 (David and Rajasingh, 1969)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (David and Rajasingh, 1969)
- *Greenidea (Greenidea) longicornis* Ghosh, Ghosh and Raychaudhuri, 1970 (1971) (Agarwala, 1979)
- *Hyalopterus amygdali* (Blanchard, 1840) (Khan and Shah, 2017)
- *Hyalopterus pruni* (Geoffroy, 1762) (Bhagat, 1984)
- *Hysteroneura setariae* (Thomas, 1878) (Sarkar and Chakrabarti, 2015)
- *Myzus (Myzus) varians* Davidson, 1912 (Subhrani *et al*., 2006)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1978)
- *Pterochloroides persicae* (Cholodkovsky, 1899) (Bhalla and Pawar, 1980)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Raychaudhuri, 1973)
- *Schizaphis (Schizaphis) rotundiventris* (Signoret, 1860) (Behura, 1963)

41. *Prunus dulcis* (Mill.) D.A. Webb. (=*Prunus communis* (L.) Arcang.)
- *Nippolachnus piri* Matsumura, 1917 (Ghosh and Raychaudhuri, 1981)
- *Rhopalosiphum maidis* (Fitch, 1856) (Bhalla and Pawar, 1980)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Ghosh and Agarwala, 1982)
- *Aphis (Aphis) craccivora* Koch, 1854 (Chaudhary *et al*., 2009)
- *Hyalopterus pruni* (Geoffroy, 1762) (Singh and Raychaudhuri, 1987)

42. *Prunus glandulosa* Thunb. (syn. *Prunus sinensis* Pers.
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Ghosh, 1975)

43. *Prunus napaulensis* (Ser.) Steud.
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1973)
- *Schoutedenia ralumensis* Rübsaamen, 1905 (Raychaudhuri, 1973)
- *Sinomegoura citricola* (van der Goot, 1917) (Raychaudhuri, 1973)
- *Tinocalloides montanus* Basu, 1969 (1970) (Chakrabarti and Raychaudhuri, 1975a)

44. *Prunus padus* L.
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Ghosh, 1975)
- *Eumyzus prunicolus* Medda and Chakrabarti, 1986 (Medda and Chakrabarti, 1986)
- *Eumyzus simlaensis* Bhattacharya, 1994 (Chakrabarti and Sarkar, 2001)
- *Myzus* sp. (Bhalla and Pawar, 1980)

45. *Prunus persica* (L.) Batsch
- *Anuraphis* sp. (Altaf *et al*., 2019)
- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh and Raychaudhuri, 1981)
- *Aphis (Aphis) spiraecola* Patch, 1914 (David and Rajasingh, 1969)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Ghosh and Raychaudhuri, 1981)
- *Betacallis prunicola* Basu, Ghosh and Raychaudhuri, 1974 (Agarwala, 1979)
- *Betacallis querciphaga* Basu, Ghosh and Raychaudhuri, 1974 (Ghosh *et al*., 1970b)
- *Betacallis sikkimensis* Basu, Ghosh and Raychaudhuri, 1974 (Agarwala, 1979)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Agarwala and Raychaudhuri, 1981)

- *Dysaphis (Pomaphis) pyri* (Boyer de Fonscolombe, 1841) (Khan and Shah, 2017)
- *Dysaphis* sp. (Raychaudhuri et al., 1979)
- *Eumyzus pruni* Chakrabarti and Bhattacharya, 1985 (Debnath, 2010)
- *Hyalopterus amygdali* (Blanchard, 1840) (Khan and Shah, 2017)
- *Hyalopterus pruni* (Geoffroy, 1762) (Chakrabarti et al., 2002)
- *Hysteroneura setariae* (Thomas, 1878) (Sarkar and Chakrabarti, 2015)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Ghosh and Raychaudhuri, 1981)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Basu and Raychaudhuri, 1976b)
- *Nippolachnus bengalensis* Basu and Hille Ris Lambers, 1968 (Agarwala, 1979)
- *Nippolachnus piri* Matsumura, 1917 (Agarwala and Raychaudhuri, 1981)
- *Pterochloroides persicae* (Cholodkovsky, 1898) (Khan and Shah, 2017)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Basu and Raychaudhuri, 1980)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Rao and Kulkarni, 1975)
- *Tinocalloides montanus* Basu, 1969 (1970) (Raychaudhuri, 1973)

46. *Prunus salicina* Lindl. (syn. *Prunus triflora* Roxb.)

- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)

47. *Prunus sylvestris* Pers.

- *Aphis (Aphis) spiraecola* Patch, 1914 (Kar *et al.*, 1990)

48. *Prunus* spp.

- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh, 1977)
- *Aphis (Aphis) pomi* de Geer, 1773 (Krishnamurti, 1948)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Ghosh, 1977)
- *Aulacorthum (Aulacorthum) nipponicum* (Essig and Kuwana, 1918) (Raychaudhuri, 1973)
- *Aulacorthum (Perillaphis) perillae* (Shinji, 1924) (Ghosh, 1986)
- *Betacallis prunicola* Basu, Ghosh and Raychaudhuri, 1974 (Ghosh and Quednau, 1990)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Basu and Raychaudhuri, 1980)
- *Eumyzus eastopi* Maity and Chakrabarti, 1982 (Kar *et al.*, 1990)
- *Eumyzus simlaensis* Bhattacharya, 1994 (Bhattacharya, 1994a)
- *Forda* sp. (Rishi, 1975)
- *Greenidea (Trichosiphum) prunicola* Ghosh, Basu and Raychaudhuri, 1971 (Ghosh *et al.*, 1971b)
- *Hyalopterus pruni* (Geoffroy, 1762) (Behura, 1963)
- *Hysteroneura setariae* (Thomas, 1878) (Basu and Raychaudhuri, 1980)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Khuda-Bukhsh and Pal, 1986a)
- *Myzus (Myzus) mumecola* (Matsumura, 1917) (Medda *et al.*, 1986)
- *Myzus (Myzus) ornatus* Laing, 1932 (Maity and Chakrabarti, 1979)
- *Nippolachnus piri* Matsumura, 1917 (Raychaudhuri, 1978)
- *Pterochloroides persicae* (Cholodkovsky, 1898) (Behura, 1963)
- *Pyrolachnus imbricatus* (David, Narayanan and Rajasingh, 1971) (Medda *et al.*, 1986)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (David, 1958)
- *Rhopalosiphum padi* (Linnaeus, 1758) (Basu and Raychaudhuri, 1980)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Rao and Kulkarni, 1975)
- *Tinocalloides montanus* Basu, 1969 (1970) (Ghosh, 1977)

49. *Pyrus communis* L.

- *Acyrthosiphon (Acyrthosiphon) pisum* (Harris, 1776) (Raychaudhuri, 1973)
- *Aphis (Aphis) fabae evonymi* Fabricius, 1775 (Ghosh, 1975)
- *Aphis (Aphis) fabae* Scopoli, 1763 (Behura, 1963)
- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh and Raychaudhuri, 1981)
- *Aphis (Aphis) odinae* (van der Goot, 1917) (Mondal *et al.*, 1976)

- *Aphis (Aphis) pomi* de Geer, 1773 (Altaf *et al*., 2019)
- *Aphis (Aphis) spiraecola* Patch, 1914 (David and Rajasingh, 1969)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Agarwala and Raychaudhuri, 1981)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (Mondal *et al*., 1976)
- *Dysaphis (Pomaphis) multisetosa* Basu, 1969 (Debnath and Chakrabarti, 2020)
- *Eriosoma lanigerum* (Hausmann, 1802) (David and Rajasingh, 1969)
- *Eriosoma lanuginosum* (Hartig, 1839) (Ghosh, 1984)
- *Eutrichosiphum pyri* Chakrabarti, Ghosh and Raychaudhuri, 1972 (Chakrabarti *et al*., 1972a)
- *Lachnus tropicalis* (van der Goot, 1916) (Raychaudhuri, 1973)
- *Lipaphis (Lipaphis) erysimi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (David, 1975)
- *Melanaphis pahanensis* (Takahashi, 1950) (Medda and Chakrabarti, 1992)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Ghosh and Raychaudhuri, 1962)
- *Nippolachnus bengalensis* Basu and Hille Ris Lambers, 1968 (Raychaudhuri, 1973)
- *Nippolachnus piri* Matsumura, 1917 (Basu, 1961)
- *Pyrolachnus pyri* (Buckton, 1899) (George, 1927)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Stary and Ghosh, 1979)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Ghosh and Raychaudhuri, 1962)
- *Schizaphis (Schizaphis) piricola* (Matsumura, 1917) (Priyadarshini and Sharma, 2017)
- *Schizaphis (Schizaphis) rotundiventris* (Signoret, 1860) (Basu and Raychaudhuri, 1980)
- *Sinomegoura pyri* (Ghosh and Raychaudhuri, 1968) (Ghosh and Raychaudhuri, 1968b)

50. *Pyrus pashia* Buch.-Ham. ex D. Don

- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti and Sarkar, 2001)
- *Dysaphis (Pomaphis) pyri* (Boyer de Fonscolombe, 1841) (Sarkar and Chakrabarti, 2015)
- *Hayhurstia atriplicis* (Linnaeus, 1761) (Chakrabarti *et al*., 2002)
- *Melanaphis arundinariae* (Takahashi, 1937) (Sarkar and Chakrabarti, 2015)
- *Melanaphis pahanensis* (Takahashi, 1950) (Medda and Chakrabarti, 1992)
- *Nippolachnus bengalensis* Basu and Hille Ris Lambers, 1968 (Ghosh, 1982)
- *Schizaphis (Schizaphis) rotundiventris* (Signoret, 1860) (Bindra and Sekhon, 1969b)

51. *Pyrus pashia* var. *kumaoni* (Decne.) Stapf (syn. *Pyrus kumaoni* Decne.)

- *Aphis (Aphis) spiraecola* Patch, 1914 (Bhalla, 1971)
- *Melanaphis pahanensis* (Takahashi, 1950) (Raychaudhuri and Banerjee, 1974)
- *Schizaphis (Schizaphis) rotundiventris* (Signoret, 1860) (Ghosh, 1977)

52. *Pyrus ussuriensis* Maxim. (syn. *Pyrus insularis* Koidz.)

