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STUDIES ON THE APHIDS (HOMOPTERA: APHIDIDAE) FROM SOUTH INDIA, I

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Abstract

RAYCHAUDHURI, D. N., GHOSH, D., RAYCHAUDHURI, D. and AGARWALA, B. K. 1981. Studies on the aphids (Homoptera: Aphididae) from South India, I. *Ins. matsum. n.s.* 23: 1–20.

This paper reports 43 aphid species distributed over 26 genera under 3 subfamilies. These aphid species include 13 new records for South India. Out of the reported species 8 are endemic to India.

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Contents

Introduction

During November-December 1978, a survey was conducted in South India jointly with Entomological Institute, Faculty of Agriculture, Hokkaidô University and Zoological Survey of India to collect insects of economic importance.

South India lies between 8° and 20°N latitude and 74° and 85°E longitude and comprises four states, viz., Andhra Pradesh, Tamil Nadu, Kerala and Karnataka. Of these states Tamil Nadu is the largest. The altitude of South India ranges upto 2000 meters. Major part of the area enjoys hot climate but in some places near the Nilgiri and Annamalai ranges the temperature during winter goes down appreciably. Being surrounded by sea on three sides the area enjoys precipitation twice a year, i.e., once during June-July and another during December-January.

According to Chatterjee (1960) the vegetation of South India can be grouped under two categories, i.e., Malabar and Deccan. In Malabar region the majority of the flora is of Malayan type and identical with that of Ceylon, while in Deccan area deciduous forests are conspicuous and evergreen types are noted on the coasts and the slopes. Besides the forests, the herbaceous vegetation in the area mostly belongs to Acanthaceae, Commelinaceae, Gramineae and Labiatae.

During the course of survey from different parts of South India a total of 201 samples of aphids were collected from 93 species of host plants under 40 families. As a result of examination of those materials 43 species of aphids distributed over

26 genera under 3 subfamilies could be recorded. Out of these aphid species 13 are new records for South India marked with '*' in Contents.

Prior to this work quite a few other authors (Fletcher, 1914, '20; George, 1924, '27; Krishnamurti, 1929, '31, '48; Theobold, 1929; David, 1953–'75 and David et al., 1967–'74; Krishnamurti and Usman, 1955; Raychaudhuri, 1956) worked with South Indian aphids. To minimize the space requirement the references cited above have been omitted from the list of references given at the end. Through these works 108 species of aphids distributed over 51 genera under 6 subfamilies have been known to occur in South India. These together with those reported here as new records bring the total number of species occurring in South India to 121 distributed over 55 genera under 6 subfamilies.

Material of all the species are in the collection of Entomology Laboratory, Department of Zoology, Calcutta University and Entomological Institute, Faculty of Agriculture, Hokkaidô University.

Systematics

Aphis craccivora Koch

Aphis craccivora Koch, 1854. Die Pflanzenläuse: 124.
Aphis medicaginis Koch; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1929. J. Bom. nat. Hist. Soc. 33(1): 211–215.
Aphis laburni Kalt.; Krishnamurti, 1948. Indian J. Ent. 10 (1): 51–55.

Collection data: One greenish yellow aptera from ? *Holoptelea integrifolia* (Ulmaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 6 blackish apteroid nymphs from an unidentified host, Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 4 yellowish apterae and 5 nymphs from an unidentified host, Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 3 blackish apterae and 6 nymphs from *Mimosa* sp. (Leguminosae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 1 brownish aptera and 1 alata from ? *Ipomoea* sp. (Convolvulaceae), Palghat (Kerala), *c* 900 m, 7. xii. 78; 1 blackish aptera and 2 nymphs from an unidentified host, Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 yellowish aptera from *Boerhaavia repens* (Nyctaginaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: Cosmopolitan.

Remark: George (1927) reported *Aphis rumicis* L. from South India. Krishnamurti (1948) reported another species, *Anuraphis cynariella* Theob., from South India. David (1956b) considered both the species as conspecific with *Aphis craccivora* Koch. Eastop and Lambers (1976) in their book "Survey of World's aphids" did not include the above mentioned synonymy. So the names of *Aphis rumicis* and *Anuraphis cynariella* have been deleted from the synonymy list.

This species affects a number of host plants, particularly leguminous ones. Previously recorded host plant families for this species in South India were Amaranthaceae, Capparidaceae, Chenopodiaceae, Compositae, Leguminosae, Nyctaginaceae, Solanaceae and Zygophyllaceae.

Aphis fabae complex

Aphis fabae Scopoli, 1763 (partim). Entomologia Carniolica 136.
Aphis evonymi Fabricius; David, 1958. Indian J. Ent. 19 (3): 171–180.

Collection data: One yellowish aptera and 4 nymphs from *Eupatorium odoratum*

(Compositae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 2 pale greenish apterae and 1 alata from ? *Debregeasia* sp. (Urticaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78.

Distribution: Virtually cosmopolitan.

Remark: Eastop and Lambers (1976) considered *Aphis evonymi* Fabricius reported by David (1958c) as a synonym of *Aphis fabae* Scopoli.

Previously in South India, plants belonging to families Caprifoliaceae, Celastraceae, Chenopodiaceae, Philadelphiaceae, Saxifragaceae, and Solanaceae (David, 1958b, 1958c) were recorded as host plants for this aphid.

Aphis gossypii complex

Aphis gossypii Glover, 1877 (partim). Rept. Comm. Agr. Operations dept. for 1876, 36.

Aphis tridacis Theobald; Krishnamurti, 1931. J. Bom. nat. Hist. Soc. 34(2): 411–419; David, 1956. Indian J. Ent. 18(2): 141–145.

