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TECHNICAL SERIES, No. 16, PART III.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ENTOMOLOGY.

L. O. HOWARD, Entomologist and Chief of Bureau.

PAPERS ON COCCIDÆ OR SCALE INSECTS.

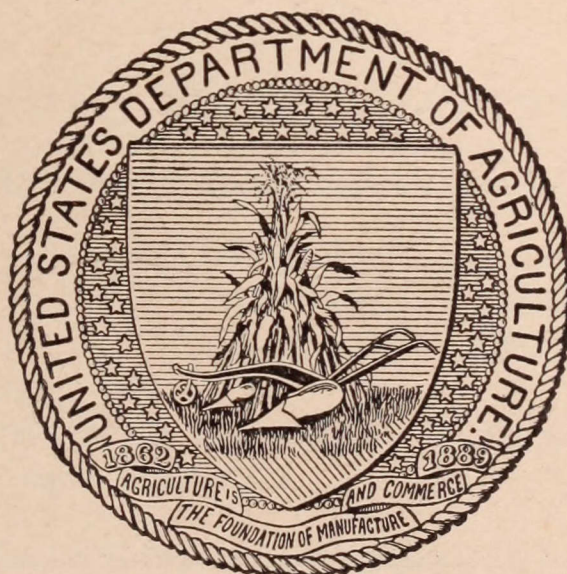
CATALOGUE

OF

RECENTLY DESCRIBED COCCIDÆ—II.

By J. G. SANDERS, M. A.,
Assistant.

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PAPERS ON COCCIDÆ OR SCALE INSECTS.

CATALOGUE OF RECENTLY DESCRIBED COCCIDÆ—II.

By J. G. SANDERS, M. A., *Assistant*.

The preparation of a catalogue of this character requires great vigilance and constant attention to the voluminous literature of entomology, in order that every reference to Coccidæ be noted. Descriptions of new genera and species appear in all conceivable publications in many languages, but the publication of the results of technical entomological research in botanical journals or other periodicals which do not usually treat of entomological subjects can not be too strongly condemned. For decades the publication of names for new species without description, *nomina nuda*, has been decried. Still there are entomologists who indulge in this unfortunate practice, thereby leading to confusion and error.

In this catalogue, the second of the series,^a are included references to 24 new genera, 195 new species, and 14 new varieties. The writer believes the list quite complete to March, 1909, and asks the assistance of coworkers in adding references which may have been overlooked.

Subfamily **MONOPHLEBINÆ**.**Monophlebus stebbingi octocaudata** Green.

Monophlebus stebbingi var. *octocaudata* Green, Mem. Dep. Ag. India, II, 2, p. 16 (1908).
Maxwell-Lefroy, Mem. Dep. Ag. India, II, 7,
p. 111 (1908). Fig.

Habitat—Lahore, India.

On mango; *Ficus bengalensis*; *F. infectoria*; *F. religiosa*; *F. glomerata*; *F. carica*;
Dalbergia sissu; *Artocarpus integrifolia*.

Monophlebus tamarindus Green.

Monophlebus tamarindus Green, Mem. Dep. Ag. India, II, 2, p. 17 (1908).

Habitat—India.

On branches of tamarind.

^a The first catalogue of the series was published as Technical Series 12, Pt. I, of this Bureau, and was issued June 5, 1906.

Palæococcus pulcher Leonardi.

Palæococcus pulcher Leon., Annali di Agr., vii, p. 1 (1907). Fig.

Habitat—Java.

On leaves of *Ilex* sp.

Palæococcus rosæ australis (Maskell).

Icerya rosæ var. *australis* Mask., N. Z. Trans., p. 101 (1893). Fig.

Habitat—Australia.

On *Hakea gibbosa*.

Palæococcus theobromæ Newstead.

Palæococcus theobromæ Newst., Jn. Econ. Biol., ii, 4, p. 154 (1908).

Habitat—Calabar, West Africa.

On leaves of cultivated cacao.

Walkeriana cinerea Green.

Walkeriana cinerea Green (sine descr.), Mem. Dep. Ag. India, ii, 2, p. 18 (1908).

Maxwell-Lefroy (sine descr.), Mem. Dep. Ag. India, ii, 7, p. 121 (1908).

Habitat—India.

On *Acacia arabica*; *Lawsonia alba*.

Icerya minor Green.

Icerya minor Green, Mem. Dep. Ag. India, ii, 2, p. 17 (1908). Fig.

Maxwell-Lefroy, Mem. Dep. Ag. India, ii, 7, p. 118 (1908). Fig.

Leachia festiva Kieffer, Marcellia, vii, p. 163 (1909). Fig.

Habitat—Bengal.

On mango.

^a **Icerya okadæ** Kuwana.

Icerya okadæ Kuwana, Bul. Ag. Exp. Sta. Japan, i, 2, p. 178 (1907). Fig.

Ckll., Can. Ent., xli, 2, p. 55 (1909).

Habitat—Japan.

On orange tree (Citrus).

Icerya seychellarum cristata Newstead.

Icerya seychellarum var. *cristata* Newst., Liverpool Univ. Quart. Jn., iii, 6, p. 11 (1908).

Habitat—Madagascar.

Subfamily **MARGARODINÆ**.**Margarodes mediterraneus** Silvestri.

Margarodes mediterraneus Silv., Bul. Soc. Ent. Ital., xxxviii, p. 140 (1906). Fig.

Leon., Cherm. Ital., Fasc. iv, No. 77 (1908).

Habitat—Italy.

On roots of *Cynodon* sp.

Genus **MATSUCOCCUS** Cockerell. Type, *matsumuræ*.

Matsucoccus Ckll., Can. Ent., xli, 2, p. 56 (1909).

To include *Xylococcus matsumuræ* Kuw., Insect World, ix, 3, March (1905).

Fig.; Sanders, Catalogue Coccidæ (1906); Kuwana, Bul. Ag. Exp. Sta. Japan, i, 2, p. 209 (1907). Fig.

^a This species is a synonym of *Icerya seychellarum* (Westwood), which had been previously discovered in China, Formosa, etc.

Genus **STEINGELIA** Nasonow. Type, *gorodetskia*.

Steingelia Nasonow, Ann. Mus. Zool. Imp. Acad. Sc. St. Petersburg, xiii, p. 345 (1908).

Ckll., Can. Ent., xli, 2, p. 56 (1909).

***Steingelia gorodetskia* Nasonow.**

Steingelia gorodetskia Nasonow, Ann. Mus. Zool. Imp. Acad. Sc. St. Petersburg, xiii, p. 345 (1908).

Ckll., Can. Ent., xli, 2, p. 56 (1909). Fig.

Habitat—Russia.

***Xylococcus macrocarpæ* Coleman.**

Xylococcus macrocarpæ Coleman, Jn. N. Y. Ent. Soc., xvi, p. 198 (1908). Fig.

Habitat—California.

On *Cupressus macrocarpa*.

Subfamily **ORTHEZIINÆ**.

***Orthezia californica* Ehrhorn.**

Orthezia californica Ehrh., Can. Ent., xxxviii, p. 329 (1906).

Habitat—California.

On *Bahia* sp.

***Orthezia martelli* Leonardi.**

Orthezia martelli Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 150 (1908). Fig.

Habitat—Italy.

On grasses (Graminaceæ).

Subfamily **CONCHASPINÆ**.

Genus **FAGISUGA** Lindinger. Type, *triloba*.

Fagisuga Lindgr., Zeitschr. f. wiss. Insektenbiol., v, 4, p. 107 (1909).

***Fagisuga triloba* Lindinger.**

Fagisuga triloba Lindgr., Berl. Ent. Zeitschr., iv, 5, p. 107 (1909). Fig.

Habitat—Chile.

On *Nothofagus dombeyi*.

Subfamily **DACTYLOPIINÆ**.

***Asterolecanium lineare* Lindinger.**

Asterolecanium lineare Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, p. — (1908).

Habitat—Brazil.

On cocoanut.

***Asterolecanium miliaris robusta* Green.**

Asterolecanium miliaris var. *robusta* Green, Mem. Dep. Ag. India, ii, 2, p. 19 (1908).

Maxwell-Lefroy, Mem. Dep. Ag. India, ii, 7, p. 121 (1908).

Habitat—Bengal.

On stems of bamboo (*Dendrocalamus* sp.).

Lecaniodiaspis baculifera Leonardi.

Lecaniodiaspis baculifera Leon., Annali di Agr., vii, p. 11 (1907). Fig.

Habitat—Java.

On an undetermined plant.

Lecaniodiaspis frenchii Green.

Lecaniodiaspis frenchii "Green" French (sine descr.), Victorian Nat., xxiii, pp. 184, 240 (1907).

Habitat—Victoria, Australia.

^a Genus **CERCOCOCCUS** Scott. Type *eremobius*.

Cercococcus Scott, Tr. Linn. Soc. Lond., 2d ser., ix, 12, p. 455 (1907). Fig.

Cerococcus Green, Ent. Mo. Mag., xix, p. 42 (1908).

Cerococcus eremobius (Scott).