- *Nippolachnus piri* Matsumura, 1917 (Ghosh, 1975)

53. *Pyrus sp.*

- *Anoecia (Anoecia) corni* (Fabricius, 1775) (Dutta and Gautam, 1993)
- *Aphis (Aphis) gossypii* Glover, 1877 (Bhalla, 1971)
- *Aphis (Aphis) pomi* de Geer, 1773 (Sharma and Bhalla. 1964)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Rao and Kulkarni, 1977)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti *et al*., 2002)
- *Epipemphigus imaicus* (Cholodkovsky, 1912) (Ghosh, 1977)
- *Eriosoma lanigerum* (Hausmann, 1802) (Chowdhuri *et al*., 1969)
- *Pyrolachnus pyri* (Buckton, 1899) (Behura, 1963)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Raychaudhuri, 1973)

- *Schizaphis (Schizaphis) rotundiventris* (Signoret, 1860) (Behura, 1963)

54. *Rosa alba* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Verma *et al*., 1975)

55. *Rosa beggeriana* Schrenk (syn. *Rosa anserinifolia* (Briss.) Royle
- *Nasonovia (Nasonovia) jammuensis* Verma, 1970 (Saha and Chakrabarti, 1988)

56. *Rosa blanda Aiton* (syn. *Rosa americana* Waitz)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Raychaudhuri, 1973)

57. *Rosa brunonii* Lindl.
- *Chaetosiphon (Pentatrichopus) glabrum* David, Rajasingh and Narayanan, 1971 (Bhagat, 1981)
- *Chaetosiphon (Pentatrichopus) tetrarhodum* (Walker, 1849) (Chakrabarti and Sarkar, 2001)
- *Microlophium* sp. (Takada and Rishi 1980)
- *Myzaphis turanica* Nevsky, 1929 (Rishi, 1975)

58. *Rosa canina* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri *et al*., 1981)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1976)
- *Chaetosiphon (Pentatrichopus) tetrarhodum* (Walker, 1849) (Chakrabarti and Debnath, 2009)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Raychaudhuri, 1973)
- *Neomyzus circumflexus* (Buckton, 1876) (Raychaudhuri, 1973)
- *Rhodobium porosum* (Sanderson, 1900) (Raychaudhuri, 1973)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Raychaudhuri *et al*., 1979)

59. *Rosa centifolia* L.
- *Aphis (Aphis) gossypii* Glover, 1877 (Singh *et al*., 2011)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Suman and Suman, 2017)

60. *Rosa chinensis* Jacq.
- *Macrosiphum (Macrosiphum) euphorbiae* (Thomas, 1878) (Rohini *et al*., 2018)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Bhagat, 2012)

61. *Rosa clinophylla* Thory (syn. *Rosa involucrata* Roxb)
- *Raychaudhuriaphis capitata* Pramanick, Samanta and Raychaudhuri, 1983 (Pramanik *et al*., 1983)

62. *Rosa damascena* Mill.
- *Macrosiphum (Macrosiphum) euphorbiae* (Thomas, 1878) (Rohini *et al*., 2018)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Rohini *et al*., 2018)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Khan and Shah, 2017)

63. *Rosa hibisens* (?)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Chakrabarti and Sarkar, 2001)

64. *Rosa indica* L.
- *Aphis (Aphis) fabae* Scopoli, 1763 (Singh *et al*., 1999)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chaudhary *et al*., 2009)
- *Aphis (Aphis) solanella* Theobald, 1914 (Chaudhary *et al*., 2009)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Khan and Shah, 2017)
- *Metopolophium (Metopolophium) montanum* Hille Ris Lambers, 1966 (Khan and Shah, 2017)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Chaudhary *et al*., 2009)
- *Pseudaphis abyssinica* Hille Ris Lambers, 1954 (Khan and Shah, 2017)
- *Rhodobium porosum* (Sanderson, 1900) (Raha and Raychaudhuri, 1981)
- *Sitobion (Sitobion) indicum* Basu, 1964 (Kar *et al*., 1990)
- *Sitobion (Sitobion) miscanthi* (Takahashi, 1921) (Raha, 1979)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Chaudhary *et al*., 2009)

65. *Rosa kordesii* H.Wulff
- *Macrosiphum (Macrosiphum) euphorbiae* (Thomas, 1878) (Rohini *et al*., 2018)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Rohini *et al*., 2018)

66. *Rosa macrophylla* Lindl.
- *Chaetosiphon (Chaetosiphon) chaetosiphon* (Nevsky, 1928) (Bhagat, 2012)
- *Chaetosiphon (Chaetosiphon) gracilicorne* David, Rajasingh and Narayanan, 1970 (Ghosh, 1977)
- *Chaetosiphon (Pentatrichopus) glabrum* David, Rajasingh and Narayanan, 1970 (Ghosh, 1977)
- *Chaetosiphon (Pentatrichopus) tetrarhodum* (Walker, 1849) (Bhagat, 1984)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Chakrabarti and Raychaudhuri, 1975b)
- *Myzaphis avariolosa* David, Rajasingh and Narayanan, 1971 (Ghosh, 1977)
- *Myzaphis rosarum* (Kaltenbach, 1843) (Chakrabarti and Debnath, 2009)
- *Myzaphis turanica* Nevsky, 1929 (Bhagat, 1984)
- *Rhodobium porosum* (Sanderson, 1900) (Chakrabarti *et al*., 1972a)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Chowdhuri *et al*., 1969)

67. *Rosa moschata* Herrm.
- *Chaetosiphon (Chaetosiphon) gracilicorne* David, Rajasingh and Narayanan, 1970 (Ghosh, 1977)
- *Chaetosiphon (Pentatrichopus) tetrarhodum* (Walker, 1849) (Ghosh, 1977)
- *Maculolachnus submacula* (Walker, 1848) (Ghosh, 1982)
- *Myzaphis rosarum* (Kaltenbach, 1843) (Chakrabarti, 1972)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (George, 1927)

68. *Rosa multiflora* Thunb.
- *Aphis (Aphis) gossypii* Glover, 1877 (Sathe and Jadhav, 2008)

69. *Rosa webbiana* Wall. ex Royle
- *Aphis (Aphis) spiraecola* Patch, 1914 (Stary and Ghosh, 1975)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri *et al*., 1979)
- *Chaetosiphon (Chaetosiphon) chaetosiphon* (Nevsky, 1928) (Chakrabarti and Debnath, 2009)
- *Chaetosiphon (Chaetosiphon) gracilicorne* David, Rajasingh and Narayanan, 1970 (Takada and Rishi 1980)
- *Chaetosiphon (Chaetosiphon) gracilicorne* David, Rajasingh and Narayanan, 1970 (1971) (Takada and Rishi 1980)
- *Chaetosiphon (Pentatrichopus) glabrum* David, Rajasingh and Narayanan, 1970 (1971) (Chakrabarti and Debnath, 2009)
- *Macrosiphum* (*Macrosiphum*) *rosae* (Linnaeus, 1758) (Chakrabarti and Debnath, 2009)
- *Myzaphis rosarum* (Kaltenbach, 1843) (Bhagat, 1982)

70. *Rosa* spp.
- *Acyrthosiphon (Acyrthosiphon) malvae* (Mosley, 1841) (Raychaudhuri, 1973)
- *Amphorophora (Amphorophora) ampullata bengalensis* Hille Ris Lambers and Basu, 1966 (Agarwala, 1979)
- *Aphis (Aphis) gossypii* Glover, 1877 (Ahmad *et al*., 2020)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Agarwala, 1979)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Agarwala, 1979)
- *Aulacorthum (Aulacorthum) solani* (Kaltenbach, 1843) (Ghosh, 1977)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti, 1972)
- *Chaetosiphon (Chaetosiphon) chaetosiphon* (Nevsky, 1928) (David *et al*., 1970)
- *Chaetosiphon (Chaetosiphon) gracilicorne* David, Rajasingh and Narayanan, 1971 (Chakrabarti *et al*., 1971)
- *Chaetosiphon (Pentatrichopus) fragaefolii* (Cockerell, 1901) (David, 1957a)
- *Chaetosiphon (Pentatrichopus)* sp. (Behura, 1963)
- *Chaetosiphon (Pentatrichopus) tetrarhodum* (Walker, 1849) (Chakrabarti *et al*., 1971)

- *Hyalomyzus raoi* Hille Ris Lambers, 1973 (Ghosh *et al*., 1971c)
- *Impatientinum (Impatientinum) asiaticum dalhousiensis* Verma, 1969 (Ghosh, 1977)
- *Longicaudus himalayensis* Hille Ris Lambers, 1965 (Ghosh, 1977)
- *Macrosiphum (Macrosiphum) centranthi* Theobald, 1915 (David, 1957b)
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (Chakrabarti *et al*., 1971)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Lefroy and Howlett, 1909)
- *Macrosiphum (Macrosiphum) rosae* (Linnaeus, 1758) (Raychaudhuri *et al*., 1979)
- *Macrosiphum* sp. (Rao, 1969)
- *Maculolachnus blackmani* Kanturski and Chakrabarti, 2022 (Kanturski and Chakrabarti, 2022)
- *Maculolachnus submacula* (Walker, 1848) (David *et al*., 1969)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Chakrabarti *et al*., 1971)
- *Metopolophium (Metopolophium) chandrani* (David and Narayanan, 1968) (Ghosh, 1977)
- *Metopolophium (Metopolophium) dirhodum* (Walker, 1849) (Ghosh, 1975)
- *Myzaphis rosarum* (Kaltenbach, 1843) (Chakrabarti *et al*., 1971)
- *Myzaphis turanica* Nevsky, 1929 (David *et al*., 1970)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Singh *et al*., 1999)
- *Neomasonaphis inulae* (Ghosh and Raychaudhuri, 1972) (Ghosh, 1977)
- *Rhodobium porosum* (Sanderson, 1900) (David, 1957b)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (David *et al*., 1971a)
- *Sitobion (Sitobion) ibarae*? (Matsumura, 1917) (Raychaudhuri, 1980)
- *Sitobion (Sitobion) miscanthi* (Takahashi, 1921) (Raychaudhuri *et al*., 1980)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (David, 1957b)
- *Wahlgreniella nervata* (Gillette, 1908) (Joshi *et al*., 2014)

71. *Rubus assamensis* Focke

- *Amphorophora* sp. (Rao, 1969)

72. *Rubus ellipticus* Sm.

- *Acyrthosiphon (Acyrthosiphon) malvae* (Mosley, 1841) (Kar *et al*., 1990)
- *Acyrthosiphon (Acyrthosiphon) rubi* (Narzikulov, 1957) (Chakrabarti and Raychaudhuri, 1975b)
- *Acyrthosiphon (Acyrthosiphon) rubifoliae* (Raychaudhuri, Ghosh and Basu, 1975 (1978)) (Raychaudhuri *et al*., 1975)
- *Amphorophora* sp. (Rao, 1969)
- *Aphis (Aphis) fabae* Scopoli, 1763 (Saha *et al*., 1982)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri, 1973)
- *Aphis (Aphis) longisetosa* Basu, 1970 (Chakrabarti *et al*., 1972b)
- *Aphis (Aphis) rubifolii* (Thomas, 1879) (Chakrabarti *et al*., 1971)
- *Aphis (Aphis) ruborum* (Börner, 1932) (Chowdhuri *et al*., 1969)
- *Aphis (Aphis) umbrella* (Borner, 1950) (Behura, 1963)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Mondal *et al*., 1976)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Capitophorus carduinus* (Walker, 1850) (Raychaudhuri, 1973)
- *Hyalomyzus raoi* Hille Ris Lambers, 1973 (Ghosh *et al*., 1971c)
- *Hyperomyzus (Hyperomyzus) carduellinus* (Theobald, 1915) (Raychaudhuri, 1973)
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (Raychaudhuri, 1973)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Raychaudhuri, 1973)
- *Metopolophium (Metopolophium) chandrani* (David and Narayanan, 1968) (Agarwala and Mahapatra, 1990)
- *Microlophium rubiformosanum* (Takahashi, 1927) (Ghosh *et al*., 1971c)

- *Myzus (Myzus) ornatus* Laing, 1932 (Ghosh and Agarwala, 1980)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Ghosh and Agarwala, 1980)
- *Neomyzus circumflexus* (Buckton, 1876) (Ghosh and Agarwala, 1980)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Rao and Kulkarni, 1975)
- *Therioaphis* sp. (Rao, 1969)

73. *Rubus fruticosus* Lour.
- *Acyrthosiphon (Acyrthosiphon) rubi* (Narzikulov, 1957) (Chakrabarti and Debnath, 2009)
- *Acyrthosiphon (Acyrthosiphon) rubifoliae* (Raychaudhuri, Ghosh and Basu, 1978) (Raychaudhuri, 1978)
- *Aphis (Aphis) longisetosa* Basu, 1970 (Raychaudhuri, 1978)
- *Aphis* (*Aphis*) *ruborum* (Börner, 1931) (Ghosh, 1975)
- *Chaetosiphon (Pentatrichopus) glabrum* David, Rajasingh and Narayanan, 1970 (Bhagat, 1981)
- *Hyadaphis coriandri* (Das, 1918) (Agarwala, 1979)
- *Hyperomyzus* sp. (Stary and Raychaudhuri, 1982)

