

TECHNICAL SERIES, No. 16, PART VI.

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

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PAPERS ON COCCIDÆ OR SCALE INSECTS.

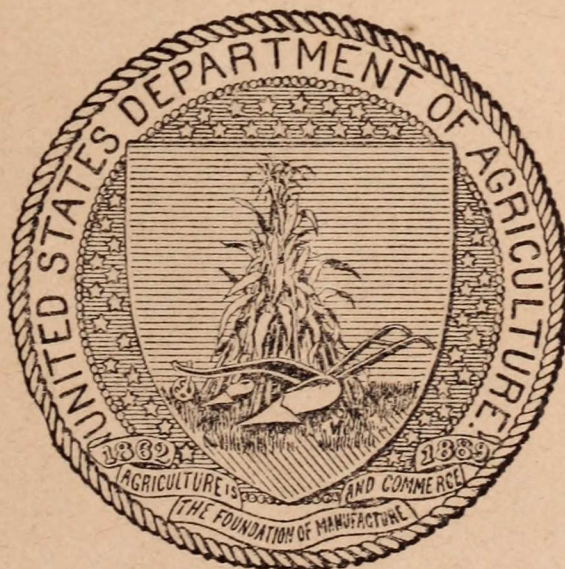
CATALOGUE

OF

RECENTLY DESCRIBED COCCIDÆ—IV.

By E. R. SASSCER,
Scientific Assistant.

ISSUED OCTOBER 19, 1912.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1912.

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GEORGE D. WHEELER

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PAPERS ON COCCIDÆ OR SCALE INSECTS.

CATALOGUE OF RECENTLY DESCRIBED COCCIDÆ—IV.

By E. R. SASSCER, *Scientific Assistant.*

Since the publication of the "Catalogue of Recently Described Coccidæ—III,"¹ 6 new genera, 110 new species, and 4 new varieties have been described in various publications by workers on Coccidæ. This makes a total of 29 new genera, 9 new subgenera, 540 new species, and 45 new varieties recorded since the appearance of Mrs. Fernald's Catalogue in 1903. The writer believes this list to be fairly complete to March, 1912, and earnestly requests the assistance of coworkers in adding any references that may have escaped his notice.

All species marked with an asterisk are represented in the National Collection of Coccidæ.

Subfamily **MONOPHLEBINÆ.**

Monophlebus africanus Newstead.

Monophlebus africanus Newst., Zool. Anthr. Ergeb. westl. zentr. Südafr., v, 1, p. 15 (1912). Fig.

Habitat—Dutch Southwest Africa.

On roots of ! "kxuibes"—plant.

Stigmatococcus zimmermanni Newstead.

Perissopneumon zimmermanni Newst., Mitt. zool. Mus. Berlin, v, 2, p. 157 (1911).

Habitat—German East Africa.

On *Manihot glazionii*.

Aspidioproctus armatus Newstead.

Aspidioproctus armatus Newst., Mitt. zool. Mus. Berlin, v, 2, p. 160 (1911). Fig.

Habitat—German East Africa.

On *Acacia*.

Aspidioproctus maximus Newstead.

**Aspidioproctus maximus* Newst., Mitt. zool. Mus. Berlin, v, 2, p. 158 (1911). Fig.

Habitat—German East Africa.

On M'sasa tree (*Brachystegia randii*).

¹Sasscer, E. R., "Catalogue of Recently Described Coccidæ—III," Tech. Ser. 16, Part IV, Bur. Ent., U. S. Dept. Agr., 1911.

***Icerya longisetosa* Newstead.**

Icerya longisetosa Newst., Mitt. zool. Mus. Berlin, v, 2, p. 155 (1911). Fig.
Habitat—German East Africa.
On *Acacia*.

***Icerya subandina* Leonardi.**

Icerya subandina Leon., Bol. Zool. Sc. Sup. Portici, v, p. 238 (1911). Fig.
Habitat—Argentina.
On *Bulnesia retana*.

***Lophococcus mirabilis tricornis* Newstead.**

Lophococcus mirabilis tricornis Newst., Zool. anthr. Ergeb. westl. zentr. Südaf.,
v, 1, p. 17 (1912). Fig.
Habitat—Dutch Southwest Africa.
On ?

Subfamily ORTHEZIINÆ.***Orthezia varipes* Leonardi.**

Orthezia varipes Leon., Bol. Zool. Sc. Sup. Portici, v, p. 240 (1911). Fig.
Habitat—Argentina.
On *Atriplex lampa*.