Cercococcus eremobius Scott, Trans. Linn. Soc. Lond., 2d ser., ix, 12, p. 455 (1907).
Fig.

Cerococcus eremobius Green, Ent. Mo. Mag., xix, p. 42 (1908).

Habitat—Algeria.

On *Helianthemum kahiricum*.

Cerococcus hibisci Green.

Cerococcus hibisci Green, Mem. Dep. Ag. India, ii, 2, p. 19 (1908). Fig.

Maxwell-Lefroy, Mem. Dep. Ag. India, ii, 7, pp. 122, 135 (1908).

Habitat—Bombay, India.

On branches of *Hibiscus liliflorus* and *Gossypium* sp.

Solenococcus muratæ (Kuwana).

Cerococcus muratæ Kuwana, Bul. Ag. Exp. Sta. Japan, i, 2, p. 180 (1907). Fig.

Solenophora muratæ Ckll., Can. Ent., xli, 2, p. 55 (1909).

Habitat—Japan.

On grape; *Viburnum odoratissimum*.

Kermes bacciformis Leonardi.

Kermes bacciformis Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 156 (1908). Fig.

Habitat—Italy.

On *Quercus suber*.

Kermes himalayensis Green.

Kermes himalayensis Green, Ent. Mo. Mag., xx, p. 1 (1909). Fig.

Habitat—Northern India.

On *Quercus incana*.

Kermes miyasakii Kuwana.

Kermes miyasakii Kuwana, Bul. Ag. Exp. Sta. Japan, i, 2, p. 181 (1907). Fig.

Habitat—Japan.

On *Quercus serrata*.

Kermes rattani Ehrhorn.

Kermes rattani Ehrh., Can. Ent., xxxviii, p. 329 (1906).

Habitat—California.

On *Quercus chrysolepis*.

^a A synonym of *Cerococcus*, having been described from immature specimens.

Kermes variegatus corticalis Nasonow.

Kermes variegatus corticalis Nass., Ann. Mus. Zool. Ac. Imp. Sc. St. Petersburg, XIII, p. 490 (1909). Fig.

Habitat—Russia.

On bark of *Quercus* sp.

Kermes vastus Kuwana.

Kermes vastus Kuwana, Bul. Agr. Exp. Sta. Japan, I, 2, p. 181 (1907). Fig.

Habitat—Japan.

On *Quercus glandulifera*.

Genus **ATRIPLICIA** Cockerell. Type *gallicola*.

Atriplicia Ckll., Pr. Ent. Soc. Wash., x, p. 169 (1909).

Atriplicia gallicola Cockerell & Rohwer.

Atriplicia gallicola Ckll. & Rohw., Pr. Ent. Soc. Wash., x, p. 169 (1909).

Habitat—Colorado; New Mexico.

On leaves of *Atriplex canescens*.

Eriococcus bahiæ Ehrhorn.

Eriococcus bahiæ Ehrh., Can. Ent., XXXVIII, p. 330 (1906).

Habitat—California.

On roots of *Bahia* sp.

Eriococcus bezzii Leonardi.

Eriococcus bezzii Leon., Bol. Zool. Sc. Sup. Portici, I, p. 148 (1907). Fig.

Cherm. Ital., Fasc. IV, No. 83 (1908).

Habitat—Italy.

On branches and petioles of *Rhododendron ferrugineum*.

Eriococcus catalinæ Ehrhorn.

Eriococcus catalinæ Ehrh., Can. Ent., XXXVIII, p. 332 (1906).

Habitat—California.

On *Artemisia* sp.

Eriococcus howardi Ehrhorn.

Eriococcus howardi Ehrh., Can. Ent., XXXVIII, p. 331 (1906).

Habitat—California.

On *Quercus* sp.

Eriococcus lagerstræmiæ Kuwana.

Eriococcus lagerstræmiæ Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 182 (1907). Fig.

Habitat—Japan.

On *Ficus carica*; *Lagerstræmia indica*.

Eriococcus latialis Leonardi.

Eriococcus latialis Leon., Bol. Zool. Sc. Sup. Portici, I, p. 144 (1907).

Habitat—Italy.

On an undetermined plant.

Eriococcus quercus gilensis Cockerell.

Eriococcus quercus gilensis Ckll., Pr. Ent. Soc. Wash., x, p. 167 (1909).

Habitat—Arizona.

On *Quercus toumeyii*.

Genus **LEFROYIA** Green. Type *castaneæ*.

Lefroyia Green, Mem. Dep. Ag. India, II, 2, p. 21 (1908).

Lefroyia castaneæ Green.

Lefroyia castaneæ Green, Mem. Dep. Ag. India, II, 2, p. 21 (1908). Fig.

Habitat—Assam.

On smaller branches of *Castanea* sp.

Stictococcus multispinosus Newstead.

Stictococcus multispinosus Newst., Jn. Econ. Biol., II, 4, p. 150 (1908).

Habitat—East Africa.

Dactylopius argentinus Dominguez.

Dactylopius argentinus Dominguez, Trab. Mus. Farm. Fac. Cienc. Med., no. 17 (1907).

Dominguez, Bol. Min. Ag., VII, 3, pp. 148, 150 (1907).

Habitat—Argentina.

On Cactaceæ (*Opuntia ficus-indica* and *O. aurantiaca*).

Dactylopius ceylonicus (Green).

Coccus cacti var. *ceylonicus* Green, Ind. Mus. Notes, IV, 1, p. 7 (1896).

Mask., N. Z. Trans., XXIX, p. 319 (1897).

Coccus indicus Green, Mem. Dep. Ag. India, II, 2, p. 28 (1908). Fig.

Habitat—Ceylon; India.

On *Opuntia dillenii*.

^a **Sphærococcus draperi** Newstead.

Sphærococcus draperi Newst., Liverpool Univ. Quart. Jn., I, 2, p. 70 (1906); Agr. News

West Ind., V, 3, p. — (1906).

Draper, Scale Insects of Egypt, p. 12 (1907).

Habitat—Egypt.

On date palm.

Genus **MACROCEROCOCCUS** Leonardi. Type, *superbus*.

Macrocerococcus Leon., Bol. Zool. Sc. Sup. Portici, I, p. 151 (1907).

Macrocerococcus superbus Leonardi.

Macrocerococcus superbus Leon., Bol. Zool. Sc. Sup. Portici, I, p. 152 (1907). Fig.

Marchal, Compt. Rend. Ac. Sci., Paris, CXLIII, 13, p. 872 (1909).

Habitat—Sardinia; Corsica; France.

On stems of an undetermined grass, and on *Lepidium draba*; *Alyssum mediterraneum*; *Lotus*; *Fumaria major*; *Cetarach officinalis*; *Antirrhinum latifolium*.

Phenacoccus cholodkovskyi Marchal.

Phenacoccus cholodkovskyi Marchal, Ann. Soc. Ent. France, LXXVII, p. 245 (1908). Fig.

Habitat—Southern Russia.

On *Triticum vulgare*.

^a This species must be very close to *Phænicococcus marlatti* Ckll., a very common pest of the date palm in Algeria, if it is not indeed identical. The description answers very well for the latter species.

Phenacoccus colemani Ehrhorn.*Phenacoccus colemani* Ehrh., Can. Ent., xxxviii, p. 332 (1906).

Habitat—California.

On *Rubus* sp.**Phenacoccus formicarum** Leonardi.*Phenacoccus formicarum* Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 162 (1908). Fig.

Habitat—Italy.

In nest of ants (*Pheidole pallidula*).**Phenacoccus graminicola** Leonardi.*Phenacoccus graminicola* Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 160 (1908). Fig.

Habitat—Italy.

On grasses (Graminaceæ).

Phenacoccus hirsutus Green.*Phenacoccus hirsutus* Green, Mem. Dep. Ag. India, ii, 2, p. 25 (1908). Fig.

Habitat—India; Tasmania.

“On terminal shoots of an undetermined shrub, attended by ants (*Cremastogaster rogenhoferi*), which had constructed shelters around the colonies of insects.”**Phenacoccus iceryoides** Green.*Phenacoccus iceryoides* Green, Mem. Dep. Ag. India, ii, 2, p. 26 (1908).

Maxwell-Lefroy, Mem. Dep. Ag. India, ii, 7, p. 129 (1908).

Habitat—Calcutta, Tanjore, Surat, India.

On mango; *Boswellia*; *Capparis horrida*.**Phenacoccus insolitus** Green.*Phenacoccus insolitus* Green, Mem. Dep. Ag. India, ii, 2, p. 26 (1908). Fig.

Habitat—Bengal.

On *Sida cordifolia*.^a **Phenacoccus ramonæ** Essig.*Phenacoccus ramonæ* Essig, Pomona Jn. Ent., i, 2, p. 44 (1909). Fig.

Habitat—California.