74. *Rubus hirsutus* Thunb.
- *Aphis (Aphis) longisetosa* Basu, 1970 (Mondal *et al*., 1978a)

75. *Rubus kumaonensis* N.P.Balakr. (syn. *Rubus reticulatus* Wall.)
- *Hyalomyzus raoi* Hille Ris Lambers, 1973 (Raychaudhuri, 1980)

76. *Rubus lineatus* Reinw. ex Blume
- *Aphis (Aphis) longisetosa* Basu, 1969 (1970) (Debnath and Chakrabarti, 2020)
- *Aphis (Aphis) ruborum* (Börner, 1932) (Chowdhuri *et al*., 1969)

77. *Rubus macilentus* Jacquem. ex Cambess.
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (Raychaudhuri, 1973)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Chowdhuri *et al*., 1968)

78. *Rubus moluccanus* L.
- *Amphorophora* sp. (Dharmadhikari and Ramaseshiah, 1970)
- *Aphis (Aphis) gossypii* Glover, 1877 (Dharmadhikari and Ramaseshiah, 1970)
  Hyalomyzus raoi Hille Ris Lambers, 1973 (Saha and Chakrabarti, 1988)
- *Uroleucon* sp. (Dharmadhikari and Ramaseshiah, 1970)

79. *Rubus niveus* Thunb. (=*Rubus lasiocarpus* Sm.)
- *Acyrthosiphon (Acyrthosiphon) rubi* (Narzikulov, 1957) (Chakrabarti, 1972)
- *Aphis* sp. (David *et al*., 1971a)
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (David, 1975)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Chakrabarti and Raychaudhuri, 1975b)
- *Matsumuraja* sp. (Rao, 1969)
- *Myzus* sp. (Rao, 1969)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Rao, 1969)
- *Uroleucon* sp. (Rao, 1969)

80. *Rubus opulifolius* Bertol.
- *Metopolophium (Metopolophium) chandrani* (David and Narayanan, 1968) (David and Narayanan, 1968)

81. *Rubus paniculatus* Sm.
- *Hyalomyzus raoi* Hille Ris Lambers, 1973 (Chakrabarti *et al*., 1972a)

82. *Rubus rosifolius* Sm. (syn. *Rubus rosaefolius* Sm.)
- *Aphis (Aphis) longisetosa* Basu, 1969 (1970) (Raychaudhuri, 1973)
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (Raychaudhuri, 1973)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Raychaudhuri *et al*., 1981)
- *Microlophium rubiformosanum* (Takahashi, 1927) (Ghosh *et al*., 1971c)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Ghosh and Agarwala, 1985)

83. *Rubus rudis* Weihe and Nees (syn. *Rubus asper* Weihe ex Lej. and Courtois)
- *Acyrthosiphon (Acyrthosiphon) rubi* (Narzikulov, 1957) (Raychaudhuri, 1973)

84. *Rubus rugosus* Sm.
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (Raychaudhuri *et al*., 1981)

85. *Rubus ulmifolius* Schott
- *Aphis (Aphis) affinis* del Guercio, 1911 (Kar et al., 1990)
- *Metopolophium (Metopolophium) sonchifoliae* Raychaudhuri, Ghosh and Das, 1980 (Khuda-Bukhsh and Pal, 1986b)

86. *Rubus* spp.
- *Acyrthosiphon (Acyrthosiphon) rubi* (Narzikulov, 1957) (Verma, 1969)
- *Acyrthosiphon (Acyrthosiphon) rubifoliae* (Raychaudhuri, Ghosh and Basu, 1975 (1978)) (Raychaudhuri, 1973)
- *Aphis (Aphis) gossypii* Glover, 1877 (Shuja-Uddin, 1973)
- *Aphis (Aphis) longisetosa* Basu, 1969 (1970) (Raychaudhuri et al., 1980)
- *Aphis* (*Aphis*) *ruborum* (Börner, 1931) (Stary and Ghosh, 1975)
- *Betulaphis longicornis* Quednau and Chakrabarti, 1980 (Chakrabarti and Raychaudhuri, 1975a)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Hyalomyzus himachali* Bhattacharya, 1994 (Bhattacharya, 1994b)
- *Hyalomyzus raoi* Hille Ris Lambers, 1973 (Ghosh and Raychaudhuri, 1962)
- *Longicaudus himalayensis* Hille Ris Lambers, 1965 (Raychaudhuri *et al*., 1980)
- *Macrosiphum (Macrosiphum) pachysiphon* Hille Ris Lambers, 1966 (David, 1969)
- *Maculolachnus rubi* Ghosh and Raychaudhuri, 1972 (Raychaudhuri, 1973)
- *Matsumuraja capitophoroides* Hille Ris Lambers, 1966 (David and Rajasingh, 1969)
- *Matsumuraja rubifoliae* Takahashi, 1931 (Ghosh and Raychaudhuri, 1968a)
- *Matsumuraja urticae* Ghosh, Ghosh and Raychaudhuri, 1971 (Ghosh *et al*., 1971d)
- *Metopolophium (Metopolophium) darjilingense lacheni* Agarwala, Mondal and Raychaudhuri, 1982 (Agarwala *et al*., 1982b)
- *Microlophium rubiformosanum* (Takahashi, 1927) (Ghosh et al., 1971c)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Ghosh, 1975)
- *Panaphis* sp. (Chakrabarti and Raychaudhuri, 1975a)
- *Sitobion (Sitobion) aulacorthoides* (David, Narayanan and Rajasingh, 1971 (Basu *et al*., 1973)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Raychaudhuri, 1973)
- *Tuberoaphis hydrangeae digitata* Hille Ris Lambers and Basu, 1966 (Ghosh *et al*., 1971d)

87. *Sorbaria sorbifolia* (L.) Braun (syn. *Spiraea sorbifolia* L.)
- *Myzus (Myzus) ornatus* Laing, 1932 (Chowdhuri *et al*., 1968)

88. *Sorbaria tomentosa* (Lindl.) Rehder (syn. *Spiraea lindleyana* Wall. ex Lindl.)
- *Myzus (Myzus) dycei* Carver, 1961 (Ghosh *et al*., 1991)
- *Myzus (Myzus) sorbi* Bhattacharya and Chakrabarti, 1982 (Ghosh *et al*., 1991)
- *Myzus* sp. (Bindra and Sekhon, 1969a)

89. *Sorbus cashmiriana* Hedl.
- *Rhopalosiphum* sp. (Bhagat, 1985a)

90. *Sorbus cuspidata* Hedl. (syn. *Pyrus vestita* Wall ex Hook.f.)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti and Sarkar, 2001)
- *Eumyzus eastopi* Maity and Chakrabarti, 1982 (Chakrabarti, 1987)

91. Sorbus foliolosa (Wall.) Spach
- *Indotuberoaphis sorbi* Chakrabarti and Maity, 1984 (Chakrabarti and Maity, 1984)

92. *Sorbus khasiana* Rehder (syn. *Pyrus khasiana* Hooker.f.)
- *Dysaphis (Pomaphis) pyri* (Boyer de Fonscolombe, 1841) (Sarkar and Chakrabarti, 2015)
- *Lachnus* sp. (Behura, 1965)
- *Nippolachnus piri* Matsumura, 1917 (Ghosh, 1982)

93. *Sorbus* sp.
- *Myzus (Myzus) sorbi* Bhattacharya and Chakrabarti, 1982 (Kar *et al*., 1990)

94. *Spiraea bella* Sims.
- *Aphis (Aphis) fabae* Scopoli, 1763 (Raychaudhuri *et al*., 1980)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri et al., 1980)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Chakrabarti and Sarkar, 2001)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Raychaudhuri, 1973)

95. *Spiraea betulifolia* var. *corymbosa* (Raf.) Voss (syn. *Spiraea corymbosa* Raf.)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Raychaudhuri, 1973)
- *Schoutedenia ralumensis* Rübsaamen, 1905 (Raychaudhuri, 1973)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (Raychaudhuri, 1973)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Hille Ris Lambers and Basu, 1966)

96. *Spiraea canescens* D. Don
- *Acyrthosiphon (Acyrthosiphon) ignotum* Mordvilko, 1914 (Ghosh, 1977)
- *Cavariella (Cavariella) himachali* Ghosh, 1986 (Ghosh, 1986)

97. *Spiraea cantoniensis* Lour.
- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh and Raychaudhuri, 1962)
- *Aphis (Aphis) odinae* (van der Goot, 1917) (Raychaudhuri, 1973)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri *et al*., 1979)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Chakrabarti, 1972)

98. *Spiraea chanoidri* (?)
- *Aphis (Aphis) fabae fabae* Scopoli, 1763 (Ghosh, 1986)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Ghosh, 1977)

99. *Spiraea hypericifolia* L.
- *Tricaudatus polygoni* (Narzikulov, 1953) (Verma, 1969)

100. *Spiraea japonica* L.f. (syn. *Spiraea callosa* Thunb.)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri, 1973)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

101. *Spiraea oleracea* (?)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri, 1973)

102. *Spiraea vacciniifolia* D. Don
- *Aphis (Aphis) fabae* Scopoli, 1763 (Chakrabarti and Sarkar, 2001)

103. *Spiraea* sp.
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri *et al*., 1980)
- *Aphis* (*Toxoptera*) *aurantii* Boyer de Fonscolombe, 1841 (Agarwala, 1979)
- *Myzus (Myzus) cerasi* (Fabricius, 1775) (Bhagat, 1985b)
- *Myzus (Myzus) ornatus* Laing, 1932 (Chakrabarti *et al*., 1971)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Misra and Parihar, 1983)
- *Myzus (Sciamyzus) cymbalariae* Stroyan, 1954 (Basu and Raychaudhuri, 1976b)
- *Nudisiphon folisacculata* (Kumar and Burkhardt, 1971) (Basu and Raychaudhuri, 1980)
- *Rhopalosiphum rufiabdominalis* (Sasaki, 1899) (Misra and Parihar, 1983)
- *Schoutedenia emblica* (Patel and Kulkarni, 1935) (Bhattacharya and Dey, 1996)
- *Tricaudatus polygoni* (Narzikulov, 1953) (Chakrabarti *et al*., 1971)

104. Unidentified species
- *Neobetulaphis immaculata* Ghosh, 1976 (Ghosh, 1976)

- *Semiaphis heraclei* (Takahashi, 1921) (Basu *et al.*, 1972)

F. Family: Ulmaceae

The Ulmaceae is a small family including only 7 genera and about 45 species and distributed widely throughout the north temperate zone. The characteristic feature of this family is presence of mucilaginous substances in the leaves and barks. Few species provide important timbers for furniture. In India, only 9 species are reported in 2 genera, of which 3 species of a single genus *Ulmus* L. are used as host plant by 11 species of aphids in 7 genera (Table 2) as given below.

1. *Ulmus glabra* Huds. (syn. *Ulmus montana* With.)