Aphis malvoides Das; Krishnamurti, 1948. Indian J. Ent. 10(1): 51–53.

Collection data: Six brownish and greenish apterae and 3 nymphs from *Bidens pilosa* (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 13 blackish apterae and 2 alatae from *Hibiscus* sp. (Malvaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 2 brownish apterae from *Artemisia* sp. (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 2 blackish alatae from *Colocasia* sp. (Araceae), Mudumalai (Tamil Nadu), *c* 1042 m, 27. xi. 78; 1 yellowish alata and 2 nymphs from *Commelina* sp. (Commelinaceae), Mudumalai (Tamil Nadu), *c* 1042 m, 27. xi. 78; 2 yellowish alatae from *Eupatorium odoratum* (Compositae), Mudumalai (Tamil Nadu), *c* 1042 m, 27. xi. 78; 2 brownish alatae, *Nerium odorum* (Apocynaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 2 yellowish apterae from *Osbeckia capitata* (Melastomataceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 2 yellowish apterae and 1 nymph from *Ageratum conyzoides* (Compositae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78; 3 greenish brown apterae and 8 nymphs from *Eclipta alba* (Compositae), Sevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 4 brownish apterae and 2 nymphs from *Tridax procumbens* (Compositae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 2 yellowish alatae from *Ficus* sp. (Moraceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 1 greenish aptera from *Rosa cania* (Rosaceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 6 brownish apterae and 1 alata from *Psidium guajava* (Myrtaceae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 9 yellowish apterae from *Solanum torvum* (Solanaceae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 1 blackish green alata from an unidentified host, Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 1 brownish alata from *Ageratum conyzoides* (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 1 yellowish aptera and 6 nymphs from *Helicteres isora* (Sterculiaceae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 6 greenish yellow apterae and 4 nymphs from *Lantana camara* (Verbenaceae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 7 yellowish apterae from *Anona* sp. (Anonaceae), Annamalai (Tamil Nadu), *c* 900 m, 4. xii. 78; 3 yellowish apterae and 2 nymphs from *Tectona grandis* (Verbenaceae), Annamalai (Tamil Nadu), *c* 900 m, 4. xii. 78; 5 light yellowish apterae and 1 nymph from *Achyranthes aspera* (Amaranthaceae), Dhoni Hill (Kerala), *c* 450 m, 7. xii. 78; 2 greenish brown alatae from an unidentified host (Apocynaceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 1 blackish green aptera and 2 alatae from *Terminalia arjuna* (Combretaceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 3 greenish yellow apterae, 1 alata and 3

nymphs from *Eupatorium odoratum* (Compositae), Dhoni Hill (Kerala), *c* 450 m, 7. xii. 78; 3 brownish alatae from *Eupatorium odoratum* (Compositae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 1 brownish alata from *Ocimum* sp. (Labiatae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 2 greenish alatae from *Ludwigia peruviana* (Onagraceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 1 greenish aptera and 1 nymph from *Commelina* sp. (Commelinaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 2 brownish apterae, 1 alata and 6 nymphs from *Tridax procumbens* (Compositae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 2 brownish alatae from *Bridelia* sp. (Euphorbiaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 4 yellowish apterae, 1 alata and 3 nymphs from *Solanum torvum* (Solanaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 2 blackish brown apterae from an unidentified host, Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 1 blackish aptera and 1 nymph from an unidentified host, Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 yellowish alata from an unidentified host (Urticaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 1 yellowish green aptera from *Stenosiphonium parviflorum* (Acanthaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 8 brownish yellow apterae and 2 alatae from *Calotropis procera* (Asclepiadaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 8 yellowish apterae and 4 alatae from an unidentified host, Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 2 brownish apterae and 2 alatae from *Tridax procumbens* (Compositae), Mudumalai (Tamil Nadu), *c* 1042 m, 11. xii. 78.

Distribution: Virtually cosmopolitan.

Remark: Eastop and Lambers (1976) considered *Aphis malvoides* of Das and *Aphis tridacis* Theobald reported by various workers from South India as conspecific with *Aphis gossypii*.

This species is highly polyphagous, infesting host plants belonging to very distantly related plant families.

Aphis nasturtii Kaltenbach

Aphis nasturtii Kaltenbach, 1843. Mon. der Fam. der Pflanzenläuse, 76.

Collection data: Two greenish yellow apterae and 3 nymphs from *Tectona grandis* (Verbenaceae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Meghalaya, Nagaland, Sikkim, South India, West Bengal; America; Europe; Middle East; Pakistan; and Taiwan.

Remark: This paper reports *Aphis nasturtii* Kaltenbach for the first time from South India, though David (1958b) presumed its occurrence in South India.

Aphis ruborum longisetosa Basu

Aphis ruborum longisetosus Basu, A.N. 1969, Orient. Insects 3(4): 356.

Collection data: Six reddish apterae and 1 alata from *Rubus ellipticus* (Rosaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 10 reddish apterae and 4 alatae from *Rubus ellipticus* (Rosaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Meghalaya, Nagaland, Sikkim, South India and West Bengal.

Remark: This species was so far not known from South India.

Aphis spiraecola Patch

Aphis spiraecola Patch, 1914. Bull. Maine Agr. Exp. Stn. 233–276.

Aphis bidentis Theobald; Krishnamurti, 1931. J. Bom. nat. Hist. Soc. 34(2): 411–419; David, 1956. Indian J. Ent. 18(2): 141–145.

Aphis pomi De Geer; Krishnamurti, 1948. Indian J. Ent. 10(1): 51–55.