On roots of black sage (*Ramona stachyoides*).Genus **COCCURA** Sulc. Type, *comari* Kunow.*Coccura* Sulc., Nachrichtsbl. Naturforsch.-Klubs, Prossnitz, x, 7 pp. (1907); Lindgr., Zeitschr. f. wiss. Insektenbiol., iv, 12, p. 475 (1908).A new genus for the reception of *Coccus* (*Phenacoccus*) *comari* Kunow, Ent. Nachrichten, vi, p. 46 (1880).**Ceroputo volynicus** Nasonow.*Ceroputo volynicus* Nass., Ann. Mus. Zool. Ac. Imp. Sc. St. Petersburg, xiii, p. 471 (1909). Fig.

Habitat—Russia.

On leaves and stems of *Dactylis glomerata*.^a This is undoubtedly an immature stage of *Ceroputo yuccæ* (Coquillett). The lateral patches of spines on each segment, and the incompletely developed 7-jointed antennæ indicate strongly its connection with the latter species.

Genus **LACHNODIELLA** von Ihering. Type, *cecropiæ*.

Lachnodiella von Iher. (sine descr.), Bot. Jahrb., xxxix, 5, p. 680 (1907).

Lachnodiella cecropiæ von Ihering.

Lachnodiella cecropiæ von Iher. (sine descr.), Bot. Jahrb., xxxix, 5, p. 680 (1907).

Habitat—Brazil.

On *Cecropia adenopus*.

Pseudococcus agrifoliæ Essig.

Pseudococcus agrifoliæ Essig, Pomona Jn. Ent., i, 2, p. 42 (1909). Fig.

Habitat—California.

Beneath bark and in cracks of bark of *Quercus agrifolia*.

Pseudococcus artemisiæ Essig.

Pseudococcus artemisiæ Essig, Pomona Jn. Ent., i, 2, p. 38 (1909). Fig.

Habitat—California.

"Under bark of *Artemisia californica*."

Pseudococcus citri coleorum Marchal.

Pseudococcus citri var. *coleorum* Marchal, Ann. Soc. Ent. France, lxxvii, p. 236 (1908).

Habitat—France.

On *Coleus*.

Pseudococcus coffeæ (Newstead).

Dactylopius n. sp. Newst. (sine descr.), Liverpool Univ. Quart. Jn., i, 2, p. 74 (1906).

coffeæ Newst., Jn. Econ. Biol., iii, 2, p. 37 (1908). Fig.

Habitat—Java.

On Liberian coffee.

Pseudococcus cupressi Coleman.

Pseudococcus cupressi Coleman, Jn. N. Y. Ent. Soc., xvi, p. 197 (1908). Fig.

Habitat—California.

On *Cupressus macrocarpa*.

Pseudococcus (?) cycliger Leonardi.

Pseudococcus cycliger Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 168 (1908). Fig.

Habitat—Italy.

In nest of ants (*Aphenogaster testaceo-pilosus*).

Pseudococcus elongatus Reuter.

^a *Pseudococcus graminis* Reuter, Medd. Soc. Faun. Fenn., p. 66 (1904).

elongatus Reuter, Medd. Soc. Faun. Fenn., p. 251 (1904).

elongatus Sanders, Catalogue Coccidæ, p. 5 (1906).

Habitat—Finland.

On *Phleum pratense*; *Poa pratensis*.

Pseudococcus juniperi Ehrhorn.

Pseudococcus juniperi Ehrh., Can. Ent., xxxviii, p. 333 (1906).

Habitat—Arizona.

On *Juniperus virginiana*.

^a Specific name preoccupied.

Pseudococcus longipes Leonardi.

Pseudococcus longipes Leon., Bol. Zool. Sc. Sup. Portici, III, p. 166 (1908). Fig.

Habitat—Italy.

On *Alocasia macrorhiza*.

Pseudococcus myrmecarius Leonardi.

Pseudococcus myrmecarius Leon., Bol. Zool. Sc. Sup. Portici, III, p. 164 (1908). Fig.

Habitat—Sardinia.

In nest of ants (*Camponotus* sp.).

Pseudococcus obscurus Essig.

Pseudococcus obscurus Essig, Pomona Jn. Ent., I, 2, p. 43 (1909). Fig.

Habitat—California.

“On *Opuntia* and under the bark of *Sambucus glauca*.”

Pseudococcus saccharifolii (Green).

Dactylopius saccharifolii Green, Mem. Dep. Ag. India, II, 2, p. 23 (1908).

Maxwell-Lefroy, Mem. Dep. Ag. India, II, 7, p. 124 (1908).

Fig.

Habitat—Bengal.

On leaves of sugar cane.

Pseudococcus (?) takæ (Kuwana).

Dactylopius takæ Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 184 (1907). Fig.

Pseudococcus takæ Ckll., Can. Ent., XLI, 2, p. 55 (1909).

Habitat—Japan.

On bamboo.

Pseudococcus theæcola (Green).

Dactylopius theæcola Green, Mem. Dep. Ag. Ind., I, 5, p. 347 (1907). Fig.

Green, Mem. Dep. Ag. Ind., II, 2, p. 24 (1908).

Habitat—India.

“On roots of tea plants.”

Pseudococcus virgatus madagascariensis (Newstead).

Dactylopius virgatus var. *madagascariensis* Newst., Liverpool Univ. Quart. Jn., III, 6, p. 9 (1908). Fig.

Habitat—Madagascar.

“On an unknown plant.”

Pseudococcus vovæ Nasonow.

Pseudococcus (Dactylopius) vovæ Nass., Ann. Mus. Zool. Ac. Imp. Sc. St. Petersburg, XIII, p. 484 (1909). Fig.

Habitat—Russia.

On *Juniperus communis*.

Ripersiella kelloggi Ehrhorn.

Ripersiella kelloggi Ckll. (sine descr.), Pr. Biol. Soc. Wash., XIV, p. 166 (1901).

Ehrh., Can. Ent., XXXVIII, p. 334 (1906).

Habitat—California.

On bunch-grass.

Ripersia candidata Cockerell.

Ripersia candidata Ckll., Ann. Mag. N. H. (7), VIII, p. 53 (1901).

"=6-jtd. *R. lasii* from Massachusetts."—(Ckll. in litt.)

Ripersia donisthorpei Newstead.

Ripersia donisthorpei Newst., Ent. Rec. Jn. Variation, XIX, p. 5 (1907). Fig.

Habitat—England.

In nests of *Ponera contracta*.

Ripersia formicarii Newstead.

Ripersia formicarii Newst., Ent. Rec. Jn. Variation, XIX, p. 5 (1907). Fig.

Habitat—England.

Associated with *Lasius flavus*.

Ripersia hypogea Leonardi.

Ripersia hypogea Leon., Bol. Zool. Sc. Sup. Portici, III, p. 176 (1908). Fig.

Habitat—Italy.

Underground.

Ripersia inquilina Leonardi.

Ripersia inquilina Leon., Bol. Zool. Sc. Sup. Portici, III, p. 174 (1908). Fig.

Habitat—Sardinia.

In nest of undetermined ants.

Ripersia japonica Kuwana.

Ripersia japonica Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 186 (1907). Fig.

Habitat—Japan.

Under sheathing, base of leaf of *Miscanthus* sp.

Ripersia libera Leonardi.

Ripersia libera Leon., Bol. Zool. Sc. Sup. Portici, III, p. 170 (1908). Fig.

Habitat—Italy.

On an undetermined grass.

Ripersia (?) oryzae Kuwana.

Ripersia oryzae Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 186 (1907). Fig.

Ckll., Can. Ent., XLI, 2, p. 55 (1909).

Habitat—Japan.

On roots of rice (*Oryza*) and other plants.

Ripersia sardiniae Leonardi.

Ripersia sardiniae Leon., Bol. Zool. Sc. Sup. Portici, III, p. 173 (1908). Fig.

Habitat—Sardinia.

In nest of ants (*Solenopsis* sp.).

Genus **MICROCOCCUS** Leonardi. Type, *silvestrii*.

Micrococcus Leon., Bol. Zool. Sc. Sup. Portici, I, p. 135 (1907).

Micrococcus silvestrii Leonardi.

Micrococcus silvestrii Leon., Bol. Zool. Sc. Sup. Portici, I, p. 136 (1907). Fig.

Habitat—Sardinia.

In nests of *Tapinoma erraticum*.

Micrococcus similis Leonardi.

Micrococcus similis Leon., Bol. Zool. Sc. Sup. Portici, I, p. 143 (1907). Fig.

Habitat—Sardinia.

On roots of a cereal.

Antonina (?) africana Newstead.

Antonina (?) africana Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, pp. 69, 72 (1906).

Draper (sine descr.), Scale Ins. of Egypt, p. 11 (1907).

Habitat—Egypt.

On "sunt" tree (*Acacia arabica* var. *nilotica*).

Antonina indica Green.

Antonina indica Green, Mem. Dep. Ag. India, II, 2, p. 27 (1908). Fig.

Habitat—Bengal.

On bases of leaves of "hariali" grass.

Antonina phragmitis Marchal.

Antonina phragmitis Marchal, Compt. Rend. Ac. Sci., Paris, CXLIII, 13, p. 872 (1909).

Habitat—France.

On *Phragmites gigantea*.

Subfamily **TACHARDIINÆ**.**Tachardia argentina** Dominguez.

Tachardia argentina Dominguez (sine descr.), An. Soc. Cient. Argentina, p. 219 (1906).
Fig.