- *Eriosoma phaenax* Mordvilko, 1923 (Ghosh *et al.*, 1981)
- *Tinocallis (Sappocallis) saltans* (Nevsky, 1929) (Chakrabarti, 1988)

2. *Ulmus villosa* Brandis

- *Schizoneurella indica* Hille Ris Lambers, 1973 (Ghosh *et al.*, 1981)
- *Tetraneura (Indotetraneura) javensis* van der Goot, 1917 (Chakrabarti and Sarkar, 2001)

3. *Ulmus wallichiana* Planch. (syn. *Ulmus laevigata* Royle)

- *Eriosoma kashmiricum* Ghosh, Verma and Raychaudhuri, 1976 (Kar *et al.*, 1990)
- *Eriosoma phaenax* Mordvilko, 1923 (Bhagat, 1985a)
- *Eriosoma ulmi* (Linnaeus, 1758) (Ghosh *et al.*, 1981)
- *Indiochaitophorus furcatus* Verma, 1969 (1970) (Verma, 1969)
- *Schizoneurella indica* Hille Ris Lambers (Chakrabarti and Debnath, 2009)
- *Tetraneura (Tetraneura) ulmi* (Linnaeus, 1758) (Bhattacharya *et al.*, 1983)
- *Tinocallis (Sappocallis) saltans* (Nevsky, 1929) (Chakrabarti, 1988)

4 *Ulmus* sp.

- *Eriosoma kashmiricum* Ghosh, Verma and Raychaudhuri, 1976 (Ghosh *et al.*, 1981)
- *Eriosoma lanuginosum* (Hartig, 1839) (Ghosh *et al.*, 1981)
- *Indiochaitophorus furcatus* Verma, 1969 (1970) (Chakrabarti and Sarkar, 2001)
- *Kaltenbachiella pallida* (Haliday, 1838) (Chakrabarti and Sarkar, 2001)
- *Schizoneurella indica* Hille Ris Lambers, 1973 (Hille Ris Lambers, 1973)
- *Sinomegoura photiniae* (Takahashi, 1936) (Raychaudhuri, 1983)
- *Tetraneura (Tetraneura) ulmi* (Linnaeus, 1758) (Ghosh *et al.*, 1981)
- *Tinocallis (Sappocallis) saltans* (Nevsky, 1929) (Chakrabarti, 1988)

G. Family: Urticaceae

The Urticaceae, commonly called as the nettle family, includes approximately 2700 species, grouped into about 60 genera (WFO, 2022) distributed widely. Fabrics made by nettles are used in clothing fabric, sail cloth, fishing nets and paper. In India, 150 species grouped into 26 genera are known, of which 13 species in 10 genera are used as host plants by 28 species of aphids grouped into 16 genera as given below.

1. *Boehmeria clidemioides* Miq. (syn. *Boehmeria sidifolia* Wedd.)

- *Matsumuraja* sp. (Rao, 1969)
- *Neomyzus circumflexus* (Buckton, 1876) (Rao, 1969)

2. *Boehmeria japonica* Miq. (syn. *Boehmeria pachystachya* Satake)

- *Schoutedenia ralumensis* Rübsaamen, 1905 (Basu, 1961)

3. *Boehmeria virgata* subsp. *macrophylla* (Hornem.) Friis and Wilmot-Dear (syn. *Boehmeria macrophylla* Hornem.)

- *Aphis (Aphis) gossypii* Glover, 1877 (Singh, 1987)
- *Matsumuraja nuditerga* Hille Ris Lambers, 1965 (Singh, 1987)

4. *Boehmeria* spp.

- *Aphis (Aphis) spiraecola* Patch, 1914 (Maity *et al.*, 1980)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (Mondal *et al.*, 1976)
- *Capitophorus mitegoni* Eastop, 1956 (Raychaudhuri, 1973)
- *Myzus (Myzus) indicus* Basu and Raychaudhuri, 1976 (Basu and Raychaudhuri, 1976b)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

- *Neomyzus circumflexus* (Buckton, 1876) (Raychaudhuri, 1973)

5. *Debregeasia* sp.
- *Aphis (Aphis) fabae* Scopoli, 1763 (Raychaudhuri et al., 1981)
- *Aphis (Aphis) paraverbasci* Chakrabarti, 1976 (Ghosh LK, 1988)

6. *Girardinia diversifolia* (Link) Friis (syn. *Girardinia heterophylla* Decne.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Kar *et al*., 1990)
- *Dysaphis (Cotoneasteria) microsiphon* (Nevsky, 1929) (Chakrabarti and Medda, 1993)

7. *Gonostegia hirta* Miq. (syn. *Pouzolzia hirta* (Blume) Hassk.)
- *Aphis (Aphis) gossypii* Glover, 1877 (Rao, 1969)
- *Aphis (Aphis) nasturtii* Kaltenbach, 1843 (Rao and Kulkarni, 1977)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Ghosh and Agarwala, 1980)
- *Aphis (Toxoptera) citricidus* (Kirkaldy, 1907) (Raychaudhuri, 1973)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Agarwala, 1979)

8. *Laportea* sp. (syn. *Fleurya* sp.)
- *Myzus (Myzus) dycei* Carver, 1961 (Basu and Raychaudhuri, 1976b)
- *Rhopalosiphum nymphaeae* (Linnaeus, 1761) (Basu and Raychaudhuri, 1980)

9. *Leucosyke javanica* Zoll. and Moritzi (syn. *Boehmeria candidissima* Hassk.)
- *Myzus (Myzus) ornatus* Laing, 1932 (Raychaudhuri, 1973)

10. *Oreocnide integrifolia* (Gaud.) Miq. (syn. *Villebrunea integrifolia* Gaud.)
- *Greenidea (Trichosiphum) bucktonis* Ghosh, Basu and Raychaudhuri, 1970 (Ghosh *et al*., 1971d)

11. *Pilea macrocarpa* C.J. Chen
- *Aphis (Aphis) gossypii* Glover, 1877 (Agarwala, 1979)
- *Brachymyzus jasmini* Basu, 1964 (Mondal *et al*., 1978b)

12. *Pilea* sp.
- *Matsumuraja nuditerga* Hille Ris Lambers, 1965 (Ghosh and Raychaudhuri, 1972)

13. *Pouzolzia* sp.
- *Aphis (Aphis) gossypii* Glover, 1877 (Agarwala, 1979)
- *Subovatomyzus leucosceptri* Basu, 1964 (Raychaudhuri, 1980)

14. *Urtica dioica* L.
- *Acyrthosiphon* sp. (Chakrabarti and Debnath, 2009)
- *Aphis (Aphis) gossypii* Glover, 1877 (Chakrabarti and Sarkar, 2001)
- *Microlophium carnosum* (Buckton, 1876) (Bhagat, 1981)
- *Microlophium rubiformosanum* (Takahashi, 1927) (Kar *et al*., 1990)
- *Myzus (Myzus) dycei* Carver, 1961 (Basu and Raychaudhuri, 1976b)
- *Myzus (Myzus) siegesbeckicola* Strand, 1929 (Das and Chakrabarti, 1988)
- *Uroleucon (Uromelan) simile* (Hille Ris Lambers, 1935) (Verma and Mathur, 1966)

15. *Urtica parviflora* Roxb.
- *Aphis (Aphis) gossypii* Glover, 1877 (Ghosh, 1977)
- *Brachycaudus (Brachycaudus) helichrysi* (Kaltenbach, 1843) (Ghosh and Verma, 1988)
- *Microlophium carnosum* (Buckton, 1876) (Verma, 1969)
- *Myzus (Myzus) dycei* Carver, 1961 (Basu and Raychaudhuri, 1976b)
- *Sitobion (Sitobion) rosaeiformis* (Das, 1918) (David, 1975)

16. *Urtica* sp.
- *Aphis (Aphis) fabae* Scopoli, 1763 (Saha *et al*., 1982)
- *Aphis (Aphis) gossypii* Glover, 1877 (Raychaudhuri *et al*., 1980)
- *Aphis (Aphis) rhamniphila* David, Narayanan and Rajasingh, 1971 (David *et al*., 1971b)
- *Aphis (Aphis) spiraecola* Patch, 1914 (Raychaudhuri *et al*., 1980)
- *Microlophium carnosum* (Buckton, 1876) (Bhagat, 1984)
- *Myzus (Myzus) dycei* Carver, 1961 (Basu and Raychaudhuri, 1976b)
- *Myzus (Nectarosiphon) persicae* (Sulzer, 1776) (Raychaudhuri *et al*., 1980)

17. Unidentified plant

- *Tubaphis ranunculina* (Walker, 1852) (Basu and Raychaudhuri, 1976b)

REFERENCES

1. **Agarwala B.K.** (1979). Some aspects of aphid (Homoptera: Insecta) studies in Sikkim and Bhutan. Ph. D. thesis, University of Calcutta, India, pp. 383.
2. **Agarwala B.K. and Mahapatra S.K.** (1990). Description of hitherto unknown sexual morphs of five species of Aphididae (Homoptera) from India. *Oriental Insects.* 24: 237-246.10.1080/00305316.1990.11835538.
3. **Agarwala B.K. and Raychaudhuri D.N.** (1980). Parasites and predators of aphids in Sikkim and Manipur (northeast India). III. *Entomon.* 5: 39-42.
4. **Agarwala B.K. and Raychaudhuri D.N.** (1981). An account of aphids (Homoptera: Aphididae) infesting the important economic plants in Sikkim. *Indian Agriculture*. 25: 101-107.
5. **Agarwala B.K., Dutta S. and Raychaudhuri D.N.** (1982a). An account of syrphid (Diptera: Syrphididae) predators of aphids (Homoptera: Aphididae) available in Darjeeling district of West Bengal and Sikkim. *Pranikee*. 3: 15-21.
6. **Agarwala B.K., Mondal P.K. and Raychaudhuri D.N.** (1982b). One new subgenus, three new species and one new subspecies of aphids (Homoptera) from Sikkim, North east India. *Entomon.* 7: 37-45.
7. **Ahmad M.E. and Kumar K.M.** (2006). Food plants and natural enemies of *Aphis craccivora* Koch (Homoptera: Aphididae) in northeast Bihar. *Journal of Aphidology.* 21: 61-69.
8. **Ahmad M.E. and Singh R.** (2005). Food plants associations, seasonal occurrence and parasitoids/hyperparasitoids of few species of *Aphis* Linnaeus from northeastern Uttar Pradesh and Bihar. *Journal of Advanced Zoology.* 26: 41-46.
9. **Ahmad M.E., Kumar S., Parween N. and Rakhshan** (2020). Bio-ecological study of few species of *Aphis* Linn. in northeast bihar and their association with food plants and natural enemies for possible use in the biological control. *Journal of Advanced Zoology*. 41(1-2): 103-116.
10. **Altaf S., Ahad I., Pathania S.S., Lone G.M., Peer F.A. and Maqbool S.** (2019). Insect pest complex of apple nurseries in North Kashmir. *Journal of Entomology and Zoology Studies*. 7(3): 697-700.
11. **APG IV** (2016). An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society*. 181(1): 1-20.
12. **Banerjee P.K. and Chakrbarti S.** (1991). A new species and notes on two other species of aphids (Homoptera: Aphididae) from Garhwal range of western Himalaya. *Hexapoda*. 3: 15-20.
13. **Banerjee S.N. and Basu A.N.** (1955). Aphididae of West Bengal. *Current Science.* 24: 61.
14. **Basu A.N.** (1961). Some aphids new to India with description of a new subspecies. *Current Science.* 30(10): 390-391.
15. **Basu A.N.** (1964). New genera and species of aphids from the Darjeeling district, India (Homoptera: Aphididae). *Journal of the Linnean Society (Zoology)*. 45: 223-243.
16. **Basu A.N.** (1968). One new genus and seven new species of aphids from Darjeeling district, West Bengal (Homoptera: Aphididae). *Bulletin of Entomology.* 8(2) (1967): 143-157.
17. **Basu A.N.** (1969a). Further records of new and little known aphids (Homoptera) from West Bengal, India. *Oriental Insects.* 3: 355-371.10.1080/00305316.1969.10433930.
18. **Basu A.N.** (1969b). Four new genera and nine species of aphids (Homoptera : Aphididae) from West Bengal, India. *Oriental Insects.* 3: 169-186. 10.1080/00305316.1969.10433904.