Aphis malvoides v.d. Goot; David, 1958. Indian J. Ent. 19(3): 171–180; 1958. J. Bom. nat. Hist. Soc. 55: 110–116.

Collection data: Five yellowish apterae and 1 nymph from *Eupatorium odoratum* (Compositae), Mudumalai (Tamil Nadu), *c* 1042 m, 27. xi. 78; 7 yellowish apterae, 1 alata and 3 nymphs from *Bidens pilosa* (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 12 greenish apterae and 1 nymph from *Bidens pilosa* (Compositae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 1 yellowish alata from an unidentified host, Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 7 yellowish apterae and 1 nymph from *Eupatorium* sp. (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 1 yellowish green alata from ? *Sida rhombifolia* (Malvaceae), Annamalai (Tami Nadu), *c* 900 m, 3. xii. 78; 1 blackish green alata from ? *Terminalia arjuna* (Combretaceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 1 blackish alata from an unidentified host, Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 5 yellowish apterae and 4 alatae from *Bauhinia* sp. (Leguminosae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 yellowish aptera and 1 alata from ? *Salvia coccinea* (Labiatae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 brownish alata from ? *Bridelia* sp. (Euphorbiaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 yellowish green alata from *Solanum* sp. (Solanaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 2 yellowish apterae from an unidentified host (Urticaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 7 yellowish and 2 greenish apterae and 6 yellowish alatae from unidentified hosts, Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78.

Distribution: India: all over; Africa; Australia; Bermuda Island; Ceylon; China; Nepal; New Zealand; North America; Pakistan; and Syria.

Remark: Higuchi and Miyazaki (1969) pointed out that *Aphis pomi* De Geer and *Aphis spiraecola* Patch were synonymous. Eastop and Lambers (1976) opined that *Aphis bidentis* Theobald, *A. malvoides* v. d. Goot and *A. spiraecola* Patch are synonymous.

This species has been previously reported from plants of Anonaceae, Compositae and Rosaceae from South India. The present paper extends its range of plant families to Combretaceae, Euphorbiaceae, Labiatae, Leguminosae, Malvaceae, Solanaceae and Urticaceae.

Hysteroneura setariae (Thomas)

Siphonophora setariae Thomas, 1878. Bull. Illinois State Lab. Nat. Hist. 2: 5.

Collection data: One brownish aptera and 2 nymphs from *Ischaemum nilagiricum* (Gramineae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 1 brownish aptera from ? *Tridax procumbens* (Compositae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 7 brownish apterae, 1 alata and 2 nymphs from *Eleusine coracana* (Gramineae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 2 brownish apterae, 1 alata and 1 nymph from *Paspalum* sp. (Gramineae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 4 blackish and 4 greenish apterae, 1 blackish alata and 1 blackish and 2 greenish nymphs from an unidentified host (Gramineae), Annamalai (Tamil Nadu),

c 900 m, 2. xii. 78; 1 brownish aptera, 2 alatae and 1 nymph from *Eragrostis tenuifolia* (Gramineae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 6 brownish apterae and 3 alatae, *Paspalum* sp. (Gramineae); Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 3 brownish apterae, 3 alatae and 1 nymph from *Apluda mutica* (Gramineae), Annamalai Hill (Tamil Nadu), *c* 800 m, 5. xii. 78; 3 brownish apterae, 2 alatae and 3 nymphs from *Spodiopogon rhizophorus* (Gramineae), Palghat (Kerala), *c* 900 m, 7. xii. 78; 7 blackish brown alatae from *Aristida depressa* (Gramineae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 2 blackish alatae from *Setaria verticillata* (Gramineae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 5 blackish brown apterae and 5 alatae from *Sporobolus dianden* (Gramineae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 3 blackish apterae from ? *Plumbago zeylanica* (Plumbaginaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 1 blackish brown alata and 1 nymph from ? *Stachytarpheta* sp. (Verbenaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 2 greenish yellow alatae and 3 nymphs from ? *Stenosiphonium parviflorum* (Acanthaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 1 brownish aptera from *Saccharum officinarum* (Gramineae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 4 brownish apterae and 1 nymph from an unidentified host (Gramineae), Mudumalai (Tamil Nadu), *c* 1042 m, 11. xii. 78.

Distribution: India: all over; Africa; America; Japan; Korea; Philippines; and Taiwan.

Remark: In South India this species was so far known to occur on members of Cyperaceae and Gramineae. During the course of present collection some specimens could be collected on the members of the plant families Acanthaceae, Compositae, Plumbaginaceae and Verbenaceae besides its usual hosts. These plant families are reported as doubtful ones.

Melanaphis sacchari (Zehntner)

Aphis sacchari Zehntner, 1897. Arch. Suikerind. Ned. Ind. 5: 551; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1929. J. Bom. nat. Hist. Soc. 33(1): 211–215.

Longiunguis indosacchari David, 1956. Indian J. Ent. 18(1): 1–9.

Longiunguis sacchari (Zehntner); David, 1958. Indian J. Ent. 19(3): 171–180.

Melanaphis (Longiunguis) indosacchari (David); David, Rajasingh and Narayanan, 1968. J. Bom. nat. Hist. Soc. 65(2): 508–512.

Collection data: Eight brownish apterae from *Saccharum officinarum* (Gramineae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: Cosmopolitan.

Remark: Raychaudhuri and Banerjee (1974) opined that *Longiunguis* and *Melanaphis* are congeneric. They (op. cit.) further stated that *Longiunguis indosacchari* of David should become a synonym of *Melanaphis sacchari* (Zehntner).