Subfamily DACTYLOPIINÆ.***Opisthoscelis* (?) *prosopidis* Kieffer and Jorgensen.**

Opisthoscelis prosopidis Kieffer and Jorgensen, Centr. f. Bakt. Par. u. Infekt., xxvii,
2, p. 417 (1910). Fig.
Habitat—Argentina.
In galls of *Prosopis adesmioides*.

***Asterolecanium coffeæ* Newstead.**

Asterolecanium coffeæ Newst., Mitt. zool. Mus. Berlin, v, 2, p. 161 (1911). Fig.
Habitat—German East Africa.
On *Coffea arabica*.

***Lecaniodiaspis africana* Newstead.**

Antonina (?) *africana* Newst. (sine descr.), Liverpool Univ., Quart. Jn., i, 2, pp. 69,
72 (1906).
Draper, Scale Insects of Egypt, p. 11 (1907).
Lecaniodiaspis africana Newst., Bul. Ent. Res., ii, 2, p. 100 (1911). Fig.
Habitat—Egypt.
On *Acacia arabica* and *Ficus* sp.

***Cerococcus andinus* Leonardi.**

Cerococcus andinus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 245 (1911). Fig.
Habitat—Argentina.
On *Tricycla patagonica*, *T. cacheuta*.

***Cerococcus badius* Leonardi.**

Cerococcus badius Leon., Bol. Zool. Sc. Sup. Portici, v, p. 243 (1911). Fig.
Habitat—Argentina.
On *Vendtia calycina*, *Baccharis rosmarinifolia*.

***Birchippia americana* Leonardi.**

Birchippia americana Leon., Bol. Zool. Sc. Sup. Portici, v, p. 246 (1911). Fig.

Habitat—Argentina.

On *Larrea divaricata*, *L. cuneata*.

***Kermes shastensis* Ehrhorn.**

Kermes shastensis Ehrh., Can. Ent., xliii, 8, p. 275 (1911).

Habitat—California.

On *Quercus chrysolepsis*.

***Eriococcus diversispinus* Leonardi.**

Eriococcus diversispinus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 249 (1911). Fig.

Habitat—Argentina.

On *Zuccagnia punctata*.

***Eriococcus eriogoni* Ehrhorn.**

Eriococcus eriogoni Ehrh., Can. Ent., xliii, 8, p. 276 (1911).

Habitat—Arizona.

On *Eriogonum stellatum*.

***Eriococcus parcispinosus* Leonardi.**

Eriococcus parcispinosus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 248 (1911). Fig.

Habitat—Argentina.

On *Atriplex lampa*.

***Eriococcus salinus* Ehrhorn.**

Eriococcus salinus Ehrh., Can. Ent., xliii, 8, p. 276 (1911).

Habitat—California.

On roots of grass (*Distichlis* sp.?).

***Gymnococcus lahillei* Leonardi.**

Gymnococcus lahillei Leon., Bol. Zool. Sc. Sup. Portici, v, p. 251 (1911). Fig.

Habitat—Argentina.

On *Larrea divaricata*, *L. cuneata*.

***Cissococcus* ? *oahuensis* Ehrhorn.**

Cissococcus ? *oahuensis* Ehrh., Proc. Haw. Ent. Soc., ii, 4, pp. 149, 179 (1912). Fig.

Habitat—Hawaiian Islands.

On Opuhe (*Urera sandwichensis*).

***Sphærococcus cupressi* Ehrhorn.**

Sphærococcus cupressi Ehrh., Can. Ent., xliii, 8, p. 277 (1911). Fig.

Habitat—California.

“Under dry bark and in crevices on trunk of *Cupressus macrocarpa*.”

***Ceroputo koebelei* Ehrhorn.**

Ceroputo koebelei Ehrh., Can. Ent., xliii, 8, p. 278 (1911). Fig.

Habitat—Arizona.

On *Quercus engelmanni*.

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

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

Sanders, Catalogue Coccidæ—II, p. 40 (1909).

Hempel, Rev. Mus. Paul., viii, p. 52 (1911). Descr.

Lachnodiella cecropiæ von Ihering.

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

Sanders, Catalogue Coccidæ—II, p. 40 (1909).

Hempel, Rev. Mus. Paul., viii, p. 52 (1911). Descr.

Habitat—Brazil.

On *Cecropia adenopus*.

Trionymus californicus Ehrhorn.

Trionymus californicus Ehrh., Can. Ent., xliii, 8, p. 279 (1911). Fig.

Habitat—California.

On *Festuca* sp.