19. **Basu A.N. and Banerjee S.N.** (1958). Aphids of economic plants of West Bengal. *Indian Agriculture.* 2: 89-112.

20. **Basu A.N. and Hille Ris Lambers D.** (1968). One new genus and three new species of Indian aphids (Homoptera: Aphididae). *Entomologische Berichten*. 28: 7-14.

21. **Basu R.C. and Raychaudhuri D.N.** (1976a). Studies on the aphids (Homoptera: Aphididae) from eastern India. XXXI. The genus *Capitophorus*. *Oriental Insects.* 10: 567-572. 10.1080/00305316.1976.10434527.

22. **Basu R.C. and Raychaudhuri D.N.** (1976b). Studies on the aphids (Homoptera: Aphididae) from eastern India. XXV. The genus *Myzus* with five new species from eastern India. *Oriental Insects.* 10: 93-112. 10.1080 /00305316.1976.10432325.

23. **Basu R.C. and Raychaudhuri D.N.** (1980). A study on the sexuales of aphids (Homoptera: Apididae) in India. *Records of the Zoological Survey of India, Kolkata, Occasional paper.* 18: 1-54.

24. **Basu R.C., Ghosh A.K. and Raychaudhuri D.N.** (1972). A new species of *Eutrichosiphum* and notes on other new records of aphids (Insecta: Homoptera) from NEFA (Arunachal). *Science & Culture.* 38: 494-495.

25. **Basu R.C., Ghosh A.K. and Raychaudhuri D.N.** (1973). Studies on the aphids (Homoptera: Aphididae) from eastern India. 18. Five new species and thirty new records from Assam. *Proceedings of the Zoological Society, Calcutta.* 26: 89-101.

26. **Basu R.C., Ghosh A.K. and Raychaudhuri D.N.** (1974). Studies on the aphids (Homoptera: Aphididae) from eastern India. VIII. A new genus and records of aphids from Assam. *Science & Culture.* 40: 41-43.

27. **Behura B.K.** (1963). Aphids of India. Survey of published information. *Recent Advances in Zoology, India*. 1961: 25-78.

28. **Behura B.K.** (1965). Suppliment to aphids of India - a survey of published information. *Prakruti – Journal of Utkal University Science.* 3: 40-65.

29. **Bhagat R.C.** (1981). New records of the aphids (Homoptera: Aphididae) from Kashmir (India). *Science & Culture.* 47: 134-136.

30. **Bhagat R.C.** (1982). Aphid-galls and their parasitoids from Kashmir, India. *Entomon*, 7: 103-105.

31. **Bhagat R.C.** (1984). New records and hosts of aphid parasitoids (Hymenoptera: Aphidiidae) from Kashmir, India. *Journal of the Bombay Natural History Society*. 81: 93-98.

32. **Bhagat R.C.** (1985a). On aphids (Homoptera: Aphididae) and their parasitoids (Aphidiidae: Hymenoptera) infesting forest trees in Kashmir valley, India. *Indian Forester.* 111: 467-474.

33. **Bhagat R.C.** (1985b). Host aphid complex of aphelinid parasites (Hymenoptera: Insecta) in Kashmir valley, India. *Geobios New Reports*, 4: 178-179.

34. **Bhagat R.C.** (2012). Aphids (Insecta) damaging medicinal and aromatic plants of Jammu and Kashmir state (India): an updated checklist and biodiversity. *Indian Journal of Applied and Pure Biology.* 27(1): 1-10.

35. **Bhalla O.P.** (1971). Addition to the aphid fauna of Himachal Pradesh. *Himachal Jouirnal of Agricultural Research.* 1: 51-52.

36. **Bhalla O.P. and Pawar A.D.** (1980). A survey of insect and non-insect pests of economic importance in Himachal Pradesh. Published by Department of Entomology and Zoology, College of Agriculture, Chambaghat, Solan (H.P.).

37. **Bhat D.M., Khan S.A., Ahanger F.A. and Sheikh M.A.** (2020). Diversity of aphid pests (Homoptera: Aphididae) and their natural bio-control agents in vegetable crop ecosystems of Jammu and Kashmir, India. *International Journal of Current Microbiology and Applied Sciences.* 9(5): 2529-2546. 10.20546/ ijcmas.2020.905.290.

38. **Bhattacharya D.K.** (1994a). New and not known aphids (Homoptera : Aphididae) from Himachal Pradesh, India. *Journal of the Bombay Natural History Society.* 91: 117-120.

39. **Bhattacharya D.K.** (1994b). Notes on the Genus *Hyalomyzus* Richards (Homoptera : Aphididae) with description of a new species from India. *Oriental Insects.* 28(1): 199-203. 10.1080/00305316.1994.10432304.

40. **Bhattacharya D.K. and Chakrabarti S.** (1987). Stratigraphic distribution and host association of Aphidinae aphids (Homoptera: Aphididae) of Garhwal range of Western Himalaya. *Journal of Aphidology.* 1: 64-69.

41. **Bhattacharya D.K. and Dey S.R.** (1996). A new species and a new record of Aphids (Homoptera: Aphididae) from Garhwal range of Western Himalaya, India. *Entomon.* 21: 285-289.

42. **Bhattacharya D.K., Mandal A.K. and Chakrabarti S.** (1983). New and hitherto not known species of aphids (Homoptera: Aphididae) producing leaf galls in the north west Himalayas, India. *Entomon.* 8: 13-17.

43. **Bindra O.S. and Sekhon S.S.** (1969a). New records of aphids from Punajb and Kulu valley. *Bulletin of Entomology.* 10: 103-104.

44. **Bindra O.S. and Sekhon S.S.** (1969b). Additional new records of aphids from the Kangra, Kulu and Lahaul valleys (India). *Bulletin of Entomology.* 10: 156-157.

45. **BSI** (2022). https://efloraIndia.gov.in. Botanical Survey of India, Kolkata, accessed on December 31, 2022.

46. **Chakrabarti S.** (1972). Aphids of north western India with special reference to Kumaon range, Uttar Pradesh, Ph. D. thesis. University of Calcutta, India, pp. 435.

47. **Chakrabarti S.** (1987). Biosystematics of gall aphid (Aphididae, Homoptera) of Western Himalaya. *Proceedings of the Indian Academy of Sciences.* 96(5): 561-572.

48. **Chakrabarti S.** (1988). Revision of the Drepanosiphinae (Homoptera: Aphididae) from the Indian subregion. *Oriental Insects.* 22(1): 1-86. 10.1080/00305316.1988.11835482.

49. **Chakrabarti S.** (2006). Diversity of aphid (Insecta: Homoptera) fauna and their host plants diversity in Western and Northwest Himalaya, India. In: *Biodiversitat and Naturasstung im Himalaya Bd II*. (eds. M. Hartmann and J. Weipert), Naturmuseum, Erfurt, Germany, pp. 23-38.

50. **Chakrabarti S.** (2007). Diversity and biosystematics of gall-inducing aphids (Homoptera: Aphididae) and their galls in the Himalaya. *Oriental Insects.* 41: 35-54. 10.1080/00305316.2007.10417498.

51. **Chakrabarti S. and Debnath M.** (2009). Diversity of aphidophagous parasitoids (Insecta) of northwest and western Himalayas, India. In: *Biodiversitat und Naturausstattung im Himalaya, III* (eds. Hartmann M. and Weipert J.), Naturkundemuseum Erfurt, pp. 441-454.

52. **Chakrabarti S. and Maity S.P.** (1984). A new genus and four new species of aphids (Homoptera: Aphididae) from Northwest Himalaya, India. *Oriental Insects.* 18: 195-212. 10.1080/00305316.1984.10432203.

53. **Chakrabarti S. and Medda P.K.** (1989). Taxonomic studies on some aphids (Homoptera: Aphididae) from India. *Oriental Insects.* 23: 133-141. 10.1080/00305316.1989.11835502.

54. **Chakrabarti S. and Medda P.K.** (1993). Taxonomic studies on *Dysaphis* Börner (Homoptera: Aphididae) from the Indian subcontinent. *Oriental Insects.* 27: 93-130. 10.1080/00305316.1993.10432265.

55. **Chakrabarti S. and Raychaudhuri D.N.** (1975a). Callipterine aphids (Homoptera : Aphididae) of North-East India and Bhutan. *Proceedings of the Zoological Society, Calcutta.* 28: 71-101.

56. **Chakrabarti S. and Raychaudhuri D.N.** (1975b). Aphids (Homoptera: Aphididae) from Sundardhunga Valley, Kumaon Himalaya, India. *Oriental Insects.* 9(2): 195-211. 10.1080/ 00305316. 1975.10434491.

57. **Chakrabarti S. and Sarkar A.** (2001). A supplement to the food-plant catalogue of

Indian Aphididae. *Journal of Aphidology.* 15: 9-62.

58. **Chakrabarti S., Ghosh A.K. and Raychaudhuri D.N.** (1972a). On some undescribed morphs and new records of aphids (Homoptera: Aphididae) from Kumaon Himalaya, India. *Current Scioence.* 41: 70-71.

59. **Chakrabarti S., Ghosh A.K. and Raychaudhuri D.N.** (1972b). A new genus, a new species and further records of aphids (Homoptera: Aphididae) from the Kumaon hills, northwest Himalaya, India. *Oriental Insects.* 6: 387-400. 10.1080/00305316.1972.10434088.

60. **Chakrabarti S., Saha S. and Mandal A.K.** (1988). *Longisiphoniella subterranea* gen. et. sp. nov. and hitherto unknown aphids (Homoptera : Aphididae) from Garhwal range of Western Himalaya. *Proceedings of the Zoological Society, Calcutta.* 37: 35-44.

61. **Chakrabarti S., Sarkar S. and Das B.C.** (2002). Aphid parasitoids (Hymenoptera: Braconidae: Aphidiinae) from western Himalaya. *Journal of Aphidology*. 16: 45-49.

62. **Chakrabarti S., Sarkar S. and Debnath M** (2012). Diversity, bioecology and biosystematics of aphidophagous predators of eastern Himalaya and northeast India. In: *Biodiversitat und Naturausstattung im Himalaya, IV* (eds. Hartmann, M. and Weipert, J.), Naturkundemuseum Erfurt, pp. 129-147.

63. **Chaudhary H.C., Singh D. and Singh R.** (2009). Diversity of aphids (Homoptera: Aphididae) on the field crops in terai of eastern Uttar Pradesh. *Journal of Aphidology.* 23(1-2): 69-76.

64. **Chowdhuri A.N., Basu R.C. and Raychaudhuri D.N.** (1969). A new species of *Cavariella* del Guercio and other newly recorded aphids (Homoptera: Aphididae) from Simla, Himachal Pradesh. *Science & Culture.* 35: 334.

65. **Chowdhuri A.N., Basu R.C., Chakrabarti S. and Raychaudhuri D.N.** (1968). A list of aphids from Simla including some new and a few others hitherto not known from India. *Science & Culture.* 34: 133-134.

66. **Christenhusz M.J.M. and Byng J.W.** (2016). The number of known plants species in the world and its annual increase. *Phytotaxa*. 261(3): 201–217. 10.11646/phytotaxa.261.3.1.