In South India this species is reported only from a few graminaceous host plants.

Rhopalosiphum maidis (Fitch)

Aphis maidis Fitch, 1856. Trans. New York Agr. Soc. 15: 531; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1929. J. Bom. nat. Hist. Soc. 33(1): 211–215.

Collection data: One blackish green aptera from ? *Terminalia arjuna* (Combretaceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78.

Distribution: Cosmopolitan.

Remark: David (1956b, 1958c) recorded this species on some graminaceous host plants. However, the present record of the species on a plant belonging to Combretaceae appears to be a chance occurrence.

Toxoptera aurantii (Boyer de Fonscolombe)

Aphis aurantii Boyer de Fonscolombe, 1841. Ann. Ent. Soc. France 10: 178.

Collection data: One greenish alata from ? *Aster* sp. (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 1 greenish brown alata from *Coffea arabica* (Rubiaceae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 2 blackish brown apterae and 4 alatae from *Symplocos* sp. (Symplocaceae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78; 1 blackish alata from an unidentified host, Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 2 brownish apterae from ? *Tamarindus* sp. (Leguminosae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 1 brownish alata and 2 nymphs from *Maesa* sp. (Myrsinaceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78; 1 yellowish aptera from ? *Helicteres isora* (Sterculiaceae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 6 brownish apterae, 2 alatae and 3 nymphs from an unidentified host, Palghat (Kerala), *c* 900 m, 7. xii. 78; 2 blackish green apterae and 3 nymphs from *Ixora macrothyrsa* (Rubiaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 1 brownish aptera and 1 nymph from ? *Grewia* sp. (Tiliaceae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78; 1 greenish and 1 yellowish aptera and 7 yellowish nymphs from an unidentified host, Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 1 blackish alata from an unidentified host (Euphorbiaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 1 blackish aptera and 3 alatae from *Coffea arabica* (Rubiaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 1 yellowish alata from an unidentified host, Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: Virtually cosmopolitan.

Remark: This is one of the extremely polyphagous species occurring widely all over India. In South India this species has been known to infest plants of 14 families (George, 1927; Krishnamurti, 1929, 1931, 1948; David, 1956b, 1958a, 1958c). The plant families reported here with ? mark appear to be doubtful hosts.

Toxoptera citricidus (Kirkaldy)

Myzus citricidus Kirkaldy, 1907. Proc. Hawaii ent. Soc. 1: 100.

Aphis traversi Del Guercio; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1929. J. Bom. nat. Hist. Soc. 33(1): 211–215.

Collection data: Five blackish apterae and 1 alata from *Citrus* sp. (Rutaceae), Katari (Tamil Nadu), *c* 1800 m, 30. xi. 78; 1 blackish alata from ? *Pithecellobium saman* (Leguminosae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 15 yellowish apterae from *Ipomoea staphylina* (Convolvulaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xi. 78.

Distribution: Cosmopolitan.

Remark: *Aphis traversi* Del Guercio reported by George (1927) and Krishnamurti (1929) is a synonym of *Toxoptera citricidus* (Kirkaldy) [vide Eastop and Lambers, 1976].

This species is a common parasite of citrus plants in India.

Toxoptera odinae (van der Goot)

Longiunguis odinae van der Goot, 1917. Contrib. Faune Indes Neerl. 1(3): 113.
Aphis odinae (van der Goot); George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1931. J. Bom. nat. Hist. Soc. 34(2): 411–419.

Collection data: Five blackish apterae from *Coffea arabica* (Rubiaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: all over; Ceylon; China; Indonesia; Japan; Korea; Malaya; Nepal; Philippines; South America; and Taiwan.

Remark: Ghosh (1974) while considering *Aphis odinae* reported by George (1927) as a synonym of *Toxoptera odinae* wrongly mentioned v. d. Goot as the author of *Aphis odinae* since v. d. Goot (1917) first published the species as *Longiunguis odinae*.

The species was so far known to occur on some plants of families Anacardiaceae, Araliaceae, Malvaceae, Rubiaceae and Zapotaceae (George, 1927; Krishnamurti, 1931; David, 1956b, 1958a, 1958c).

Akkaia bengalensis Basu

Akkaia bengalensis Basu, 1967. Bull. Ent. Soc. Ind. 8(2): 143.

Collection data: Thirtyfive yellowish apterae and 3 alatae from *Polygonum alatum* (Polygonaceae), Dodda Betta (Tamil Nadu), *c* 2638 m, 24. xi. 78; 1 yellowish aptera from *Polygonum* sp. (Polygonaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 7 yellowish apterae and 1 nymph from *Polygonum* sp. (Polygonaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 1 greenish aptera and 1 nymph from ? *Raphanus sativus* (Cruciferae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78.

Distribution: India: Meghalaya, Sikkim, South India and West Bengal.

Remark: The species under the genus *Akkaia* usually infest plants of Polygonaceae. Agarwala and Raychaudhuri (1977) while describing *Akkaia sikkimensis* from Sikkim reported *Raphanus sativus* (Cruciferae) as host plant. In South India also it appears that *Akkaia* species can occur on cruciferous plant. But in view of having only 2 specimens the plant is reported doubtfully as host plant.

Aulacorthum magnoliae (Eassig & Kuwana)

Rhopalosiphum magnoliae Essig and Kuwana, 1918. Proc. California Acad. Sci. 8: 59.

Collection data: Three greenish apterae and 1 alata from *Fuchsia* sp. (Onagraceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 5 yellowish apterae from *Cestrum* sp. (Solanaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 14 greenish apterae from *Verbena* sp. (Verbenaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78.