Pseudococcus aridorum Lindinger.

Pseudococcus aridorum Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 7 (1911). Fig.

Habitat—Canary Islands.

On *Argyranthemum frutescens*, *Cytisus prolifer* var. *palmensis*, grass, *Trifolium panormitanum*.

Pseudococcus crotonis Green.

Dactylopius crotonis Green (sine descr.), Trop. Agr., xxiv, p. 44 (1905).

Pseudococcus crotonis Sanders, Catalogue Coccidæ—I, p. 5 (1906).

Dactylopius crotonis Green, Jn. Econ. Biol., vi, 2, p. 35 (1911). Fig.

Habitat—Ceylon.

On *Castilleja elastica*, variegated croton (*Codiaeum variegatum*), *Terminalia catappa*, *Erythrina lithosperma*.

Pseudococcus ledi Cockerell.

**Pseudococcus ledi* Ckll., Ent. News, xxii, 5, p. 217 (1911).

Habitat—New York.

On *Ledum grœnlandicum*.

Pseudococcus mendozinus Leonardi.

Pseudococcus mendozinus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 255 (1911). Fig.

Habitat—Argentina.

On *Hyalis argentea*.

Pseudococcus obtusus Newstead.

Dactylopius (*Pseudococcus*) *obtusus* Newst., Mitt. zool. Mus. Berlin, v, 2, p. 164 (1911).

Fig.

Habitat—German East Africa.

On *Baobabrinde*.

Pseudococcus percerosus Leonardi.

Pseudococcus percerosus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 254 (1911). Fig.

Habitat—Argentina.

On *Gourliea decorticans*.

Genus **HELIOCOCCUS** Sulc. Type, *bohemicus*.

Heliococcus Sulc, Čas. Společ. Ent., ix, 1, p. 39 (1912).

***Heliococcus bohemicus* Sulc.**

Heliococcus bohemicus Sulc, Čas. Společ. Ent., ix, 1, p. 39 (1912). Fig.

Habitat—Bohemia and Moravia.

On *Robinia pseudacacia*.

***Ripersia grandulifera* Newstead.**

Ripersia grandulifera Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 17 (1912). Fig.

Habitat—Southwest Africa.

On *Adiantum* sp.

Subfamily TACHARDIINÆ.***Tachardia albizziæ* Green.**

Tachardia albizziæ Green (sine descr.), Ind. Mus. Notes, v, p. 98 (1903).

Tachardia albizziæ Sanders, Catalogue Coccidæ—I, p. 6 (1906).

Tachardia albizziæ Green, Jn. Econ. Biol., vi, 2, p. 32 (1911). Fig. Description.

Habitat—Ceylon.

On *Landolphia* sp., *Albizzia stipulata*, *Filicium decipiens*, *Harpullia cupanioides*, *Croton lacciferum*, *Theobroma cacao*, *Sleichera trijuga*.

***Tachardia cordaliæ* Leonardi.**

Tachardia cordaliæ Leon., Bol. Zool. Sc. Sup. Portici, v, p. 258 (1911). Fig.

Habitat—Argentina.

On *Cordalia lineata*.

***Tachardia longisetosa* Newstead.**

Tachardia longisetosa Newst., Bul. Ent. Res., ii, 2, p. 102 (1911).

Habitat—Uganda.

On bark-cloth (*Fiscus* sp.).

***Tachardia lycii* Leonardi.**

Tachardia lycii Leon., Bol. Zool. Sc. Sup. Portici, v, p. 256 (1911). Fig.

Habitat—Argentina.

On *Lycium chilense*.

Subfamily COCCINÆ.***Pulvinaria argentina* Leonardi.**

Pulvinaria argentina Leon., Bol. Zool. Sc. Sup. Portici, v, p. 260 (1911). Fig.

Habitat—Argentina.

On *Lycium chilense*, *Fabiana denudata*.

***Pulvinaria plana* Lindinger.**

Pulvinaria plana Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 34 (1911). Fig.

Habitat—Canary Islands.

On underside of leaves of *Laurus canariensis*.

***Luzulaspis spinulosa* Leonardi.**

Luzulaspis spinulosa Leon., Bol. Zool. Sc. Sup. Portici, v, p. 262 (1911). Fig.

Habitat—Argentina.

On *Atriplex lampa*.

Ceroplastes breviseta Leonardi.

Ceroplastes breviseta Leon., Bol. Zool. Sc. Sup. Portici, v, p. 264 (1911). Fig.
Habitat—Argentina.
On *Atriplex lampa*.