Dominguez (sine descr.), Bol. Min. Ag., VII, 3, pp. 148, 150 (1907).

Habitat—Argentina.

On *Acacia cavenia*.

Tachardia decorella theæ Green & Mann.

Tachardia decorella var. *theæ* Green & Mann, Mem. Dep. Ag. India, I, 5, p. 348 (1907).
Green, Mem. Dep. Ag. India, II, 2, p. 28 (1908).

Habitat—India.

On tea.

Subfamily **COCCINÆ**.**Ceronema caudata** Froggatt.

Ceronema caudata Froggatt, n. sp. ——— (?).

Froggatt, Australian Insects, p. 376 (1907).

Habitat—New South Wales, Australia.

On "gum-trees."

Pulvinaria antigoni Green.

Pulvinaria antigoni Green, Tr. Linn. Soc. Lond., XII, 2, pp. 199, 204 (1907). Fig.

Habitat—Seychelles.

On *Antigonon*.

Pulvinaria burkilli Green.

Pulvinaria burkilli Green, Mem. Dep. Ag. India, II, 2, p. 31 (1908). Fig.

Habitat—India.

On leaves of *Croton tiglium*.

Pulvinaria jacksoni Newstead.

Pulvinaria jacksoni Newst., Jn. Econ. Biol., II, 4, p. 155 (1908). Fig.

Habitat—West Africa.

On cacao and *Ficus* sp.

Pulvinaria kuwacola Kuwana.

Pulvinaria kuwacola Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 188 (1907). Fig.

Ckll., Can. Ent., XLI, 2, p. 55 (1909).

Habitat—Japan.

On mulberry.

Pulvinaria orientalis Nasonow.

Pulvinaria orientalis Nass., Ann. Mus. Zool. Ac. Imp. Sc. St. Petersburg, XIII, p. 493 (1909). Fig.

Habitat—Russia.

On branches of *Haloxylon ammodendron*.

Pulvinaria pluchæ Ehrhorn.

Pulvinaria pluchæ Ehrh., Can. Ent., XXXVIII, p. 334 (1906).

Habitat—California.

On *Pluchea sericea*.

Genus **STOTZIA** Marchal. Type, *striata*.

Stotzia Marchal, Bul. Soc. Ent. Fr., p. 143 (1906).

Stotzia striata Marchal.

Stotzia striata Marchal, Bul. Soc. Ent. Fr., p. 144 (1906).

Habitat—Algeria.

On branches of *Ephedra altissima*.

Genus **EUPHILIPPIA** Berlese & Silvestri. Type, *olivina*.

Euphilippia Berl. & Silv., Redia, III, fasc. 2, p. 396 (1905).

Euphilippia olivina Berlese & Silvestri.

Euphilippia olivina Berl. & Silv., Redia, III, fasc. 2, p. 398 (1905). Fig.

Habitat—Italy.

On olive.

Ceroplastes africanus senegalensis Marchal.

Ceroplastes africanus var. *senegalensis* Marchal, Bul. Soc. Zool. France, XXXIV, p. 68 (1909).

Marchal, Mém. Soc. Zool. France, XXII, p. 168 (1909).

Habitat—Senegal.

On *Acacia arabica*; *A. tortilis*.

Ceroplastes bussei Newstead.

Ceroplastes bussei Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, pp. 71, 74 (1906).

Habitat—Cameroon, West Africa.

On cacao.

Ceroplastes tenuitectus Green.

Ceroplastes tenuitectus Green, Tr. Linn. Soc. Lond., XII, 2, p. 204 (1907). Fig.

Habitat—Aldabra Isl.

On "bois la fumée."

Ceroplastes theobromæ Newstead.

Ceroplastes theobromæ Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, pp. 71, 74 (1906).

Newst. (sine descr.), Scale Ins. of Egypt, p. 16 (1907).

Newst., Jn. Econ. Biol., III, 2, p. 38 (1908).

Habitat—Cameroon, West Africa.

On cacao (*Theobroma cacao*).

Ceroplastes uvariæ Marchal.

Ceroplastes uvariæ Marchal, Bul. Soc. Zool. France, XXXIV, p. 68 (1909).

Marchal, Mém. Soc. Zool. France, XXII, p. 170 (1909). Fig.

Habitat—French Guinea.

On *Uvaria* sp. (Anonaceæ).

Ceroplastes vuilleti Marchal.

Ceroplastes vuilleti Marchal, Bul. Soc. Zool. France, XXXIV, p. 68 (1909).

Marchal, Mém. Soc. Zool. France, XXII, p. 165 (1909). Fig.

Habitat—Senegal.

On *Ormosia laxiflora* (Leguminosæ).

Ceroplastodes chiton Green.

Ceroplastodes chiton Green (sine descr.), Mem. Dep. Ag. India, II, 2, p. 32 (1908).

Habitat—India.

On *Cajanus indicus*.

Coccus gymnospori (Green).

Lecanium gymnospori Green, Mem. Dep. Ag. India, II, 2, p. 29 (1908). Fig.

Habitat—India.

On *Gymnosporia montana*.

Coccus hesperidum javanensis (Newstead).

Lecanium (Trechocorys) hesperidum var. *africanum* Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, p. 74 (1906).

Lecanium hesperidum var. *javanensis* Newst., Jn. Econ. Biol., III, 2, p. 38 (1908). Fig.

Habitat—Java.

On Liberian coffee.

Coccus nicotianæ (Newstead).

Lecanium nicotianæ Newst., Liverpool Univ. Quart. Jn., III, 6, p. 8 (1908). Fig.

Habitat—Madagascar.

On tobacco.

Coccus tuberculatus Kotinsky.

Coccus tuberculatus Kotinsky, Pr. Haw. Ent. Soc., I, pt. 5, p. 168 (1908). Fig.

Habitat—Singapore.

On leaves of unknown tree.

Mesolecanium perditulum Cockerell & Robbins.

Mesolecanium perditulum Ckll. & Robb., Can. Ent., XLI, p. 150 (1909).

Habitat—Nicaragua.

“On bark of small branches of tree No. 2122”—C. F. Baker coll.

Akermes montanus (Green).

Lecanium montanum Green, Mem. Dep. Ag. India, II, 2, p. 30 (1908). Fig.

Habitat—Himalaya Region, India.

On twigs of undetermined shrub.

Genus **PALÆOLECANIUM** Sulc. Type, *bituberculatum*.

Palæolecanium Sulc, Ent. Mo. Mag., XIX, p. 36 (1908).

Genus **PARTHENOLECANIUM** Sulc. Type, *coryli*.

Parthenolecanium Sulc, Ent. Mo. Mag., XIX, p. 36 (1908).

Genus **SPHÆROLECANIUM** Sulc. Type, *prunastri*.

Sphærolecanium Sulc, Ent. Mo. Mag., XIX, p. 36 (1908).

Globulicoccus n. subgen. of *Lecanium* auctt. Type, *fuscum*.

Lindgr., Ent. Blätter, Schwabach, III, 8, p. 113; 9, p. 136 (1907).

Lindgr., Ber. Stat. f. Pflanzensch. Hamb., IX, p. 7 (1907).

Lecanium ceconi Leonardi.

Eulecanium ceconi Leon., Bol. Zool. Sc. Sup. Portici, III, p. 178 (1908). Fig.

Habitat—Italy.

On *Menispermum canadense*.

Lecanium glandi (Kuwana).

Lecanium glandi Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 191 (1907). Fig.

Eulecanium glandi Ckll., Can. Ent., XLI, 2, p. 56 (1909).

Habitat—Japan.

On apple, pear, and other trees.

Lecanium kunoensis (Kuwana).

Lecanium kunoensis Kuwana, Bul. Ag. Exp. Sta. Japan, I, 2, p. 191 (1907). Fig.

Ckll., Can. Ent., XLI, 2, p. 56 (1909).

Habitat—Japan.

On *Rhamnus japonica*; *Prunus mume*; *Pyrus sinensis*.

Lecanium pulchrum Marchal.

Lecanium pulchrum King (sine descr.), Allg. Zeits. f. Ent., VIII, p. 410 (1903).

Eulecanium pulchrum Sanders, Catalogue Coccidæ, p. 9 (1906).

Lecanium rubellum Lindgr., Ent. Blätter, Schwabach, III, 9, p. — (1907).

Lindgr., Ber. Stat. f. Pflanzensch. Hamb., IX, p. 7 (1907).

pulchrum Marchal, Ann. Soc. Ent. France, LXXVII, p. 304 (1908). Fig.

Habitat—Germany.

On *Calluna vulgaris*; *Ulex europæus*; *Rosa arvensis*; *Rubus* sp.; *Sarothamnus scoparius*.

Lecanium sericeum Lindinger.

Lecanium sericeum Lindgr., Insekten Börse, XXIII, p. 147, Sept. (1906). Fig.

Lecanium (*Globulicoccus*) *sericeum* Lindgr., Ent. Blätter, Schwabach, III, 8 and 9 (1907).

Lindgr., Ber. Stat. f. Pflanzensch. Hamb., IX, p. 7 (1907).