Distribution: India: Meghalaya, Sikkim, South India, West Bengal; Japan; and Korea.

Remark: The species is a new record for South India.

Aulacorthum solani (Kaltenbach)

Aphis solani Kaltenbach, 1843. Mon. der Fam. der Pflanzenläuse, 15.

Collection data: Two greenish apterae from ?*Calla* sp. (Araceae), Coonoor (Tamil Nadu), ĉ 1850 m, 23. xi. 78; 1 blackish green aptera and 1 alata from *Helichrysum bracheatum* (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 2 blackish green apterae from *Solanum tuberosum* (Solanaceae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78; 4 greenish apterae from *Solanum verbascifolium* (Solanaceae), Katari (Tamil Nadu), *c* 1800 m, 30. xi. 78; 1 greenish aptera and 4 nymphs from ? *Lobelia* sp. (Campanulaceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78.

Distribution: Virtually cosmopolitan.

Remark: David (1958a, 1958b) reported this species infesting some plants of Compositae and Scrophulariaceae. As a result of present collection host range of this species has been extended further to some more plant families, e.g., Araceae, Campanulaceae and Solanaceae.

Brachycaudus helichrysi (Kaltenbach)

Aphis helichrysi Kaltenbach, 1843. Mon. der Fam. der Pflanzenläuse, 102.
Anuraphis helichrysi Kaltenbach; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12.

Collection data: Eleven greenish yellow apterae from *Helichrysum bracheatum* (Compositae), Dodda Betta (Tamil Nadu), *c* 2638 m, 26. xi. 78; 5 greenish apterae and 1 nymph from *Ageratum conyzoides* (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 14 blackish green apterae from *Helichrysum bracheatum* (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 2 greenish apterae, 1 alata and 1 nymph from *Hypochoeris glabra* (Compositae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78; 1 blackish alata from ? *Asclepias curassavica* (Asclepidaceae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 1 yellowish aptera from *Eupatorium odoratum* (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 8 greenish apterae, 2 alatae and 13 nymphs from *Gynura nepalensis* (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 2 brownish apterae and 1 alata from *Ageratum conyzoides* (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 3. xii. 78; 8 blackish yellow apterae from *Ageratum conyzoides* (Compositae), Annamalai (Tamil Nadu), *c* 900 m, 4. xii. 78; 3 yellowish alatae from an unidentified host, Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: Virtually cosmopolitan.

Remark: Eastop and Lambers (1976) considered *Anuraphis helichrysi* Kaltenbach as a synonym of *Brachycaudus helichrysi* (Kaltenbach).

In South India this species chiefly infests plants of family Compositae. A solitary alata could be collected on *Asclepias curassavica*. The alata appears to be a vagrant one.

Capitophorus hippophaes javanicus Hille Ris Lambers

Capitophorus hippophaes javanicus Hille Ris Lambers, 1953. Temmenckia 9: 156.

Collection data: Eleven pale greenish apterae, 3 alatae and 1 nymph from *Polygonum barbatum* (Polygonaceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Sikkim, South India, Uttar Pradesh, West Bengal; Australia; China;

Europe; Indonesia; Japan; Korea; New Zealand; Pakistan; and Taiwan.

Remark: This species is a new record from South India. However, the species is known from North India (Basu and Raychaudhuri, 1976).

Dactynotus (Uromelan) carthami Hille Ris Lambers

Dactynotus carthami Hille Ris Lambers, 1948. Trans R. ent. Soc. Lond. 99: 276; David, 1956. Madras agric. J. 43(3): 103–107.

Collection data: Sixteen brownish apterae from an unidentified host (Compositae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78.

Distribution: India: South India; East Africa; Israel; and U.S.S.R.

Remark: In India distribution of this species is restricted to South India only (David, 1956b).

Lipaphis erysimi (Kaltenbach)

Aphis erysimi Kaltenbach, 1843. Mon. der Fam. der Pflanzenläuse, 99.
Rhopalosiphum pseudobrassicae Davis; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12; Krishnamurti, 1929. J. Bom. nat. Hist. Soc. 33(1): 211–215.

Collection data: Two greenish apterae from *Raphanus sativus* (Cruciferae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78.

Distribution: India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Rajasthan, Sikkim, South India, Tripura, Uttar Pradesh, West Bengal; Bhutan; Nepal; and virtually cosmopolitan.

Remark: *Rhopalosiphum pseudobrassicae* Davis reported by George (1927) and Krishnamurti (1929) from South India has been treated by Behura (1963) as a synonym of *Lipaphis erysimi* (Kaltenbach).

It is well known as 'mustard aphid' infesting cruciferous crops all over the world. In South India incidence of this species has been noticed on most of the cruciferous plants (George, 1927; Krishnamurti, 1929; David, 1958d).

Macrosiphoniella pseudoartemisiae Shinji

Macrosiphoniella pseudoartemisiae Shinji, 1933. Kontyû 7 (5 & 6): 216.

Collection data: Three brownish apterae and 2 nymphs from *Artemisia* sp. (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 1 greenish brown aptera and 2 nymphs from *Artemisia* sp. (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78.

Distribution: India: Kuti Valley, Meghalaya, Sikkim, South India, Uttar Pradesh, West Bengal; Bhutan; China; Japan; and Korea.

Remark: It is the first report of this species from South India.

Macrosiphum rosae (Linnaeus)

Aphis rosae Linnaeus, 1758. Syst. Nat. 1(10th ed.): 452.