Ceroplastes galeatus Newstead.

Ceroplastes galeatus Newst., Bul. Ent. Res., ii, 2, p. 95 (1911). Fig.
Habitat—Uganda.
On ?

Ceroplastes irregularis Leonardi.

Ceroplastes irregularis Leon., Bol. Zool. Sc. Sup. Portici, v, p. 271 (1911). Fig.
Habitat—Argentina.
On *Larrea cuneata*.

Ceroplastes longiseta Leonardi.

Ceroplastes longiseta Leon., Bol. Zool. Sc. Sup. Portici, v, p. 268 (1911). Fig.
Habitat—Argentina.
On *Fabiana denudata*.

Ceroplastes subrotundus Leonardi.

Ceroplastes subrotundus Leon., Bol. Zool. Sc. Sup. Portici, v, p. 266 (1911). Fig.
Habitat—Argentina.
On *Cercidium andicolum*.

Ceroplastes subsphæricus Newstead.

Ceroplastes subsphæricus Newst., Mitt. zool. Mus. Berlin, v, 2, p. 166 (1911).
Habitat—German East Africa.
On *Albizzia lebbek*.

Ceroplastes ugandæ Newstead.

Ceroplastes ugandæ Newst., Bul. Ent. Res., ii, 2, p. 94 (1911). Fig.
Habitat—Uganda.
On "Amakebe."

Ceroplastes vinsonioides Newstead.

Ceroplastes vinsonioides Newst., Bul. Ent. Res., ii, 2, p. 96 (1911). Fig.
Habitat—Uganda.
On *Coffea*.

Ceroplastes gowdeyi Newstead.

Ceroplastes gowdeyi Newst., Bul. Ent. Res., ii, 2, p. 98 (1911). Fig.
Habitat—Uganda.
On African bark-tree (*Ficus* sp.).

Inglisia castilloæ Green.

Inglisia castilloæ Green, Jn. Econ. Biol., vi, 2, p. 29 (1911). Fig.
Habitat—Ceylon.
On *Castilleja elastica*, *Grewia microcos*, *Adenochlæna zeylanica*, *Solanum* sp., *Vernonia* sp., and tea.

Coccus nyasæ Newstead.

Lecanium nyasæ Newst., Mitt. zool. Mus. Berlin, v, 2, p. 162 (1911). Fig.
Habitat—German East Africa.
On ?

Lecanium elegans Leonardi.*Eulecanium elegans* Leon., Bol. zool. Sc. Sup. Portici, v, p. 273 (1911). Fig.

Habitat—Argentina.

On *Larrea cuneata*, *L. divaricata*.**Lecanium tenuivalvatum** Newstead.*Lecanium tenuivalvatum* Newst., Bul. Ent. Res., ii, 2, p. 92 (1911). Fig.

Habitat—Uganda.

On citronella grass.

Lecanium tremæ Newstead.*Lecanium* (*Eulecanium*) *tremæ* Newst., Mitt. zool. Mus. Berlin, v, 2, p. 162 (1911).
Fig.*Lecanium* (*Eulecanium*) *tremæ* Newst., Bul. Ent. Res., ii, 2, p. 93 (1911).

Habitat—German East Africa.

On *Trema guineensis*.**Saissetia silvestrii** Leonardi.*Saissetia silvestrii* Leon., Bol. Zool. Sc. Sup. Portici, v, p. 275 (1911). Fig.

Habitat—Argentina.

On *Zuccagnia punctata*.Subfamily **DIASPINÆ**.**Chionaspis africana** Newstead.*Chionaspis africana* Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 19 (1912). Fig.

Habitat—Southwest Africa.

On?

Chionaspis amaniensis Lindinger.*Chionaspis amaniensis* Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 42 (1910). Fig.

Habitat—German East Africa.

On underside of an undertermined dicotyledonous leaf.

Chionaspis arthrocnemi Lindinger.*Chionaspis arthrocnemi* Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 11, p. 354 (1911).
Fig.

Habitat—Turkey.

On *Arthrocnemum macrostachyum*.**Chionaspis canariensis** Lindinger.*Chionaspis canariensis* Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 26 (1911). Fig.
Habitat—Canary Islands.On *Plocama pendula*, *Micromeria ericifolia*, *M. linki*, *M. teneriffæ*, *M. terebinthacea*,
Micromeria sp., *Ruta oreojasme*, *Salsola longifolia*, *Cneorum pulverulentum*,
Cytisus filiper.**Chionaspis cassiæ** Newstead.*Chionaspis cassiæ* Newst., Bul. Ent. Res., ii, 2, p. 89 (1911). Fig.