Habitat—Bavaria.

On *Abies pectinata*.

Paralecanium cocophyllæ Banks.

Paralecanium cocophyllæ Banks, Philippine Jn. Sci., 1, 3, pp. 223, 235 (1906). Fig.

Habitat—Philippines.

On cocoanut palm.

"Lecanium" montonoæ Newstead.

Lecanium montonoæ Newst. (sine descr.), Liverpool Univ. Quart. Jn., 1, 2, p. 69 (1906).

montonoai Lindgr. (sine descr.), Ent. Wochenblatt, xxiv, 5, p. 19 (1907).

Habitat—Egypt.

"Lecanium" nishigaharæ Kuwana.

Lecanium nishigaharæ Kuwana, Bul. Ag. Exp. Sta. Japan, 1, 2, p. 192 (1907). Fig.

Habitat—Japan.

On mulberry (*Morus* sp.).

Genus **HEMILECANIUM** Newstead. Type, *theobromæ*.

Hemilecanium Newst. (sine descr.), Liverpool Univ. Quart. Jn., 1, 2, pp. 71, 74 (1906).

Newst., Jn. Econ. Biol., III, 2, p. 39 (1908).

Hemilecanium theobromæ Newstead.

Hemilecanium theobromæ Newst. (sine descr.), Liverpool Univ. Quart. Jn., 1, 2, pp. 71, 74 (1906).

Newst. (sine descr.), Scale Ins. of Egypt, p. 16 (1907).

Newst., Jn. Econ. Biol., III, 2, p. 39 (1908). Fig.

Habitat—Cameroon, West Africa.

On *Theobroma cacao*.

^a Genus **HOUARDIA** Marchal. Type, *troglodytes*.

Houardia Marchal, Compt. Rend. Soc. Biol., Paris, LXVI, p. 586 (1909).

Houardia troglodytes Marchal.

Houardia troglodytes Marchal, Compt. Rend. Soc. Biol., Paris, LXVI, p. 586 (1909).

Marchal, Bull. Soc. Zool. France, xxxiv, p. 73 (1909).

Marchal, Mém. Soc. Zool. France, xxii, p. 171 (1909). Fig.

Habitat—Senegal.

In tunnels in branches of *Balanites* (*Agialida*) *ægyptiaca* inhabited by ants of the genus *Cremastogaster* near *kneri* Mayr.

Lecanopsis mirmecophila Leonardi.

Lecanopsis mirmecophila Leon., Bol. Zool. Sc. Sup. Portici, III, p. 181 (1908). Fig.

Habitat—Sardinia.

In nest of ants (*Tetramorium cæspitum*).

Aclerda biwakoensis Kuwana.

Aclerda (?) *biwakoensis* Kuwana, Bul. Ag. Exp. Sta. Japan, 1, 2, p. 187 (1907). Fig.

Ckll., Can. Ent., xli, 2, p. 55 (1909).

Habitat—Japan.

On *Phragmites communis*.

^a An unfortunate name, because of its similarity to *Howardia* Berlese & Leonardi, a genus of Diaspine Coccidæ.

Subfamily **DIASPINÆ**.**Chionaspis etrusca** Leonardi.

Chionaspis etrusca Leon., Annali di Agr., viii, p. 44 (1908).

Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 184 (1908). Fig.

Leon., Cherm. Ital., iv, No 88 (1908).

Habitat—Italy.

On *Tamarix* sp.

Chionaspis gryphæformis Newstead.

Chionaspis gryphæformis Newst. (sine descr.), Liverpool Univ. Quart. Jn., i, 2, p. 71 (1906).

crypheaformis Draper (sine descr.), Scale Ins. of Egypt, p. 15 (1907). Cairo.

Habitat—Egypt.

“On four unnamed plants; one a conifer.”

Chionaspis inday Banks.

^a *Chionaspis candida* Banks, Philippine Jn. Sci., i, 3, pp. 222, 232 (1906). Fig.

Chionaspis inday Banks, Philippine Jn. Sci., i, 7, p. 787 (1906).

Habitat—Philippines.

On cocoanut palm.

Chionaspis manni Green.

Chionaspis manni Watt & Mann (sine descr.), Pests and Blights of Tea Plant, 2nd ed., p. 309 (1903).

Green, Mem. Dep. Ag. India, i, 5, pp. 342, 344 (1907). Fig.

Mann, Mem. Dep. Ag. India, i, 5, p. 351 (1907).

Green, Mem. Dep. Ag. India, ii, 2, p. 37 (1908).

Habitat—India.

On tea; *Ficus* sp.; *Solanum melongena*.

Chionaspis micropori Marlatt.

Chionaspis micropori Marlatt, Bul. U. S. Bur. Ent., t. s. 16, pt. 2, p. 25 (1908). Fig.

Habitat—Shansi Province, China

On *Populus tremula*.

Chionaspis vuilleti Marchal.

Chionaspis vuilleti Marchal (sine descr.), Compt. Rend. Soc. Biol., lxxvi, p. 587 (1909).

Marchal, Bul. Soc. Zool. France, xxxiv, p. 69 (1909).

Marchal, Mém. Soc. Zool. France, xxii, p. 175 (1909). Fig.

Habitat—Guinea.

On gum copal (*Copaifera guibourtiana*?)

Diaspis barberi Green.

Diaspis barberi Green, Mem. Dep. Ag. India, ii, 2, p. 35 (1908). Fig.

Habitat—Tanjore, India.

On branches of *Loranthus* sp.

Diaspis (?) ericicola Marchal.

Diaspis (*Adiscodiaspis*) *ericicola* Marchal, Compt. Rend. Ac. Sci., Paris, cxlvi, 13, p. 871 (1909).

Habitat—France.

On *Erica arborea*.

^a Specific name preoccupied.

Aulacaspis javanensis Newstead.

Aulacaspis (Diaspis) javanensis Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, p. 74 (1906).

Aulacaspis javanensis Newst., Jn. Econ. Biol., III, 2, p. 35 (1908). Fig.

Habitat—Java.

“On various plants.”

Aulacaspis penzigi Leonardi.

Aulacaspis penzigi Leon., Annali di Agr., VII, p. 14 (1907). Fig.

Habitat—Java.

On leaves of *Ilex* sp.

Aulacaspis tubercularis Newstead.

Aulacaspis (Diaspis) tubercularis Newst., Liverpool Univ. Quart. Jn., I, 2, p. 73 (1906).

Aulacaspis cinnamomi Newst., Jn. Econ. Biol., III, 2, p. 34 (1908). Fig.

Habitat—Java.

On *Cinnamomum zeylanicum*.

Hemichionaspis aspidistræ gossypii Newstead.

Chionaspis (Hemichionaspis) aspidistræ var. *gossypii* Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, p. 74 (1906).

Newst., Jn. Econ. Biol., III, 2, p. 37 (1908).

Habitat—Java.

On *Gossypium hirsutum*.

Hemichionaspis fici Green.

Hemichionaspis fici Green, Mem. Dep. Ag. India, II, 2, p. 37 (1908). Fig.

Habitat—Bengal.

On stems of *Ficus glomerata*.

Hemichionaspis minima Green.

Hemichionaspis minima Green, Mem. Dep. Ag. India, II, 2, p. 38 (1908). Fig.

Habitat—Bengal.

On leaves of “Banian” tree (*Ficus* sp.).

Hemichionaspis orlandi Leonardi.

Hemichionaspis orlandi Leonardi, Redia, III, p. 5 (1906). Fig.

orlandii Lindgr., Ent. Wochenblatt., XXIV, 5, p. 19 (1907).

Habitat—Brazil.

“Underside of leaves of an undetermined plant.”

Pinnaspis javanica Leonardi.

Pinnaspis javanica Leon., Annali di Agr., VII, p. 17 (1907). Fig.

Habitat—Java.

On leaves of *Ilex* sp.

Pinnaspis rombica Leonardi.

Pinnaspis rombica Leon., Annali di Agr., VII, p. 16 (1907). Fig.

Habitat—Java.

On leaves of *Persea* sp.

Genus **ACTENASPIS** Leonardi. Type, *pusilla*.

Actenaspis Leon., Annali di Agr., vi, p. 25 (1906). Fig.

A new genus from *Leucaspis* auctt.

Genus **ANAMASPIS** Leonardi. Type, *loewi*.

Anamaspis Leon., Annali di Agr., vi, p. 22 (1906). Fig.

A new genus from *Leucaspis* auctt.

Leucaspis affinis Leonardi.

Leucaspis affinis Leon., Annali di Agr., vi, p. 4 (1906). Fig.

Habitat—France.

On *Pinus sylvestris*.

Leucaspis ephedræ Marchal.

Leucaspis ephedræ Marchal, Bul. Soc. Zool. France, xxxiv, p. 59 (1909).

Habitat—Algeria.

On *Ephedra corsoniana*.

Leucaspis indica Marlatt.

Leucaspis indica Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 26 (1908). Fig.

Habitat—Miami, Fla., and Mayaguez, P. R.; imported from India.

On mango.

Leucaspis pistaciæ Lindinger.