Collection data: One reddish aptera and 4 nymphs from ? *Bignonia* sp. (Bignoniaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 8 brownish apterae from *Cheilanthes* sp. (Polypodiaceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78.

Distribution: India: Arunachal Pradesh, Assam, Himachal Pradesh, Manipur, Meghalaya,, Sikkim, South India, Uttar Pradesh, West Bengal; and virtually cosmopolitan.

Remark: This species is known to alternate between plants of Rosaceae and Gramineae. The present collection of this species on some plants of Bignoniaceae appears doubtful in view of having a few specimens.

Macrosiphum (*Sitobion*) *indicum* (Basu)

Sitobion indicum Basu, A.N. 1964. J. Linn. Soc. (zool.) **45** (305): 203.

Collection data: Two greenish brown apterae and 3 nymphs from *Anthoxanthum odoratum* (Gramineae), Dodda Betta (Tamil Nadu), *c* 2638 m, 24. xi. 78; 1 reddish brown aptera from ? *Leucas* sp. (Labiatae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 7 light brownish apterae and 2 alatae from *Pennisetum polystachyum* (Gramineae), Palghat (Kerala), *c* 900 m, 7. xii. 78; 2 brownish apterae from ? *Ocimum* sp. (Labiatae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 2 brownish alatae from ? *Ficus* sp. (Moraceae), Palghat (Kerala), *c* 900 m, 7. xii. 78; 1 greenish alata from ? *Ludwigia peruviana* (Onagraceae), Silent Valley (Kerala), *c* 250 m, 7. xii. 78; 3 yellowish apterae and 2 alatae from an unidentified host, Palaghat (Kerala), *c* 900 m, 7. xii. 78; 13 greenish apterae and 2 nymphs from an unidentified host (Euphorbiaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Meghalaya, Sikkim, South India, Uttar Pradesh and West Bengal.

Remark: This species is a new record for South India.

Macrosiphum (*Sitobion*) *miscanthi* Takahashi

Macrosiphum miscanthi Takahashi, 1921. Aphididae of Formosa 1: 8.

Macrosiphum elusinae Theobald; Krishnamurti, 1931. J. Bom. nat. Hist. Soc. 34(2): 411–419; David, 1956. Indian J. Ent. 18(2): 141–145.

Macrosiphum (*Sitobion*) *avenae* ssp. *elusinae* (Theobald); David 1956. Madras Agric. J. 43(3): 103–107; 1958. Indian J. Ent. 19(4): 289–299.

Macrosiphum (*Sitobion*) *africanum* Hille Ris Lambers; David, 1958. Indian J. Ent. 19(4): 289–299.

Collection data: 4 greenish apterae from ? *Bridelia* sp. (Euphorbiaceae), Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78.

Distribution: India: all over; Australia; China; Europe; and Taiwan.

Remark: David (1975) has treated *Macrosiphum elusinae* Theobald reported from South India by Krishnamurti (1931) and David (1956a) as a synonym of *M.* (*S.*) *miscanthi* Takahashi. In the same publication *M* (*S.*) *avenae* ssp. *elusinae* (Theobold) and *M.* (*S.*) *africanum* Hille Ris Lambers reported from South India by David (1956b, 1958d) have been considered synonymous of *M.* (*S.*) *miscanthi* Takahashi.

This species usually infests graminaceous plants. In South India David (1956a, 1956b, 1958d) reported this species infesting some graminaceous hosts but the present collection from a euphorbiaceous plant is looked upon as accidental occurrence.

Macrosiphum (Sitobion) rosaeiformis Das

Macrosiphum rosaeiformis Das, 1918. Mem. Indian Mus. 6(4): 158; George, 1927. J. & Proc. Asiat. Soc. Bengal 23: 1–12.

Collection data: Six greenish apterae and 6 alatae from an unidentified host (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78.

Distribution: India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, South India, Uttar Pradesh, West Bengal; Nepal; and Pakistan.

Remark: This is for the first time that the species is noticed to form colony on a plant of Compositae.

Matsumuraja capitophoroides Hille Ris Lambers

Matsumuraja capitophoroides Hille Ris Lambers, 1966. Tijdschr. Ent. 109(8): 215.

Collection data: One greenish aptera and 2 nymphs from *Rubus ellipticus* (Rosaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 4 blackish green apterae and 3 nymphs from *Rubus rosaefolia* (Rosaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 7 whitish apterae from *Rubus rugosus* (Rosaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 22 greenish apterae from *Rubus rosaefolia* (Rosaceae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Sikkim, South India, Uttar Pradesh, West Bengal; and Pakistan.

Micromyzodium filicium David

Micromyzodium filicium David, 1958. Indian J. Ent. 20(3): 176.

Collection data: Ten blackish brown apterae and 1 nymph from *Adiantum cuncipinulum* (Adiantaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 3 brownish apterae from an unidentified fern, Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78.

Distribution: India: Himachal Pradesh, Meghalaya, South India and Uttar Pradesh.

Remark: Fern is known to be the most suitable host for this aphid species in South India, though David et al. (1968) could also get this species from prime rose (Primulaceae).

Micromyzus nigrum van der Goot

Micromyzus nigrum van der Goot, 1917. Contrib. Faune Indes Neerl. 1(3): 53.

Collection data: Nine brownish apterae and 1 nymph from an unidentified fern, Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: Sikkim, South India, West Bengal; and Indonesia.

Remark: This species is reported for the first time from South India.

Myzus dycei Carver

Myzus dycei Carver, 1961. Proc. R. Ent. Soc. London (B) 30: 69.