67. **David S.K.** (1956). Additional notes on some aphids in Madras State. *Madras Agriculture Journal*. 43: 103-107.

68. **David S.K.** (1957a). Notes on South Indian Aaphids. III. Lachninae to Aphidinae (part). *Indian Journal of Entomology*. 19: 171-180.

69. **David S.K.** (1957b). Notes on South Indian Aphids. IV. Aphidinae (continued). *Indian Journal of Entomology*. 19: 289-299.

70. **David S.K.** (1958). Some rare Indian Aphids. *Journal of the Bombay Natural History Society.* 55: 110-116.

71. **David S.K.** (1969). Some rare aphids in new regions in India. *Journal of the Bombay Natural History Society.* 66: 323-326.

72. **David S.K.** (1975). A taxonomic review of *Macrosiphum* in India. *Oriental Insects.* 9(4): 461-493. 10.1080/00305316.1975.10434515.

73. **David S.K. and Narayanan K.** (1968). Three new species of aphids from southwestern Himalayas in India. *Bulletin of Entomology.* 9: 99-103.

74. **David S.K. and Rajasingh, S.G.** (1969). New records of aphids (Insecta: Homoptera) from Assam, India. *Proceedings of the Zoological Society, Calcutta.* 22: 151-157.

75. **David S.K., Narayanan K. and Rajasingh S.G.** (1969). New records of Aphids (Homoptera: Aphididae) in India. *Bulletin of Entomology.* 10: 158-159.

76. **David S.K., Narayanan K. and Rajasingh S.G.** (1971b). A new genus and four new species of aphids (Homoptera: Aphididae) from India. *Oriental Insects.* 5: 557-570. 10.1080/00305316.1971.10434041.

77. **David S.K., Rajasingh S.G. and Narayanan K.** (1970). The Myzaphidines (Homoptera) of India with description of

three new species. *Oriental Insects.* 4: 395-406.

78. **David S.K., Narayanan K. and Rajasingh S.G.** (1971a). Records of aphids in new regions in India. *Madras Agricultural Journal.* 58: 372-374.

79. **Debnath M.** (2010). Aphids (Homoptera: Aphididae) of western and northwest Himalaya. Ph. D. thesis, The University of Kalyani, West Bengal, India, pp. 300. http://hdl.handle.net/10603/212488.

80. **Debnath M. and Chakrabarti S.** (2020). Diversity, bioecology and biosystematics of aphids (Hemiptera: Aphididae) in Darjeeling Himalaya. *International Journal of Experimental Research and Review*. 21: 10-18.

81. **Deshmukh P.B.** (1992). Efficacy of two insecticide treatments against aphid, *Toxoptera aurantii*, and caterpillar, *Circula trifenesirata*, on groundnut, *Arachis hypogea* L. *International Pest Control*. 34(5):153.

82. **Dey S.R. and De M.** (2018). Report on winter crop plant-aphid-aphidophagous Chrysopidae (Neuroptera: Insecta) association from Murshidabad district, West Bengal, India. I*nternational Journal of Experimental Research and Review*. 16: 7-13.

83. **Dharmadhikari P.R. and Ramaseshiah G.** (1970). Recent records of aphidiids (Hymenoptera: Aphidiidae) in India. *Technical Bulletin of the Commonwealth Institute of Biological Control*. 13: 83-89.

84. **Doyle J.J.** (2011). Phylogenetic perspectives on the origins of nodulation. Molecular Plant-Microbe Interactions. 24:1289-1295.

85. **Dutta J. and Gautam D.C.** (1993). Chromosomes of aphid fauna from north-western Himalayas, India. *Cytologia.* 58: 367-375.

86. **Favret C.** (2022). Aphid Species File. Version 5.0/5.0. http://Aphid.Species File.org, retrieved on December 31, 2022.

87. **George C.J.** (1927). South Indian Aphididae. *Journal of Asiatic Society of Bengal, New Series.* 23: 1-12.

88. **Ghosh A.K.** (1975). A list of Aphids (Homoptera: Aphididae) from India and adjacent countries. *Journal of the Bombay Natural History Society.* 71(2): 201-225.

89. **Ghosh A.K.** (1976). New species, undescribed morphs and new records of aphids (Homoptera: Aphididae) from northeast India. *Oriental Insects*. 10: 39-49. 10.1080/ 00305316. 1976.10432320.

90. **Ghosh A.K.** (1979). Aphids. Proceedings of the Symposium on Soil Biology & Ecology, pp. 224-227.

91. **Ghosh A.K.** (1982). The fauna of India and the adjacent countries – Part 2. Homoptera: Aphidoidea, Subfamily Lachninae. Zoological Survey of India, Calcutta, pp. 167.

92. **Ghosh A.K.** (1984). The fauna of India and the adjacent countries – Part 3. Homoptera: Aphidoidea, Subfamily Pemphiginae. Zoological Survey of India, Calcutta, pp. 429.

93. **Ghosh A.K.** (1988). The fauna of India and the adjacent countries – Part 4. Homoptera: Aphidoidea, Subfasmilies Phyloemyzinae, Anoeciinae and Hormaphidinae. Zoological Survey of India, Calcutta, pp. 429.

94. **Ghosh A.K. and Agarwala B.K.** (1980). Weed hosts of major aphid (Homoptera: Insecta) pests in Indian region. *Indian Agriculture*. 24: 101-107.

95. **Ghosh A.K. and Agarwala B.K.** (1982). A catalogue of Aphidiid (Hymenoptera: Aphidiidae) parasites of Aphids (Hemoptera) of India. *Journal of the Bombay Natural History Society.* 79: 124-134.

96. **Ghosh A.K. and Agarwala B.K.** (1985). A catalogue of aphidiid (Hymenoptera: Aphidiidae) parasites of aphids (Homoptera) of India. *Journal of the Bombay Natural History Society.* 79: 125-134.

97. **Ghosh A.K. and Agarwala B.K.** (1993). The fauna of India and the adjacent countries-Part 6. Subfamily: Greenideinae. *Zoological Survey of India, Kolkata,* pp. 330.

98. **Ghosh A.K. and Quednau F.W.** (1990). The Fauna of India and the Adjacent Countries:

Homoptera: Aphidoidea, Part 5. Subfamily: Drepanosiphinae. *Zool. Surv. India*. pp. 336.

99. **Ghosh A.K. and Raychaudhuri D.N.** (1962). A preliminary account of the bionomics and taxonomy of aphids from Assam. *Journal of the Bombay Natural History Society*. 59: 238-253.

100. **Ghosh A.K. and Raychaudhuri D.N.** (1968a). Aphids (insecta: Homoptera) of Sikkim. *Proceedings of the Zoological Society, Calcutta*. 21: 179-195.

101. **Ghosh A.K. and Raychaudhuri D.N.** (1968b). Two new records of aphids from India. *Bulletin of Entomology*. 9: 147-148.

102. **Ghosh A.K. and Raychaudhuri D.N.** (1971). Further records of aphids (Homoptera: Insecta) from NEFA. *Science & Culture*. 37: 483-484.

103. **Ghosh A.K. and Raychaudhuri D.N.** (1972). Studies on the aphids (Homoptera: Aphididae) from eastern India. XVI. A new subgenus, Anaulacorthum. XXXX. Seven new species and notes on little known species from northeast India and Sikkim. *Proceedings of the Zoological Society, Calcutta*. 25: 93-107.

104. **Ghosh A.K., Banerjee H. and Raychaudhuri D.N.** (1971a). Studies on the aphids (Homoptera: Aphididae) from eastern India. V. New species, new records on sexuals of some species of aphids from NEFA and Assam. *Oriental Insects*. 5: 103-110. 10.1080/00305316.1971.10433995.

105. **Ghosh A.K., Banerjee H. and Raythaudhuri D.N.** (1971b). Studies on the aphids (Homoptera: Aphididae) from eastern India. 10. New species and further new records from Sikkim. *Proceedings of the Zoological Society, Calcutta*. 24: 99-111.

106. **Ghosh A.K., Basu R.C. and Raychaudhuri D.N.** (1970a). Studies on the aphids (Homoptera: Aphididae) from eastern India. *Oriental Insects*. 4(1): 65-76. 10.1080/00305316.1970.10433942.

107. **Ghosh A.K., Chakrabarti S. and Bhattacharya D.K.** (1981). Galls of Pemphiginae (Homoptera: Aphidoidea) in the Indian region with description of a new species. *Bulletin of Zoological Survey of India*. 4(3): 319- 330.

108. **Ghosh A.K., Ghosh M.R. & Raychaudhuri D.N.** (1970b). Studies on aphids (Homoptera: Aphididae) from eastern India. II. Some new species and new records from north Bengal. *Oriental Insects*. 4: 193-203. 10.1080/ 00305316. 1970.10433955.

109. **Ghosh A.K., Ghosh M.R. and Raychaudhuri D.N.** (1971c). Studies on the aphids (Homoptera: Aphididae) from eastern India. IX. One new genus, five new species, a new subspecies and further new records from the Darjeeling district, West Bengal. *Oriental Insects*. 5: 323-336. 10.1080/00305316.1971.10434020.

110. **Ghosh A.K., Ghosh, M.R. and Raychaudhuri D.N.** (1971d). Studies on the aphids (Homoptera : Aphididae) from eastern India. VII. New species and new records from West Bengal. *Orient. Insects*, 5: 209-222.

111. **Ghosh D., Debnath N. and Chakrabarti S.** (1991). Predators and parasites of aphids from north west and western Himalaya III. Twentyfive species of coccinellidae (Coleoptera: Insecta) from Garhwal and Kumaon ranges. *Records of Zoological Survey of India*. 88(2): 177-188.

112. **Ghosh L.K.** (1970). On a collection of aphids (Homoptera: Aphididae) from Rajasthan, India. *Indian Journal of Science & Industry* (B). 4: 85-89.

113. **Ghosh L.K.** (1977). A study on the aphids (Homoptera: Aphididae) of Himachal Pradesh in North-West Himalaya, India, Ph. D. thesis, University of Calcutta, India, pp. 360.

114. **Ghosh L.K.** (1986). A conspectus of Aphididae (Homoptera) of Himachal Pradesh in nwest Himalaya, India. *Zoological Survey of India, Kolkata, Technical Monograph, No. 16,* pp. 282.

115. **Ghosh L.K.** (1988). Hitherto unknown morphs of *Aphis paraverbasci* Chakrabarti (Homoptera: Aphididae) from India. *Journal of Aphidology*. 2: 59-61.

116. **Ghosh L.K.** (1990). A taxonomic review of the genus *Aphis* Linnaeus in India (Homoptera: Aphididae). *Mem. Zool. Surv. India* 17: 159 pp.

117. **Ghosh L.K. and Basu R.C.** (1997). Insecta: Hemiptera: Aphididae. In: *Fauna of West Bengal. State Fauna Series 3*. Zoological Survey of India, Kolkata, pp. 125-318.

118. **Ghosh L.K. and Raychaudhuri D.N.** (1981). A new species of *Cinara* Curtis (Homoptera: Aphididae) from northweast India. *Entomon*. 6: 173-174.

119. **Ghosh L.K. and Verma K.D.** (1988). A new host record of *Brachycaudus helichrysi* (Kaltenbach) in India (Homoptera: Aphididae). *Journal of Aphidology.* 2: 66-68.

120. **Gull S., Khanday A.L., Ahmad T. and Buhroo A.A.** (2019). A survey of some insect pests associated with *Juglans regia* L. (Juglandaceae) from Kashmir, India. *Journal of Zoological Research*. 3(2): 1-7.