Habitat—Uganda.

On *Cassia floribunda*.**Chionaspis longispina** Newstead.*Chionaspis longispina* Newst., Bul. Ent. Res., ii, 2, p. 88 (1911). Fig.

Habitat—Egypt.

On *Justicia alba*.

Chionaspis mytilaspiformis Newstead.

Chionaspis mytilaspiformis Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 19 (1912). Fig.

Habitat—Southwest Africa.

On *Rhus lancea*.

Chionaspis nudata Newstead.

Chionaspis nudata Newst., Mitt. zool. Mus. Berlin, v, 2, p. 170 (1911). Fig.

Habitat—German East Africa.

On (?)

Chionaspis subnudata Newstead.

Chionaspis subnudata Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 19 (1912). Fig.

Habitat—Southwest Africa.

On "I obarus."

Diaspis atlantica Lindinger.

Diaspis atlantica Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 28 (1911). Fig.

Habitat—Canary Islands.

On leaf of *Juniperus phœnicea*.

Diaspis barrancorum Lindinger.

Diaspis barrancorum Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, p. 29 (1911). Fig.

Habitat—Canary Islands.

On *Euphorbia regis-jubæ*.

Diaspis parva Lindinger.

Diaspis parva Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 44 (1910). Fig.

Habitat—German East Africa.

On leaf and twig of *Loranthus undulatus* var. *sagittifolius*.

Diaspis regularis Newstead.

Diaspis regularis Newst., Bul. Ent. Res., ii, 2, p. 86 (1911). Fig.

Habitat—Uganda.

On (?)

Aulacaspis cinnamomi mangiferæ Newstead.

Diaspis (Aulacaspis) cinnamomi v. *mangiferæ* Newst., Bul. Ent. Res., ii, 2, p. 86 (1911). Fig.

Habitat—Egypt (imported from Ceylon).

On mango.

Phenacaspis bussii Newstead.

Chionaspis bussii Newst., Mitt. zool. Mus. Berlin, v, 2, p. 171 (1911).

Habitat—German East Africa.

On *Macrolobium* sp.

Phenacaspis lutea Newstead.

Chionaspis lutea Newst., Mitt. zool. Mus. Berlin, v, 2, p. 169 (1911). Fig.

Habitat—German East Africa.

On forest tree, under fungus.

Phenacaspis tangana Lindinger.

Phenacaspis tangana Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 45 (1910). Fig.

Habitat—German East Africa.

On leaf of *Dracæna* sp.

Hemichionaspis chionaspiformis Newstead.

Diaspis (?) *chionaspiformis* Newst., Bul. Ent. Res., i, 3, p. 198 (1910). Fig.
Chionaspis unita Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 43 (1910). Fig.
Hemichionaspis chionaspitiformis Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, Berichti-
 gung (1910).

Diaspis (?) *chionaspiformis* Sassocer, Catalogue Coccidæ—III, p. 68 (1911).

Habitat—British and German East Africa.

On an unknown plant and *Turræa* sp.

Crypthemichionaspis Lindinger. Type, *nigra*.

Crypthemichionaspis Lindgr.,¹ Zeitschr. f. wiss. Insektenbiol., vii, 5, 6, p. 175 (1911).

Crypthemichionaspis nigra Lindinger.

Crypthemichionaspis nigra Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 5, 6, p. 175 (1911). Fig.

Habitat—South Australia.

On *Acacia salicina*; *Phyllodien*.

Leucaspis indiae-orientalis Lindinger.

Leucaspis indiae-orientalis Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 127 (1911). Fig.

Habitat—India.

On *Pinus kasya*.

Fiorinia africana Newstead.

Fiorinia africana Newst., Bul. Ent. Res., ii, 2, p. 90 (1911). Fig.

Habitat—Egypt.

On poplar.

Fiorinia neo-caledonica Lindinger.

Fiorinia neo-caledonica Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 5–6, p. 176 (1911). Fig.

Habitat—New Caledonia.

On *Bæckia pinifolia*.

Fiorinia odinæ multipora Lindinger.

Fiorinia odinæ multipora Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 126 (1911).

Habitat—India.

On *Taxus wallichiana*.

Genus **CRYPTASPIDUS** Lindinger. Type, *nucum*.

Cryptaspidus Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 43 (1910).

Cryptaspidus nucum Lindinger.

Cryptaspidus nucum Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 43 (1910). Fig.

Habitat—Madagascar.

On scales of fruit of *Cocos nucifera*.