Leucaspis pistaciæ Lindgr., Jahrb. Hamb. wiss. Anst., xxiii, p. 403 (1906).

Habitat—Cyprus.

On leaves of *Pistacia lentiscus*.

^a **Leucodiaspis** Sign. < Lindinger, Jahrb. Hamb. wiss. Anst., xxv (1908). Not valid.

Adiscofiorinia (n. g. of *Fiorinia*), Leonardi, Redia, iii, pp. 17, 52 (1906).

Anamefiorinia (n. g. of *Fiorinia*), Leonardi, Redia, iii, pp. 17, 48 (1906).

Trullifiorinia (n. g. of *Fiorinia*), Leonardi, Redia, iii, pp. 17, 41 (1906).

Fiorinia atalantiæ Leonardi.

Fiorinia (*Adiscofiorinia*) *atalantiæ* Leon., Redia, iii, p. 54 (1906). Fig.

Habitat—Ceylon.

On *Atalantia zeylanica*.

^a Lindinger resurrects *Leucodiaspis* Sign. for *Leucaspis*, and assigns to it all the species formerly known under the latter name, and refers to *Leucospis* Fab., Syst. Entom., p. 361, Nr. 114 (1775) (Hymenoptera). The latter name has no reference or connection with *Leucaspis* Targ.-Tozz., a genus of Coccidae erected in 1869. *Leucodiaspis* credited by Signoret [Ann. Soc. Ent. France, ix, p. 99 (1869)] to Targioni-Tozzetti is an error in spelling and of no value.

The following reference to *Leucaspis* appears in Atti Soc. Ital. di Sci. Nat., xi, p. 734 (1869), which establishes its validity:

“COCCIDARUM CATALOGUS Targ.-Tozz.

“Gen. 22. *Leucaspis* nob. Gen. n.

“Sp. 1. *Leucaspis candida* nob. *Diaspis candida* nob. 1867.

“Sp. 2. *Leucaspis Signoreti* nob. n. sp. 1868 (a D. Signoreti recepta, Pini sp. incola).”

Fiorinia diaspiformis Newstead.

- Fiorinia diaspiformis* Newst. (sine descr.), Liverpool Univ. Quart. Jn., I, 2, p. 74 (1906).
diaspitiformis Lindgr. (sine descr.), Ent. Wochenblatt., xxiv, 5, p. 20 (1907).
diaspiformis Newst., Jn. Econ. Biol., III, 2, p. 35 (1908). Fig.

Habitat—Java.

On *Piper* sp.

Fiorinia hirsuta Marchal.

- Fiorinia hirsuta* Marchal, Bul. Soc. Ent. Fr., p. 145 (1906).

Habitat—Algeria.

On *Nephelium longana* and other Sapindaceæ.

Fiorinia juniperi Leonardi.

- Fiorinia juniperi* Leon., Redia, III, p. 39 (1906). Fig.

Habitat—Ceylon.

On *Juniperus bermudiana*.

Fiorinia macroprocta (Leonardi).

- Trullifiorinia macroprocta* Leon., Annali di Agr., VII, p. 19 (1907). Fig.

Habitat—Java.

On leaf of *Raphis flabelliformis*.

Fiorinia odinæ Leonardi.

- Fiorinia odinæ* Leon., Redia, III, p. 24 (1906). Fig.

Habitat—Ceylon.

On *Odina woodice*.

Fiorinia rubrolineata Leonardi.

- Fiorinia* (*Trullifiorinia*) *rubrolineata* Leon., Redia, III, p. 44 (1906). Fig.

Habitat—Ceylon.

On *Murraya exotica*.

Fiorinia tumida Leonardi.

- Fiorinia tumida* Leon., Redia, III, p. 38 (1906). Fig.

Habitat—Ceylon.

On *Grewia* sp.

Aspidiotus africanus Marlatt.

- Aspidiotus* (*Diaspidiotus*) *africanus* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 15 (1908). Fig.

Habitat—South Africa.

On fig; apricot; almond; apple; quince; pear; privet; honey-locust (*Gleditsia triacanthos*); *Schinus molle*; *Acacia horrida*; *Robinia pseudacacia*; *Rhus* sp.

Aspidiotus ceconi (Leonardi).

- Hemiberlesia ceconi* Leon., Bol. Zool. Sc. Sup. Portici, III, p. 188 (1908). Fig.

Habitat—Sardinia.

On *Osirys alba*.

Aspidiotus cocotiphagus Marlatt.

- Aspidiotus* (*Aonidiella*) *cocotiphagus* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 14 (1908). Fig.

Habitat—Santiago de las Vegas, Cuba.

On *Cocos nucifera*; *Citrus trifoliata*.

Aspidiotus comperei Marlatt.

Aspidiotus (s. str.) *comperei* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 12 (1908).

Fig.

Habitat—W. Australia.

On *Hake* sp. and an undetermined plant.

Aspidiotus corticis-pini Lindinger.

Aspidiotus corticis-pini Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, p. — (1908).

Habitat—Japan.

On *Pinus densiflora*.

Aspidiotus coursetiæ Marlatt.

Aspidiotus (*Diaspidiotus*) *coursetiæ* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 20 (1908). Fig.

Habitat—Mexico.

On *Coursetia glandulosa*.

Aspidiotus densiflora Bremner.

Aspidiotus densiflora Bremner, Can. Ent., xxxix, p. 366 (1907). Fig.

Habitat—California.

On leaves of *Quercus densiflora*.

Aspidiotus eglandulosus Lindinger.

Aspidiotus eglandulosus Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, p. — (1908).

Lindgr., Ber. Stat. f. Pflanzensch. Hamb., x, p. 10 (1908).

Habitat—Guatemala; Panama.

On *Cereus*; "auf Kakteen."

Aspidiotus elæidis Marchal.

Aspidiotus elæidis Marchal (sine descr.) Compt. Rend. Soc. Biol., LXVI, p. 587 (1909).

Marchal, Bul. Soc. Zool. France, xxxiv, p. 69 (1909).

Marchal, Mém. Soc. Zool. France, xxii, p. 179 (1909). Fig.

Habitat—Dahomey.

On oil palm (*Elæis guineensis*).

Aspidiotus epigææ Marlatt.

Aspidiotus (*Hemiberlesia*) *epigææ* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 21 (1908). Fig.

Habitat—Virginia; Ohio.

On trailing arbutus (*Epigæa repens*).

Aspidiotus herculeanus Doane and Hadden.

Aspidiotus herculeanus Doane and Hadden, Can. Ent., xli, p. 298 (1909). Fig.

Habitat—Society Islands.

On bark of unknown plant.

Aspidiotus labiatarum Marchal.

Aspidiotus (*Evaspidiotus*) *labiatarum* Marchal, Compt. Rend. Ac. Sci., Paris, cXLVIII, 13, p. 872 (1909).

Habitat—Corsica.

On *Stachys glutinosa* and *Teucrium capitatum*.

***Aspidiotus lectularius* Green.**

Aspidiotus lectularius "Green" French (sine descr.), Victorian Nat., xxiii, p. 184 (1907).
Habitat—Victoria, Australia.

***Aspidiotus meyeri* Marlatt.**

Aspidiotus (s. str.) *meyeri* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 13 (1908). Fig.
Habitat—Peking, China.
On *Abies* sp.

***Aspidiotus mitchelli* Marlatt.**

Aspidiotus (*Hemiberlesia*) *mitchelli* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 22 (1908). Fig.
Habitat—Mitchell's Pass, South Africa.
"On thick, narrow, slightly oblanceolate leaves about 1½ in. long."

***Aspidiotus popularum* Marlatt.**

Aspidiotus (*Hemiberlesia*) *popularum* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 23 (1908). Fig.
Habitat—Arizona; New Mexico.
On cottonwood (*Populus* sp.).

***Aspidiotus privignus* Lindinger.**

Aspidiotus privignus Lindgr., Zeitschr. f. wiss. Insektenbiol., v, 5, 7 & 8, p. 151 (1909).
Fig. in No. 5.
Habitat—Italy; Greece.
On *Hypericum coris*; *Thymelæa tarton* (?).

***Aspidiotus trabuti* Marchal.**

Aspidiotus (*Hemiberlesia*) *trabuti* Marchal, Bul. Soc. Zool. France, xxxiv, p. 59 (1909).
Habitat—Algeria.
On *Ephedra altissima*.

***Aspidiotus transcaspensis* Marlatt.**

Aspidiotus (*Diaspidiotus*) *transcaspensis* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 21 (1908). Fig.
Habitat—Transcaspian Russia.
On *Populus* sp.

***Aspidiotus vuilleti* Marchal.**

Aspidiotus (*Hemiberlesia*) *vuilleti* Marchal, Compt. Rend. Soc. Biol., LXVI, p. 587 (1909).
Marchal, Bul. Soc. Zool. France, xxxiv, p. 73 (1909).
Marchal, Mém. Soc. Zool. France, xxii, p. 178 (1909). Fig.
Habitat—Senegal.
On branches of *Balanites* sp.