121. **Hayat M.** (1972). The species of *Aphelinus* Dalman 1820. (Hymenoptera: Aphilinidae) from India. *Entomophaga*. 17: 49–58.

122. **Hille Ris Lambers D. and Basu A.N.** (1966). Some new or little known genera, subgenera, species and subspecies of Aphididae from India (Homoptera: Aphididae). *Entomologische Berichten*. 26: 12-20.

123. **Hille Ris Lambers, D.** (1973). Notes on some oriental aphids, with descriptions of a new genus and four new species (Homoptera: Aphididae). *Oriental Insects*. 7: 239-259. 10.1080/00305316.1973.10434217.

124. **Huisman R. and Geurts R.** (2020). A roadmap toward engineered nitrogen-fixing nodule symbiosis. *Plant Communications*, 1: 100019. 10.1016/j.xplc.2019.100019.

125. **Jadhav V.B. and Sathe T.V.** (2006).Biodiversity of aphids (order: Hemiptra) from Satara district of Western Ghats. *Indian Journal of Environment and Ecoplanning*. 12(1): 237-240.

126. **Joshi S.** (2008). Aphids (Homoptera: Aphididae) and their host plants from Karnataka, India. *Biosystematica*. 2:19-32.

127. **Joshi S. and Poorani J.** (2007). Aphids of Karnataka. URL: www.aphidweb.com http://www.aphidweb.com.

128. **Joshi S., Lokeshwari D., Krishna Kumar N.K., Manjunatha H., Verghese A. and Jalali S. K.** (2014). *Wahlgreiella nervata* (Hemiptera: Aphididae), a new pest of rose in India. *Florida Entomologist*. 97: 162-167.

129. **Kanturski M. and Chakrabarti S.** (2022). *Maculolachnus blackmani* (Hemiptera: Aphididae: Lachninae)-a new aphid species from India and Pakistan with key to species of the genus. *Zootaxa*. 5183(1): 361–368. 10.5281/zenodo.7070282.

130. **Kar I., Basu G. and Khuda-Bukhsh A.R.** (1990). A check-list of chromosomes in aphids (Homoptera: Aphididae) worked out in India along with the names and families of their host plants. *Environment and Ecology*. 8(1): 414-428.

131. **Khan A.A. and Shah M.A.** (2017). Records of aphids and their natural enemies in agro-ecosystem with special reference to horticultural ecosystem of Kashmir. *Journal of Entomology and Zoology Studies*. 5(4): 189-203.

132. **Khuda-Bukhsh A.R. and Pal N.B.** (1986a). Cytogenetical studies on aphids (Homoptera: Aphididae) from India. II. Karyomorphology of five species of *Myzus*. *Entomon*. 11: 135-140.

133. **Khuda-Bukhsh A.R. and Pal N.B.** (1986b). Cytogenetical studies on aphids (Homoptera: Aphididae) from India. III. Karyomorphology of fifteen species belonging to the tribe Macrosiphini. *Entomon*. 11: 141-147.

134. **Krishnamurthi B.** (1948). Aphididae of Mysore. III. *Indian Journal of Entomology*. 10: 51-53.

135. **Lefroy H.M and Howlett F.M.** (1909). Indian Insect Life. A manual of the insects of the plains (Tropical India). W. Thacker and Co., London, pp. 743- 748.

136. **Maity S.P. and Chakrabarti S.** (1979). Aphids (Homoptera: Aphididae) of northwest India. III. Records of new aphids from Garhwal Himalaya. *Science & Culture.* 45: 160-162.

137. **Maity S.P., Bhattacharya D.K. and Chakrabarti S.** (1980). Aphids (Homoptera: Aphididae) of Northwest India V: New records of aphids from Garhwal Himalaya. *Science & Culture.* 46: 311-312.

138. **Mall N.K.** (2013). Faunistic survey of aphids and their natural enemies in southeastern Uttar Pradesh. Ph. D. thesis, Deen Dayal Upadhyay Gorakhpur University, Gorakhpur, India, pp. 431.

139. **Mann G.S., D. Singh and A.S. Dhatt** (1979). Chemical control of *Pterochloroides persicae* (Cholod.), a sporadic pest of peach and almond in Punjab. *Indian Journal of Agricultural Sciences*. 49: 895–897.

140. **Medda P.K. and Chakrabarti S.** (1986). Two new aphids (Homoptera: Aphididae) forming leaf galls on *Prunus* spp. *Entomon.* 11(3): 203-210.

141. **Medda P.K. and Chakrabarti S.** (1992). Two new Aphid species from the Western Himalaya and an Account of the *Pyrus*-infesting Generations of *Melanaphis pahanensis* (Homoptera: Aphidoidea: Aphididae). *Entomologia Generalis*. 17(2): 139-146.

142. **Medda P.K., Saha S. and Chakrabarti S.** (1986). *Prunus*- infesting aphids of North West Himalaya. *Proceedings of the Second National Symposium on Recent trends in Aphidological Studies.* pp 29-38.

143. **Misra S.S. and Parihar S.B.S.** (1983). Aphids on some host plants during winter around Shimla. *Indian Journal of Plant Protection.* 11(1-2): 148-149.

144. **Mondal P.K. Agarwala B.K. and Raychaudhuri D.N.** (1978a). Aphid (Homoptera: Aphididae) fauna of Sikkim-1. *Science & Culture.* 44: 89-92.

145. **Mondal P.K., Agarwala B.K. and Raychaudhuri D.N.** (1978b). Hitherto unknown sexuales of two aphid species from Sikkim, north east India. *Entomon*. 3: 105-110.

146. **Mondal P.K., Basu R.C. and Raychaudhuri D.N.** (1976). Studies on the aphids (Homoptera: Aphididae) from eastern India. XXX. The Genus *Toxoptera. Oriental Insects*. 10: 533-540. 10.1080/00305316.1976.10434522.

147. **Priyadarshini B. and Sharma D.R.** (2017). Seasonal abundance of different aphids on various fruit crops in Punjab. *Indian Journal of Ecology*, 44(6): 667-669.

148. **Quednau F.W. and Chakrabarti S.** (1980). Two new species of aphids (Homoptera: Aphididae) on alder and birch in India. *The Canadian Entomologist*. 112: 5-10.

149. **Raha S.K.** (1979). Studies on the aphids (Homoptera: Insecta) of Nagaland, Ph. D. thesis, University of Calcutta, India, pp. 212.

150. **Raha S.K. and Raychaudhuri D.N.** (1981). Studies on the aphids (Homoptera: Aphididae) of Nagaland. *Entomon*. 6: 317-323.

151. **Raha S.K., Singh T.K., Raychaudhuri D. and Raychaudhuri D.N.** (1977). New records of aphids (Homoptera: Aphididae) from Manipur and Nagaland. *Science & Culture*. 43: 452-453.

152. **Raha S.K.** (1979). Studies on the aphids (Homoptera: Insecta) of Nagaland, Ph. D. thesis, University of Calcutta, India, pp. 212.

153. **Rao S.N. and Kulkarni P.P.** (1975). Indian root aphids. *Marathwada University Journal of natural Sciences.* 14: 189-192.

154. **Rao S.N. and Kulkarni P.P.** (1977). Studies on the aphid fauna (Homoptera: Aphididae) of Marathwada (Maharastra). II. *Marathwada University Journal of Natural Sciences.* 16: 141-150.

155. **Raychaudhuri D.** (1978). Taxonomy and biology of aphids (Homoptera: Aphididae) of Manipur. Ph. D. thesis, University of Calcutta, India, pp. 308.

156. **Raychaudhuri D.N.** (1973). Taxonomy of the aphids of the Eastern Himalayas. US Pl 480 Project Technical Report, pp. 107.

157. **Raychaudhuri D.N.** (1980) (ed.). Aphids of North-East India and Bhutan. Zoological Society, Calcutta, pp. 521.

158. **Raychaudhuri D.N.** (1983) (ed.). *Food Plant Catalogue of Indian Aphididae.* Graphic Printall, Culcutta (India), pp. 204.

159. **Raychaudhuri D.N. and Banerjee C.** (1974). A study on the genus *Melanaphis* (Homoptera: Aphididae) with description of new taxa from India. *Oriental Insects*. 8: 365-389. 10.1080/00305316.1974.10434868.

160. **Raychaudhuri D.N., Dutta S., Agarwala B.K., Raha S.K. and Raychaudhuri D.** (1979). Some parasites and predators of aphids in Northeastern India and Bhutan. II. *Entomon*. 4: 163-166.

161. **Raychaudhuri D.N., Ghosh D., Raychaudhuri D. and Agarwala B.K.** (1981). Studies on the aphids (Homoptera: Aphididae) from south India. I. *Insecta Matsumurana, New Series.* 23: 1-20.

162. **Raychaudhuri D.N., Ghosh L.K. and Das S.K.** (1980). Studies on the aphids (Homoptera: Aphididae) from north and northwest India-I. *Insecta Matsumurana, New Series.* 20: 1-42.

163. **Raychaudhuri D.N., Ghosh M.R. and Basu R.C.** (1975). Studies on the aphids (Homoptera: Aphididae) from eastern India. 27. The genera *Acyrthosiphon* Mordvilko, *Metopolophium* Mordvilko and *Rhodobium* Hille Ris Lambers. *Proceedings of the Zoological Society, Calcutta.* 28: 115-131.

164. **Raychaudhuri D.N., Ghosh M.R., Banerjee M. and Ghosh A.K.** (1973). Studies on the aphids (Homoptera: Aphididae) from eastern India. One new genus, two new subgenera and fifteen new species of Greenideini. *Kontyu.* 41: 53-73.

165. **Rishi N.D.** (1975). Aphids of Kashmir. *Symposium on Recent Trends in Aphidological Studies*, Bhubaneswar, p. 52.

166. **Rohini B.S., Suchithra Kumari M.H. and Rashmi S.** (2018). The diversity of aphids on medicinal and aromatic plants of Chikkamagulru district. *Journal of Pharmacognosy and Phytochemistry*. SP3: 453-456.

167. **Saha J.L., Poddar S.C., Das S.K., Agarwala B.K. and Raychaudhuri D.** (1982). Studies on the aphid parasites (Hymenoptera: Aphidiidae) from Himachal Pradesh, India. *Akitu, New Sireis.* 44: 1-12.

168. **Saha S. and Chakrabarti S.** (1988). New records of aphids (Homoptera: Aphididae) from Garhwal range of Western Himalaya, India. *Journal of the Bombay Natural History Society.* 85: 633-635.

169. **Sarkar S. and Chakrabarti S.** (2015). Aphid (Hemiptera: Aphididae) diversity on the fruit yielding plants in India. *Journal of Applied Biosciences*, 41(2): 86-109.

170. **Sathe T.V. and Jadhav B.V.** (2008). Indian Pest Aphids. Daya Publishing House, New Delhi, pp. 211.

171. **Sengupta G.C., Das J.N. and Behura B.K.** (1962). A preliminary account of the aphids of Orissa. Prakruti – *Journal of Utkal University, Science*. 2: 33-39.

172. **Sharma P.L. and Bhalla O.P.** (1964). A survey of insect pests of economic importance in Himachal Pradesh. *Indian Journal of Entomology.* 26: 318-331.

173. **Shuja-Uddin** (1973). Three species of *Trioxys* Haliday (Hymenoptera: Aphidiidae) recorded from India. *Indian Journal of Entomology.* 35: 9-14.

174. **Singh G. and Singh R.** (2016a). Food plant records of aphids (Aphididae: Sternorrhyncha: Hemiptera) in India belonging to subfamilies Aiceoninae, Anoeciinae, Chaitophorinae and Drepanosiphinae. *International Journal of Zoological Investigations.* 2(2): 281-295.