Aonidia glandulosa Newstead.

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

Sanders, Catalogue Coccidæ—II, p. 56 (1911).

Newst., Bul. Ent. Res., ii, 2, p. 103 (1911). Fig.

Habitat—Egypt.

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

¹Includes *Fiorinia acaciæ* Mask., *F. lidgetti* Green, and *Crypthemichionaspis nigra* n. sp.

Aonidia longa Lindinger.

Aonidia longa Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 5, 6, p. 172 (1911). Fig.
Habitat—New Caledonia.
On *Podocarpus gnidioides*.

Aonidia (?) paradoxa Lindinger.

Aonidia (?) paradoxa Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 5, 6, p. 173 (1911). Fig.
Habitat—South Australia.
On *Casuarina glauca*.

Aonidia (?) targioniopsis Lindinger.

Aonidia (?) targioniopsis Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 3, p. 86 (1911). Fig.
Habitat—Burma.
On *Miliusa velutina*.

Aonidia viridis Lindinger.

Aonidia viridis Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 3, p. 86 (1911). Fig.
Habitat—India.
On upper side of leaf of *Aglaia minutiflora*.

Cryptaspidiotus aonidioides Lindinger.

Cryptaspidiotus aonidioides Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 21 (1911). Fig.
Habitat—Canary Islands.
On leaves of *Laurus canariensis*, *Apollonias canariensis*.

Cryptaspidiotus austro-africanus Lindinger.

Cryptaspidiotus austro-africanus Lindgr. (Brick), Jahrb. Hamb. wiss. Anst., xxvii, p. 505 (1910).
Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 41 (1911). Fig. and description.
Habitat—Natal.
On *Euphorbia* sp.

Aspidiotus argentina Leonardi.

Aspidiotus (Hemiberlesia) argentina Leon., Bol. Zool. Sc. Sup. Portici, v, p. 277 (1911). Fig.
Habitat—Argentina.
On *Ophryoporus andinus*.

Aspidiotus bavaricus Lindinger.

Aspidiotus (Diaspidiotus) bavaricus Lindgr., Zeitschr. f. wiss. Insektenbiol., viii, 1, p. 31 (1912).
Habitat—Bavaria, Prussia, Austria, Norway, England (?), and Portugal (?).
On *Calluna vulgaris*, *Erica tetralix*.

Aspidiotus canariensis Lindinger.

Aspidiotus canariensis Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 12 (1911). Fig.
Habitat—Canary Islands.
On stem and branch of *Argyranthemum frutescens*.

Aspidiotus euphorbiæ Newstead.

Aspidiotus (Selenaspis) euphorbiæ Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 18 (1912). Fig.

Habitat—South Africa.

On *Euphorbia virosa*.

Aspidiotus fissidens pluridentatus Lindinger.

Aspidiotus fissidens pluridentatus Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 35 (1910).

Habitat—German East Africa, Mozambique.

On leaves of *Bosquiea cerasiflora*, *Sideroxylon inerme*, *Chrysophyllum stuhlmanii*.

Aspidiotus fissus Lindinger.

Aspidiotus fissus Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 35 (1910). Fig.

Habitat—Abyssinia.

On *Euphorbia* sp.

Aspidiotus furcræicola Lindinger.

Aspidiotus furcræicola Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 36 (1910). Fig.

Habitat—German East Africa.

On underside of leaf of *Furcræa gigantia*.

Aspidiotus gymnosporiæ Lindinger.

Aspidiotus gymnosporiæ Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 13 (1911) Fig.

Habitat—Canary Islands.

On leaf of *Gymnosporia cassinoides*.

Aspidiotus lauretorum Lindinger.

Aspidiotus lauretorum Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 15 (1911). Fig.

Habitat—Canary Islands.

On *Dracæna draco*, *Gymnosporia cassinoides*, *Ilex canariensis*, *I. platyphylla*, *Oreodaphne fœtens*, *Picconia excelsa*, *Smilax canariensis*, *Hedera helix canariensis*, *Apollonias canariensis*, *Heberdenia excelsa*, *Laurus canariensis*, and Lauraceæ.

Aspidiotus mammillaris Lindinger.

Aspidiotus mammillaris Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 37 (1910). Fig.

Habitat—Abyssinia.

On surface of leaves of *Aloe eru*.

Aspidiotus reticulatus Newstead.

Aspidiotus reticulatus Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 17 (1912). Fig.

Habitat—Southwest Africa.

On monocotyledon (?)

Chrysomphalus samoana Lindinger.