Collection data: Twelve greenish apterae and 4 nymphs from an unidentified host, Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Meghalaya, Sikkim, South India, West Bengal; Australia; China; Japan; and Nepal.

Remark: This species is a new record for South India.

Myzus ornatus Laing

Myzus ornatus Laing, 1932. Ent. Mon. Mag. 68: 52.

Collection data: Six yellowish apterae from *Justicia simplex* (Acanthaceae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 1 greenish aptera from an unidentified host (Compositae), Pykara (Tamil Nadu), *c* ?, 28. xi. 78; 7 greenish apterae from *Aster* sp. (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78.

Distribution: India: all over; and virtually cosmopolitan.

Remark: In South India this species has for the first time been collected from a plant of Acanthaceae.

Myzus persicae (Sulzer)

Aphis persicae Sulzer, 1776. Abgekung, gesh. Ins. 105.

Myzus (*Nectarosiphon*) *persicae* (Sulzer); David, 1968. J. Bom. nat. Hist. Soc. 65(2): 508–512.

Collection data: One light greenish alata from *Raphanus sativus* (Cruciferae), Kotagiri (Tamil Nadu), *c* ?, 29. xi. 78.

Distribution: India: all over; and virtually cosmopolitan.

Myzus siegesbeckicola Strand

Myzus siegesbeckicola Strand, 1929. Acta Univ. Latviensis 20: 22.

Collection data: Three pale greenish apterae from *Verbena* sp. (Verbenaceae), Coonoor (Tamil Nadu), *c* 1850, 23. xi. 78; 2 yellowish apterae and 1 nymph from ? *Tecoma capensis* (Bignoniaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 2 light greenish apterae and 1 nymph from *Artemisia* sp. (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 18 yellowish green apterae from *Helianthus annuus* (Compositae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 1 reddish brown aptera from ? *Leucas* sp. (Labiatae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 18 yellowish apterae from *Lantana camara* (Verbenaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78; 5 greenish apterae from *Aster* sp. (Compositae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78.

Distribution: India: Meghalaya, South India, West Bengal; Indonesia; Japan; Korea; and Taiwan.

Remark: This species is a new record for South India.

Neomyzus circumflexus (Buckton)

Siphonophora circumflexus Buckton, 1876. Monograph of the British Aphides 1:130.

Aulacorthum (*Neomyzus*) *circumflexus* (Buckton); David, 1958. J. South Indian Horticulture 6(2): 67–74.

Collection data: Two light greenish apterae and 2 nymphs from *Tropaeolum majus* (Tropaeolaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78.

Distribution: India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, South India, Uttar Pradesh, West Bengal; and virtually cosmopolitan.

Remark: In North India, this species is known to infest a wide range of host plants. However, in South India this species has been recorded from plant families of Liliaceae (David, 1958b) and Tropaeolaceae.

Rhodobium porosum (Sanderson)

Myzus porosum Sanderson, 1901. Ann. Report, Delaware Coll. Agric. Expt. Sta. 12: 205.

Collection data: Two brownish apterae from ? *Tridax procumbens* (Compositae), Shevaroy Hill (Tamil Nadu), *c* 1500 m, 1. xii. 78.

Distribution: India: Meghalaya, South India, West Bengal; and virtually cosmopolitan.

Remark: The usual host plants of this species are the members of the family Rosaceae. The find of this species on a plant of Compositae is rather unusual. The plant is reported as a host with ? mark till successful transfer experiments in future are taken up.

Vesiculaphis verbasci Chowdhuri, Basu, Chakrabarti and Raychaudhuri

Vesiculaphis verbasci Chowdhuri, Basu, Chakrabarti and Raychaudhuri, 1969. Orient. Insects 3(1): 90.

Collection data: Nine pale greenish apterae and 1 nymph from an unidentified host, Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 3 greenish apterae and 2 nymphs from *Amaranthus* sp. (Amaranthaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78.

Distribution: India: Arunachal Pradesh, Himachal Pradesh, Manipur, Meghalaya, Nagaland, Sikkim, South India, Uttar Pradesh and West Bengal.

Remark: The species is a new record for South India.

Schoutedenia lutea (van der Goot)

Setaphis luteus van der Goot, 1917. Contrib. Faune Indes Neerl. 1(3): 154.

Collection data: One yellowish aptera, 1 alata and 5 nymphs from an unidentified host (Euphorbiaceae), Mudumalai (Tamil Nadu), *c* 1042 m, 11. xii. 78.

Distribution: India: Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Meghalaya, Nagaland, Sikkim, South India, Uttar Pradesh, West Bengal; Africa; Australia; and Indonesia.

Sumatraphis celti Takahashi

Sumatraphis celti Takahashi, 1935. Misc. Zool. Sumatrana 97: 3.

Collection data: Five greenish alatae from *Mallotus* sp. (Euphorbiaceae), Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 1 greenish alata from an unidentified host, Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 5 brownish apterae, 1 alata and 11 nymphs from an unidentified host, Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78; 7 greenish brown apterae, 1 alata and 1 nymph from *Celtis tetranda*

(Ulmaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: Meghalaya, South India, West Bengal; and Sumatra.

Remark: This species was not so far known from South India.

Eutrichosiphum davidi Raychaudhuri

Eutrichosiphum davidi Raychaudhuri, 1956. Zool. Verhl. 31: 11.

Collection data: Two yellowish apterae and 19 nymphs from *Quercus rubra* (Fagaceae), Dodda Betta (Tamil Nadu), *c* 2638 m, 24. xi. 78.

Distribution: India: Sikkim and South India.

Remark: This is the second record of this species from South India since the publication by Raychaudhuri (1956).