175. **Singh G. and Singh R.** (2016b). Distribution of *Aphis (Aphis) spiraecola* Patch 1914 (Aphidini: Aphidinae: Aphididae: Hemiptera) and its food plants recorded in India. *International Journal of Recent Advances in Multidisciplinary Research.* 3(12): 2100-2111.

176. **Singh G. and Singh R.** (2017a). Distribution and economic importance of

Aphis (Aphis) craccivora Koch (Aphidini: Aphidinae: Aphididae: Hemiptera) and its food plants in India. *International Journal of Recent Advances in Multidisciplinary Research*. 4(2): 2274-2289.

177. **Singh G. and Singh R.** (2017b). Food plant records of Aphidini (Aphidinae: Aphididae: Hemiptera) in India. *Journal of Entomology and Zoology Studies*. 5(2): 1280-1302.

178. **Singh G. and Singh R.** (2017c). Updated checklist of food plants of Macrosiphini (Aphididae: Hemiptera) in India – 1. *International Journal of Research Studies in Zoology*. 3(1): 6-33. 10.20431/2454-941X.0301002.

179. **Singh G. and Singh R.** (2017d). Updated checklist of food plants of Macrosiphini (Aphididae: Hemiptera) in India – 2. *International Journal of Research Studies in Zoology*. 3(1): 42-76. 10.20431/2454-941X.0301004.

180. **Singh G. and Singh R.** (2017e). Updated checklist of food plants of Macrosiphini (Aphididae: Hemiptera) in India – 3. *International Journal of Research Studies in Zoology*. 3 (2): 1-31. 10.20431/2454-941X.0302001.

181. **Singh G. and Singh R.** (2017f). Updated checklist of Greenideinae (Aphididae: Hemiptera) and its host plants in India. *International Journal of Contemporary Research and Review*. 8(3): 20191-20219. 10.15520/ijcrr/2017/8/03/139.

182. **Singh G. and Singh R.** (2017g). Updated checklist of host plants of Calaphidinae (Aphididae : Hemiptera) in India. *International Journal of Contemporary Research and Review*. 8(2): 20171-20190. 10.15520/ijcrr/2017/8/02/111.

183. **Singh G. and Singh R.** (2017h). Updated check-list of Indian Eriosomatinae (Aphidinae: Aphididae: Hemiptera) and their food plants. *Journal of Entomology and Zoology Studies*: 5(1): 921-936.

184. **Singh G. and Singh R.** (2018). Updated check-list of Indian Hormaphidinae (Aphididae: Hemiptera) and their food plants. *Journal of Entomology and Zoology Studies*. 6(2): 1345-1352.

185. **Singh G., Prasad, M. and Singh R.** (2018). Updated check-list of Lachninae, Lizeriinae, Mindarinae, Phyllaphidinae, Saltusaphidinae, Taiwanaphidinae and Thelaxinae (Aphididae: Hemiptera) and their food plants in India. *Journal of Entomology and Zoology Studies*. 6(2): 3157-3166.

186. **Singh P.M.** (1987). Studies on aphid parasitoids hymenoptera aphidiidae of Manipur. Ph. D. thesis, Manipur University, Imphal, Manipur, pp. 231. http://hdl.handle.net/10603/150302.

187. **Singh P.M., Devjani P., Devikarani K. and Singh T.K.** (2011). Biodiversity, distribution and host range of the genus *Ephedrus* Haliday (Hymenoptera: Aphidiidae) in Manipur, N.E. India. *Journal of Experimental Sciences*. 2(9): 24-26.

188. **Singh R.** (2023a). Updated checklist of aphids (Homoptera: Aphididae) on the plants of the orders Celastrales, Malpighiales, Oxalidales and Zygophyllales (Angiosperms: Eudicots: Fabids) of flowering plants in India. *Munis Entomology and Zoology*. 18(2): in press.

189. **Singh R.** (2023b). Updated checklist of aphids infesting lamiids (Angiosperms: Eudicots: Asterids) flowering plants in India. *Munis Entomology and Zoology*. 18(2): in press.

190. **Singh R. and Agrawal R.** (2021). Diversity of aphids (Homoptera: Aphididae) infesting polygonaceous plants (Angiospermae: Caryophyllales: Polygonaceae) in India. *International Journal of Biological and Environmental Investigations*. 19(2): 159-172. 10.33745/ijbei.2021.v01i02.005.

191. **Singh R. and Agrawal R.** (2022a). An updated checklist of aphids (Homoptera: Aphididae) infesting brassica plants (Angiospermae: Brassicales: Brassicaceae) in India. *Journal of Applied Entomologist*. 2(2):14-19.

192. **Singh R. and Agrawal R.** (2022b). Association of the Aphids (Insecta:

Homoptera: Aphididae) with monocots flowering plants in India. *International Journal of Biological Innovations*. 4(2): 252-281. 10.46505/IJBI.2022.4203.

193. **Singh R. and Agrawal R.** (2023). Updated checklist of aphids (Insecta: Homoptera: Aphididae) infesting on plants of the order Lamiales (Angiospermae) in India. *Munis Entomology and Zoology*. 18(1): 342-365.

194. **Singh R. and Khan A.A.** (2022). Aphids (Insecta: Homoptera: Aphididae) infesting plants of the order Caryophyllales and Santalales (Eudicots: Superasterids: Angiospermae) in India. *International Journal of Entomology Research*. 7(9): 34-41.

195. **Singh R. and Singh G.** (2019). Species diversity of Indian aphids (Hemiptera: Aphididae). *International Journal of Biological Innovations*. 1(1): 23-29. 10.46505/IJBI.2019.1105.

196. **Singh R. and Singh G.** (2021). Aphids. In: *Polyphagous Pests of Crops* (ed. Omkar). Springer Nature Singapore, pp. 105-182.

197. **Singh R. and Singh G.** (2022a) Reproductive strategies in aphids. In: Reproductive Strategies in Insects (Eds. Omkar and Mishra G.), Taylor and Francis Group, LLC, pp. 259-282.

198. **Singh R. and Singh G.** (2022b). Diversity of aphids (Homoptera: Aphididae) infesting solanaceous plants (Angiospermae: Solanales: Solanaceae) in India. *International Journal of Biological Innovations*. 4(1): 189-204. 10.46505/IJBI.2022.4121.

199. **Singh R. and Singh G.** (2022c). Association of aphids with plants belonging to order Nymphaeales, Austrobaileyales, Laurales, Magnoliales and Piperales (Angiosperms) in India. *Journal of Applied Entomlologists*. 2(4): 54-60.

200. **Singh R. and Srivastava A.** (2022a). An updated checklist of aphids (Insecta: Homoptera: Aphididae) infesting plants of the orders Cornales and Ericales (Asterids: Eudicots: Angiosperms) in India. *International Journal of Biological Innovations*. 4(2): 349-367. 10.46505/IJBI.2022.4211.

201. **Singh R. and Srivastava A.** (2022b). Association of the aphids (Insecta: Homoptera: Aphididae) with pteridophytes and gymnosperms of India. *Journal of Applied Entomologists*. 2(4): 23-32.

202. **Singh R. and Srivastava A.** (2022c). Association of the aphids (Insecta: Homoptera: Aphididae) with basal and some core eudicots flowering plants in India. *International Journal of Entomology Research*. 7(9): 112-119.

203. **Singh R. and Srivastava A.** (2022d). Updated checklist of aphids infesting oaks, beeches and chestnuts (Fagaceae: Angiosperms) in India. *International Journal of Entomology Research*. 7(9): 141-147.

204. **Singh R., Singh G., Singh K. and Sharma A.** (2016). Biodiversity of aphids (Insecta: Homoptera: Aphididae) Iinfesting legumes (Angiospermae: Fabales: Fabaceae) in India. *International Journal of Research Studies in Zoology*. 2(1): 30-44. 10.20431/2454-941X.0201005.

205. **Singh R., Upadhyay B.S., Singh D. and Chaudhary H.S.** (1999). Aphids (Homoptera: Aphididae) and their parasitoids in north-eastern Uttar Pradesh. *Journal of Aphidology*. 13: 49-62.

206. **Singh S. and Kaur G.** (2017). Biodiversity of insect and mite pests infesting fig in the Indian Punjab. *Acta Horticulturae*. 1173: 257-262. 10.17660/ ActaHortic. 2017.1173.44.

207. **Singh T.K. and Raychaudhuri D.** (1987). Aphids and their coccinelid predators of fruit trees in Manipur, northeast India. *Journal of Aphidology*. 1: 78-79.

208. **Stary P. and Ghosh A. K.** (1975). Aphid parasites (Hymenoptera: Aphidiidae) from Meghalaya, India. *Oriental Insects*. 9: 343-349. 10.1080/00305316.1975.10434504.

209. **Stary P. and Ghosh A. K.** (1979). Redescription of *Trioxys nepalensis* (Takada) and new host records of some

aphid parasitoids (Hymenoptera: Aphidiidae) from Meghalaya, India. *Oriental Insects*. 13(1): 41-45. 10.1080/00305316.1979.10433540.

210. **Stary P. and Raychaudhuri D.N.** (1982). New aphid parasitoids (Hymenoptera: Aphidiidae) from northwestern India. *Oriental Insects*. 16: 297-304. 10.1080/00305316.1982.10434317.

211. **Subhrani S., Singh M.P. and Singh T.K.** (2006). Biodiversity of Aphidiine parasitoids (Hymenoptera: Braconidae) on certain crops in Manipur. *Journal of Aphidology*, 20: 1-4.

212. **Suman K. and Suman K.K.** (2017). Aphids on some medicinal plants in Salt Lake, Kolkata. *Bionotes*. 19(4): 149-150.

213. **Takada H. and Rishi N.D.** (1980). Records of fifteen species of Aphidiide (Hymenoptera) from Kashmir, India with descriptions of three new species. *Kontyu*. 48: 234-240.

214. **Tamilnayagan T., Suganthy M., Ganapathy N., Renukadevi P. and Malathi V.G.** (2017). Seasonal abundance of sucking pests of ash gourd (*Benincasa hispida*) (Thunb.) Cogn. in Tamil Nadu. *Journal of Entomology and Zoology Studies*. 5(3): 430-433.

215. **Verma A.K. and Prakash S.** (2020). Status of Animal Phyla in different Kingdom Systems of Biological Classification. *International Journal of Biological Innovations*. 2 (2): 149-154. https:/doi.org/10.46505/IJBI.2020.2211.

216. **Verma A.N., Khurana A.D. and Bhanot J.P.** (1975). Aphids of Hissar (Haryana). *Haryana Agricultural University Journal of Research*. 5: 11-14.

217. **Verma K.D.** (1969). A new genus, some species, a subspecies and some new records of aphids from N. W. India. *Science & Culture*. 35: 282-290.

218. **Verma K.D.** (1971). Additional records of Jammu and Kashmir aphids. *Science & Culture*. 37: 248-249.

219. **Verma K.D. and Mathur A.C.** (1966). First record of two species and males of *Lipaphis pseudobrassicae* Davis and *Protrama panecaceae* Stroyan (Homoptera: Aphididae) from India. *Indian Journal of Entomology*. 28: 277-278.

220. **Worberg A., Quandt D., Barniske A.M., Löhne C., Hilu K.W. and Borsch T.** (2007). Phylogeny of basal eudicots: insights from non-coding and rapidly evolving DNA. *Organisms, Diversity and Evolution*. 7(1): 55-77. 10.1016/j.ode.2006.08.001.