***Aspidiotus yulupæ* Bremner.**

Aspidiotus yulupæ Bremner, Can. Ent., xxxix, p. 367 (1907). Fig.
Habitat—California.
On *Quercus lobata*.

Pseudaonidia ferox (Lindinger).

Selenaspidus ferox Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, pp. 4, 7 (1909). Fig.
Habitat—Gold Coast, West Africa.
On Euphorbiaceæ.

Pseudaonidia gracilis (Lindinger).

Selenaspidus gracilis Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, pp. 4, 10 (1909). Fig.
Habitat—Kamerun, West Africa.
On leaves of *Agelaia fragrans* and *Tricalysia* sp.

Pseudaonidia greeni Marlatt.

Pseudaonidia greeni Marlatt, Pr. Ent. Soc. Wash., ix, pp. 135, 138, 140 (1908).
Habitat—Java.
On mangosteen and mango.

Pseudaonidia junctiloba Marlatt.

Pseudaonidia junctiloba Marlatt, Pr. Ent. Soc. Wash., ix, pp. 135, 138 (1908).
Habitat—Victoria, Australia.
On *Acacia* sp.

Pseudaonidia kamerunica (Lindinger).

Selenaspidus kamerunicus Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, pp. 4, 7 (1909).
Fig.
Habitat—Kamerun, West Africa.
On palms.

Pseudaonidia lounsburyi Marlatt.

Pseudaonidia (Selenaspidus) lounsburyi Marlatt, Pr. Ent. Soc. Wash., ix, pp. 134, 136, 139 (1908).
Habitat—South Africa.
On *Mesembryanthemum edule*.

Pseudaonidia magna (Lindinger).

Selenaspidus magnus Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, pp. 4, 9 (1909). Fig.
Habitat—Abyssinia.
On *Euphorbia* sp.

Pseudaonidia silvatica (Lindinger).

Selenaspidus silvaticus Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, pp. 4, 10 (1909). Fig.
Habitat—Kamerun, West Africa; Amani, East Africa.
On Anacardiaceæ; *Rinorea exappendiculata*; *Ficus indica*; *Bandeiræa speciosa*.

Genus **FURCASPIS** Lindinger. Type, *biformis*.

Furcaspis Lindgr., Berl. Ent. Zeitschr., lxx, pp. 98, 99 (1908).
Includes *Furcaspis (Aspidiotus) biformis* (Ckll.) and *F. (Aspidiotus) capensis* (Walk.).

Furcaspis oceanica Lindinger.

Aspidiotus biformis Lindgr., Ber. Stat. f. Pflanzensch., vi, p. 44 (1904). In part.
Furcaspis oceanica Lindgr., Zeitschr. f. wiss. Insektenbiol., v. 5, p. 149 (1909). Fig.
in Nos. 7 and 8.
Habitat—Jaluit Islands in Marshall group.
On fruit hulls of cocoanut.

Chrysomphalus barbusano Lindinger.

- Chrysomphalus barbusano* Lindgr., Berl. Ent. Zeitschr., LII, p. 101 (1908).
 Lindgr., Ber. Stat. f. Pflanzensch. Hamb., p. 8 (1908).
 Lindgr., Zeitschr. f. wiss. Insektenbiol., v, 4, p. 105 (1909).
 Fig.
 Habitat—Teneriffe, Canary Islands.
 On *Phæbe barbusano*.

Chrysomphalus minutus Kotinsky.

- Chrysomphalus minutus* Kotinsky, Pr. Haw. Ent. Soc., I, pt. 5, pp. 170–171 (1908). Fig.
 Habitat—Singapore.
 On leaf of undetermined plant.

Chrysomphalus prosimus Banks.

- Chrysomphalus prosimus* Banks, Philippine Jn. Sci., I, 3, pp. 221, 230 (1906). Fig.
 Habitat—Philippines.
 On leaves of *Cocos nucifera*.

Chrysomphalus taxus (Leonardi).

- Aonidiella aurantii* (Mask.) Berl. & Leon., Cherm. Ital., Fasc. I, no. 23 (1895).
taxus Leon., Redia, III, p. 1 (1906). Fig.
 Leon., Bol. Zool. Sc. Sup. Portici, p. 131 (1907). Fig.
 Habitat—Italy.
 On *Taxus baccata*.

Chrysomphalus triglandulosus Green.

- Aspidiotus (Chrysomphalus) triglandulosus* Green, Mem. Dep. Ag. India, II, 2, p. 33
 (1908). Fig.
 Mem. Dep. Ag. India, II, 7, p. 134
 (1908).
 Habitat—Bombay.
 On leaves of undetermined tree.

Targionia alni Marchal.

- Targionia alni* Marchal, Compt. Rend. Ac. Sci., Paris, CXLIII, 13, p. 872 (1909).
 Habitat—France.
 On *Alnus glutinosa*.

Targionia chenopodii Marlatt.

- Aspidiotus (Targionia) chenopodii* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 24
 (1908). Fig.
 Habitat—Coolabah, New South Wales.
 On *Chenopodium*.

Targionia vitis suberi Leonardi.

- Targionia vitis* var. *suberi* Leon., Bol. Lab. Zool. Sc. Sup. Portici, p. 166 (1907). Fig.
 Habitat—Sardinia.
 On *Quercus suber*.

Odonaspis graminis Bremner.

- Odonaspis graminis* Bremner, Can. Ent., XXXIX, p. 368 (1907). Fig.
 Habitat—California.
 On roots of grass.

Odonaspis ruthæ Ehrhorn.

Odonaspis ruthæ Ehrh. (sine descr.), 2d Bien. Rep. Com. Hort. Cal., p. 26 (1907).

Habitat—Hawaii; California (at quarantine).

On grass.

Pseudoparlatoria chilina Lindinger.

Pseudoparlatoria chilina Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, p. — (1908).

Habitat—Chile.

On *Saxegothæa conspicua*.

Aonidia glandulosa Newstead.

Aonidia glandulosa Newst., Draper (sine descr.), Scale Ins. of Egypt, p. 11 (1907).

Habitat—Egypt.

On "sunt" tree (*Acacia arabica* var. *nilotica*).

Aonidia juniperi Marlatt.

Aonidia juniperi Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 24 (1908). Fig.

Habitat—Utah.

On *Juniperus* sp.

Aonidia perplexa Green.

Aonidia perplexa Green, Jn. Bomb. N. H. Soc., xiii, p. 252 (1902). Fig.

Lindgr., Zeitschr. f. wiss. Insektenbiol., v, 4, p. 109 (1909).

Habitat—Ceylon.

On leaves of *Mesua ferrea*.

Aonidia picea Leonardi.

Aonidia picea Leon., Redia, iii, p. 6 (1906). Fig.

Habitat—Spain.

On *Billartia officinalis*.

Aonidia pinicola Leonardi.

Aonidia pinicola Leon., Annali di Agr., vi, p. 3 (1906). Fig.

Habitat—Spain.

On *Pinus sylvestris*.

Gymnaspis clusiæ Lindinger.

Gymnaspis clusiæ Lindgr., Deutsche Ent. Zeitschr., I, p. 153 (1909). Fig.

Habitat—Jamaica.

On leaves of *Clusia* sp.

Lepidosaphes auriculata (Green).

Mytilaspis auriculata Green, Tr. Linn. Soc. Lond., xii, pt. 2, p. 205 (1907). Fig.

Habitat—Seychelles.

On "croton."

Lepidosaphes beckii oleæ Leonardi.

Lepidosaphes beckii var. *oleæ* Leon., Bol. Zool. Sc. Sup. Portici, iii, p. 193 (1908). Fig.

Habitat—Sardinia.

On roots of olive.

Lepidosaphes beyeriæ (Green).

Mytilaspis beyeriæ "Green" French (sine descr.), Victorian Nat., xxiii, p. 184 (1907).

Habitat—Victoria, Australia.

Lepidosaphes bicolor Newstead.

- Mytilaspis* (*Lepidosaphes*) *bicolor* Newst. (sine descr.), Liverpool Univ. Quart. Jn., 1, 2, pp. 71, 72 (1906).
Newst. (sine descr.), Scale Insects of Egypt, p. 15 (1907).

Habitat—Egypt.

“On an unknown plant.”

Lepidosaphes chilopsidis (Marlatt).

- Mytilaspis chilopsidis* Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 27 (1908). Fig.
Habitat—Mexico.
On *Chilopsis linearis*.

Lepidosaphes destefanii Leonardi.

- Lepidosaphes destefanii* Leon., Bol. Zool. Sc. Sup. Portici, 1, p. 167 (1907). Fig.
Habitat—Italy.
On *Phillyrea media*.

Lepidosaphes ficifoliæ ulmicola Leonardi.

- Lepidosaphes ficifoliæ* var. *ulmicola* Leon., Bol. Zool. Sc. Sup. Portici, 1, p. 168 (1907).
Fig.
Habitat—Italy.
On leaves of *Ulmus*.

Lepidosaphes longula Leonardi.

- Lepidosaphes longula* Leon., Annali di Agr., VII, p. 20 (1907). Fig.
Habitat—Java.
On leaves of *Persea* sp.

Lepidosaphes mcgregori Banks.