Chrysomphalus (Melanaspis) samoana Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 5, 6, p. 177 (1911). Fig.

Habitat—Island of Samoa.

On *Myristica hypargyræa*.

Aspidiotus schultzei Newstead.

Aspidiotus (Selenaspidus) schultzei Newst., Zool. anthr. Ergeb. westl. zentr. Südaf., v, 1, p. 18 (1912). Fig.

Habitat—Southwest Africa.

On succulent plant.

Aspidiotus taorensis Lindinger.

Aspidiotus taorensis Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 17 (1911). Fig.

Habitat—Canary Islands.

On *Euphorbia aphylla*, *E. regis-jubæ*.

Aspidiotus tectarius Lindinger.

Aspidiotus tectarius Lindgr., Jahrb. Hamb. wiss. Anst., xxvi, 3, p. 20 (1909). Fig.

Habitat—South America.

On leaves of *Euphorbia* sp.

Aspidiotus tinerfensis Lindinger.

Aspidiotus tinerfensis Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 18 (1911). Fig.

Habitat—Canary Islands.

On *Dracæna draco*.

Aspidiotus tsugæ Marlatt.

Aspidiotus (Diaspidiotus) tsugæ Marlatt, Ent. News, xxii, 9, p. 385 (1911). Fig.

Habitat—Japan.

On Japanese hemlock (*Tsuga* sp.).

Aspidiotus varians Lindinger.

Aspidiotus varians Lindgr., Jahrb. Hamb. wiss. Anst., xxvii, 3, p. 39 (1911). Fig.

Habitat—German East Africa, Madagascar.

On leaf and scales of fruit of *Cocos nucifera*.

Targionia (?) *campylanthi* Lindinger.

Targionia (?) *campylanthi* Lindgr., Jahrb. Hamb. wiss. Anst., xxviii, 3, p. 25 (1911). Fig.

Habitat—Canary Islands.

On *Campylanthus solsoloides*.

Targionia fabianæ Leonardi.

Targionia fabianæ Leon., Bol. Zool. Sc. Sup. Portici, v, p. 278 (1911). Fig.

Habitat—Argentina.

On *Fabiana denudata*.

Genus **PROTARGIONIA** Leonardi. Type, *larreæ*.

Protargionia Leon., Bol. Zool. Sc. Sup. Portici, v, p. 280 (1911).

Protargionia larreæ Leonardi.

Protargionia larreæ Leon., Bol. Zool. Sc. Sup. Portici, v, p. 280 (1911). Fig.

Habitat—Argentina.

On *Larrea divaricata*, *L. cuneata*.

Lepidosaphes fasciata Green.

Lepidosaphes (Mytilaspis) fasciata Green, Jn. Econ. Biol., vi, 2, p. 31 (1911). Fig.

Habitat—Ceylon.

On leaves of *Hevea brasiliensis*.

Lepidosaphes travancorensis Lindinger.

Lepidosaphes travancorensis Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 127 (1911). Fig.

Habitat—India.

On underside of leaf of *Aglaia minutiflora*.

Genus **DINASPIS** Leonardi. Type, *ichesii*.

Dinaspis Leon., Bol. Zool. Sc. Sup. Portici, v. p. 282 (1911).

Dinaspis ichesii Leonardi.

Dinaspis ichesii Leon., Bol. Zool. Sc. Sup. Portici, v, p. 282 (1911). Fig.

Habitat—Argentina.

On *Ephedra andina*.

Dinaspis lahillei Leonardi.

Dinaspis lahillei Leon., Bol. Zool. Sc. Sup. Portici, v, p. 283 (1911). Fig.

Habitat—Argentina.

On *Bulnesia retana*.

Ischnaspis spathulata Lindinger.

Ischnaspis spathulata Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 127 (1911). Fig.

Habitat—India.

On underside of leaf of *Atica obscura*.

Parlatoria ephedræ Lindinger.

Parlatoria ephedræ Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 129. Fig.

Habitat—Persia.

On *Ephedra intermedia*, *E. nebiodensis*, *E. nebiodensis* var. *procera*.

Parlatoria hastata Lindinger.

Parlatoria hastata Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 129 (1911). Fig.

Habitat—Borneo.

On leaf of *Gnetum scandens*.

Cryptoparlatoarea uberifera Lindinger.

Cryptoparlatoarea uberifera Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 4, p. 126 (1911). Fig.

Habitat—Philippine Islands.

On leaves of *Artocarpus* sp. and *Mallotus philippinensis*.

Cryptoparlatoarea parlatoareiodes Lindinger.