Eutrichosiphum (*Neoparatrichosiphum*) *raychaudhurii* (Ghosh)

Paratrichosiphum (*Neoparatrichosiphum*) *raychaudhurii* Ghosh, 1969. Proc. Zool. Soc. Calcutta 22: 124.

Collection data: One light greenish aptera from ? *Eugenia* sp. (Myrtaceae), Coonoor (Tamil Nadu), *c* 1850 m, 26. xi. 78.

Distribution: India: Sikkim, South India and West Bengal.

Remark: This species is newly reported from South India.

Greenidea artocarpi (Westwood)

Siphonophora artocarpi Westwood, 1890. Trans. Ent. Soc. London 4: 649.

Collection data: Five brownish apterae and 1 alata from *Artocarpus vulgaris* (Moraceae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 22 brownish apterae and 5 nymphs from *Artocarpus vulgaris* (Moraceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: Meghalaya, South India; Ceylon; and East China.

Greenidea ficicola Takahashi

Trichosiphum formosanum Maki (partim), 1916. Coll. Essays for Nawa, Gifu, 13.

Collection data: Two greenish apterae from an unidentified host, Naduvattum (Tamil Nadu), *c* ?, 29. xi. 78; 22 brownish apterae and 1 alata from *Psidium guajava* (Myrtaceae), Annamalai (Tamil Nadu), *c* 900 m, 2. xii. 78; 3 brownish alatae from *Ficus* sp. (Moraceae), Palghat (Kerala), *c* 900 m, 7. xii. 78.

Distribution: India: Sikkim, South India, Uttar Pradesh, West Bengal; Australia; East China; Indonesia; Malaya; Taiwan; and U.S.S.R.

Remark: Raychaudhuri (1956) reported this species for the first time from South India. Find of the above species from Myrtaceae extends its host range.

Greenidea (*Trichosiphum*) *formosana heeri* Raychaudhuri, Ghosh, Banerjee and Ghosh

Greenidea (*Trichosiphum*) *formosana heeri* Raychaudhuri, Ghosh, Banerjee and Ghosh, 1973. Kontyû, 41(1): 66.

Collection data: One brownish aptera and 1 alata from *Psidium guajava* (Myrtaceae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78; 1 greenish brown alata and 7 nymphs from an unidentified host, Kallar (Tamil Nadu), *c* 750 m, 9. xii. 78; 13 greenish brown apterae, 1 alata and 6 nymphs from *Psidium guajava* (Myrtaceae), Mettupalayam View (Tamil Nadu), *c* 1000 m, 10. xii. 78.

Distribution: India: Sikkim, South India, Uttar Pradesh, West Bengal; and Nepal.

Remark: Raychaudhuri (1956) recorded *Greenidea (Trichosiphum) formosana* (Maki) for the first time from South India. It is not possible to say whether *formosana* reported by Raychaudhuri (1956) and *formosana heeri* are same since no material examined by Raychaudhuri was available for study.

Ceratovacuna lanigera Zehntner

Ceratovacuna lanigera Zehntner, 1897. Meded. Proefs. Java no. 37: 29.

Collection data: Three blackish apteroid nymphs from *Bambusa* sp. (Gramineae), Burlair (Tamil Nadu), *c* 830 m, 9. xii. 78.

Distribution: India: Assam, Himachal Pradesh, Sikkim, South India, Tripura, Uttar Pradesh, West Bengal; Ceylon; Indonesia; Japan; and Philippines.

Remark: This species is a new record for South India.

Pseudoregma bucktoni Ghosh, Pal and Raychaudhuri

Pseudoregma bucktoni Ghosh, Pal and Raychaudhuri, 1974. Proc. zool. Soc. Calcutta 27: 113.

Pseudoregma bambusicola Takahashi; Doncaster, 1966. Entomologist 99: 157–160.

Oregma bambusae Buckton (partim) 1893. Indian Mus. Notes 3: 87.

Collection data: Six blackish green apterae and 2 alatae from *Bambusa* sp. (Gramineae), Coonoor (Tamil Nadu), *c* 1850 m, 23. xi. 78.

Distribution: India: Himachal Pradesh, Manipur, Meghalaya, Sikkim, South India, West Bengal; Ceylon; Taiwan; and Vietnam.

Remark: Ghosh, Pal and Raychaudhuri (1974) stated that *Oregma bambusae* reported by David (1956b) refers to the same species as *Pseudoregma bucktoni* Ghosh, Pal and Raychaudhuri.

Discussion

Comparison of the aphid fauna of South India with that of other parts of India reveals that 98% of the species are common to South and North East India, 77% of the species to South and Central and North West India and 35% are widely distributed in different parts of India. Notwithstanding the above fact it may be said that 8 of these species are endemic to India.

That oligophagy and monophagy are very much noticed amongst aphids in general gains further support from the collection of South India. Polyphagism has also been well exhibited by some species like *Aphis gossypii, A. craccivora, A. spiraecola, Hysteroneura setariae, Toxoptera* spp. evidently from the aphids collected during the present survey.

A subfamily wise break up of the aphids available so far from South India reveals that South India has not so far recorded any species of Anoeciinae. It also

reveals that there exists poor representation of members of Callipterinae, Hormaphidinae and Lachninae where the number of species so far known is even less than 10. The members of the subfamily Aphidinae outnumber all other subfamilies.

From the point of view of world wide distribution of the species so far known from South India it may be said that a close resemblance is observed between South India and Japan, Taiwan and China.

Inspite of being geographically old South India does not harbour many of the primitive groups of aphids.

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