- Lepidosaphes mcgregori* Banks, Philippine Jn. Sci., 1, 3, pp. 222, 233 (1906). Fig.
Habitat—Philippines.
On leaves of *Cocos nucifera*.

Lepidosaphes ocellata (Green).

- Mytilaspis ocellata* Green, Tr. Linn. Soc. Lond., XII, pt. 2, p. 206 (1907). Fig.
Habitat—Seychelles.
On fronds of *Davallia* sp.

Lepidosaphes piperis (Green).

- Mytilaspis piperis* Green, Mem. Dep. Ag. India, II, 2, p. 34 (1908). Fig.
Habitat—Madras, India.
On young stems of *Piper nigrum*.

^a **Lepidosaphes serrifrons** (Leonardi).

- Mytilaspis serrifrons* Leon., Riv. Pat. Veg., VI, pp. 118 (276), 121 (279) (1897). Fig.
Ckll., Bul. Ill. St. Lab. N. H., V, Art. XII, p. 397 (1899).
Leon., Annali di Agr., V, pp. 45, 48 (1903). Fig.
Habitat—Italy.
On *Croton undulatum* and *C. majesticum*.

^a This species apparently has been omitted in the Fernald catalogue and the writer's first supplementary catalogue (1906).

Lepidosaphes unicolor Banks.

Lepidosaphes unicolor Banks, Philippine Jn. Sci., 1, 3, pp. 222, 234 (1906). Fig.
Habitat—Philippines.
On leaves of *Cocos nucifera*.

Parlatoria chinensis Marlatt.

Parlatoria chinensis Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 30 (1908). Fig.
Habitat—China; Japan; Egypt.
On crab-apple; Hibiscus; Xanthoxylon; *Thuja orientalis*.

Parlatoria cinerea Doane & Hadden.

Parlatoria cinerea Doane & Hadden, Can. Ent., xli, p. 299 (1909). Fig.
Habitat—Society Islands.
On bark of orange tree and on cultivated vine.

Parlatoria greeni Banks.

Parlatoria greeni Banks, Philippine Jn. Sci., 1, 3, pp. 222, 231 (1906). Fig.
Habitat—Philippines.
On leaves of *Cocos nucifera*.

Parlatoria mangiferæ Marlatt.

Parlatoria mangiferæ Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 28 (1908). Fig.
Is a synonym of *P. pseudaspidotus* Lindgr., Insekten Börse, xxii, 33, p. 131 (1905).

Parlatoria pyri Marlatt.

Parlatoria pyri Marlatt, Bul. U. S. Bur. Ent., t. s. 16, Pt. II, p. 29 (1908). Fig.
Habitat—China; Manchuria.
On apple; pear.

CORRECTIONS TO CATALOGUE I (1906).

- Page 2. *Icerya colimensis* Ckll., Mem. Soc. Cient. Ant. Alz., xviii, p. 81 (1902).
Icerya tonilensis Ckll., Mem. Soc. Cient. Ant. Alz., xviii, p. 80 (1902).
Icerya rileyi larreæ Ckll., Mem. Soc. Cient. Ant. Alz., xviii, p. 82 (1902).
Page 4. *Trionymus hordei* (Lindeman).
Page 5. *Pseudococcus elongatus* Reuter, corrected in Catalogue II, p. 40.
Page 10. *Chionaspis angusta* Green for *Ch. angustata*.
Page 14. *Aspidiotus riveræ* Ckll., Ent. News, xvi, p. 161 (1905).
Page 15. *Chrysomphalus malleolus* Green=*Pseudaonidia malleolus* (Green).
Page 16. *Fernaldella* for *Fernaldiella*.

Attention should be called to the fact that *Fernaldella* Leonardi is preoccupied in Lepidoptera.

ABBREVIATIONS OF LITERATURE.

- Allg. Zeits. f. Ent.—Allgemeine Zeitschrift für Entomologie.
- Agr. News West. Ind.—Agricultural News. West Indies.
- An. Soc. Cient. Argentina.—Anales de la Sociedad Científica Argentina.
- Ann. Soc. Ent. France.—Annales de la Société Entomologique de France.
- Annali di Agr.—Annali di Agricoltura. Portici.
- Ann. Mag. N. H.—Annals and Magazine of Natural History.
- Ann. Mus. Zool. Ac. Imp. Sc. St. Petersbourg.—Annuaire Musée Zoologique Académie Impériale des Sciences de St. Petersbourg.
- Berl. Ent. Zeitschr.—Berliner Entomologische Zeitschrift.
- Ber. Stat. f. Pflanzensch. Hamb.—Bericht der Station für Pflanzenschutz, Hamburg.
- Bol. Min. Ag.—Boletín del Ministerio de Agricultura. Argentina.
- Bol. Zool. Sc. Sup. Portici.—Bollettino del Laboratorio di Zoologia generale e agraria della R. Scuola Superiore d' Agricoltura di Portici.
- Bot. Jahrb.—Botanische Jahrbücher.
- Bul. Ag. Exp. Sta. Japan.—Bulletin of the Imperial Central Agricultural Experiment Station. Japan.
- Bul. Ill. St. Lab. N. H.—Bulletin of the Illinois State Laboratory of Natural History.
- Bul. Soc. Ent. Fr.—Bulletin de la Société Entomologique de France.
- Bul. Soc. Ent. Ital.—Bulletino della Società Entomologica Italiana.
- Bul. Soc. Zool. France.—Bulletin de la Société Zoologique de France.
- Bul. U. S. Bur. Ent. t. s. 16, Pt. II.—Bulletin, Technical Series, Bureau of Entomology, U. S. Department of Agriculture.
- Can. Ent.—Canadian Entomologist.
- Catalogue Coccidæ.—U. S. Bur. Ent. technical series, Bul. 12, Pt. I (1906).
- Cherm. Ital.—Chermotheca Italica.
- Compt. Rend. Ac. Sci., Paris.—Comptes rendus hebdomadaires des séances de l'Académie des sciences. Paris.
- Compt. Rend. Soc. Biol.—Comptes rendus des séances de la Société de Biologie. Paris.
- Deutsche Ent. Zeitschr.—Deutsche Entomologische Zeitschrift.
- Ent. Mo. Mag.—The Entomologist's Monthly Magazine.
- Ent. Blätter.—Entomologische Blätter, Internationale Monatsschrift für die Biologie der Käfer Europas. Schwabach.
- Ent. Rec. Jn. Variation.—The Entomologist's Record and Journal of Variation.
- Ent. Wochenblatt.—Entomologisches Wochenblatt (*antea* Insekten-Börse).
- Ind. Mus. Notes.—Indian Museum Notes.
- Insekten Börse.—Entomologisches Wochenblatt.
- Jahrb. Hamb. wiss. Anst.—Jahrbuch der Hamburgischen wissenschaftlichen Anstalten.
- Jn. Bomb. N. H. Soc.—Journal of the Bombay Natural History Society. Calcutta.
- Jn. Econ. Biol.—The Journal of Economic Biology.
- Jn. N. Y. Ent. Soc.—Journal of the New York Entomological Society.
- Liverpool Univ. Quart. Jn.—Institute of Commercial Research in the Tropics, Liverpool University, Quarterly Journal.
- Medd. Soc. Faun. Fenn.—Meddelanden af Societas pro Fauna et Flora Fennica.
- Mem. Dep. Ag. India.—Memoirs of the Department of Agriculture in India.
- Mem. Soc. Cient. Ant. Alz.—Memorias y Revista de la Sociedad Científica "Antonio Abzate."
- Mém. Soc. Zool. France.—Mémoires de la Société Zoologique de France.

- Nachrichtsbl. Naturfrsch.-Klubs, Prossnitz.—Nachrichtsblatt Naturforscher-Klubs, Prossnitz (Mähren).
- N. Z. Trans.—Transactions of the New Zealand Institute.
- Pests and Blights of Tea Plant.—The Pests and Blights of the Tea Plant, 2d ed. Watt & Mann, Calcutta, 1903.
- Philippine Jn. Sci.—The Philippine Journal of Science.
- Pomona Jn. Ent.—Pomona Journal of Entomology. Claremont, California.
- Pr. Biol. Soc. Wash.—Proceedings of the Biological Society of Washington.
- Pr. Ent. Soc. Wash.—Proceedings of the Entomological Society of Washington.
- Pr. Haw. Ent. Soc.—Proceedings of the Hawaiian Entomological Society.
- Redia.—Redia.
- Riv. Pat. Veg.—Rivista di Patologia Vegetale.
- Scale Ins. of Egypt.—Notes on the Injurious Scale Insects and Mealy Bugs of Egypt. Cairo, 1907.
- Trab. Mus. Farm. Fac. Cienc. Med.—Trabajos del Museo de farmacologia de la Facultad de Ciencias Medicas. Buenos Aires, Argentina.
- Tr. Linn. Soc. Lond.—Transactions of the Linnæan Society of London.
- Victorian Nat.—The Victorian Naturalist.
- Zeitschr. f. wiss. Insektenbiol.—Zeitschrift für wissenschaftliche Insektenbiologie.

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