Cryptoparlatoarea parlatoareiodes Lindgr., Zeitschr. f. wiss. Insektenbiol., vii, 3, p. 89 (1911). Fig.

Habitat—India.

On surface of leaf of *Xanthophyllum flavescens*.

CORRECTION TO CATALOGUE III—1911.

On page 66 the heading "Subfamily Coccinæ" should be transferred to page 65 to precede Ceroplastidia, line 17 from bottom.

ABBREVIATIONS OF LITERATURE.¹

- 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. Petersburg.—Annuaire Musée Zoologique Académie Impériale des Sciences de St. Petersburg.
- 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. Ent. Res.—Bulletin of Entomological Research.
- 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. Zoo. France.—Bulletin de la Société Zoologique de France.
- Bul. U. S. Bur. Ent., t. s. 16, Pt. II.—Bulletin, Technical Series 16, Part II, Bureau of Entomology, U. S. Department of Agriculture.
- Can. Ent.—Canadian Entomologist.
- Čas. Společ. Entom.—Časopis České Společnosti Entomologické. Acta Societatis Entomologicæ Bohemiæ.
- Catalogue Coccidæ—I.—U. S. Dept. Agr., Bur. Ent., technical series, Bul. 12, Pt. I (1906).
- Catalogue Coccidæ—II.—U. S. Dept. Agr., Bur. Ent., technical series, Bul. 16, Pt. III (1909).
- Catalogue Coccidæ—III.—U. S. Dept. Agr., Bur. Ent., technical series, Bul. 16, Pt. IV (1911).
- Centr. f. Bakt. Par. u. Infekt.—Centralblatt für Bakteriologie und Parasitenkunde und Infektionskrankheiten.
- Cherm. Ital.—Chermotheca Italica.
- Cocc. Ceylon.—Coccidæ of Ceylon.
- 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. News.—Entomological News.
- 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.

¹ This list includes abbreviations of literature used for coccid descriptions referred to in Nos. I, II, III and IV.

- Jn. Econ. Biol.—The Journal of Economic Biology.
- Jn. N. Y. Ent. Soc.—Journal of the New York Entomological Society.
- Kilimandjaro-Meru Exp.—Schwedischen zoologischen Expedition nach dem Kilimandjaro, dem Meru und den umgebenden Massaisteppe Deutsch-Ostafrikas.
- 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 Alzate."
- Mém. Soc. Zool. France.—Mémoires de la Société Zoologique de France.
- Mitt. zool. Mus. Berlin.—Mitteilungen aus den zoologischen Museum in Berlin.
- Nachrichtsbl. Naturforsch.-Klubs, Prossnitz.—Nachrichtsblatt Naturforscher-Klubs, Prossnitz (Mähren).
- N. Z. Trans.—Transactions of the New Zealand Institute.
- Pests and Blights of Tea Plants.—The Pests and Blights of the Tea Plant, 2d ed. Watt & Mann, Calcutta, 1903.
- Philippine Jn. Sci.—The Philippine Journal of Science.
- Pomona College Jn. Ent.—Pomona College Journal of Entomology. Claremont, California.
- Pr. Biol. Soc. Wash.—Proceedings of the Biological Society of Washington.
- Pr. Dav. Acad. Sci.—Proceedings Davenport Academy of Sciences. Davenport, Iowa.
- Pr. Ent. Soc. Wash.—Proceedings of the Entomological Society of Washington.
- Pr. Haw. Ent. Soc.—Proceedings of the Hawaiian Entomological Society.
- Redia.—Redia.
- Rev. Mus. Paul.—Revista Museu Paulista.
- Riv. Pat. Veg.—Rivista di Patologia Vegetale.
- Scale Ins. of Egypt.—Notes on the Injurious Scale Insects and Mealy Bugs of Egypt. Cairo, 1907.
- The Entom.—The Entomologist.
- Trab. Mus. Farm. Fac. Cienc. Med.—Trabajos del Museo de Farmacologia de la Facultad de Ciencias Médicas. Buenos Aires, Argentina.
- Tr. Linn. Soc. Lond.—Transactions of the Linnæan Society of London.
- Trop. Agr.—Tropical Agriculturist.
- Victorian Nat.—The Victorian Naturalist.
- Zeitschr. f. wiss. Insektenbiol.—Zeitschrift für wissenschaftliche Insektenbiologie.
- Zool. anthr. Ergeb. westl. zentr. Südafr.—Zoologische und anthropologische Ergebnisse einer Forschungsreise im westlichen und zentralen Südafrika.

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