

Hypocaccus asper, sp. n.

Oralis, convexus, fere niger, parum nitidus, supra undique dense punctatus; fronte stria integra antice carinata; pronoto lateribus rugoso-punctato; clytris striis 1-4 fere integris, suturali parte geminata; prosterno angusto, striis approximatis.
L. $2\frac{1}{2}$ -3 mill.

Oval, convex, black, densely punctured above, and more coarsely and conspicuously punctured on the mesosternum; the head rugosely punctured, frontal stria complete and cariniform over the eyes and anteriorly; the thorax punctured like the head, interstices rugose except on the disk, marginal stria complete but extremely fine behind the head, punctured like the head, with interstices generally longitudinally rugose, striae, outer humeral complete, inner short and median, 1-4 almost complete but apically somewhat obliterated by the punctuation, sutural complete, geminate on the dorsum, and joining the fourth at the base, it also continues along the apical rim, which is very narrowly smooth; the pygidia are densely punctured; the prosternum, the keel is very narrow and the striae are formed like those figured for *H. 4-striatus*, Hoffm. (Ann. & Mag. Nat. Hist. ser. 7, vol. iv. p. 2, 1899). The mesosternum is widely sinuous anteriorly, stria complete, surface punctate; the metasternum has a median longitudinal sulcus, deepest posteriorly, and the punctures are large along the hinder border; the anterior tibiae are somewhat dilated and 6-7-dentate.

Superficially this species resembles the figure given by Marseul for *Saprinus delta*, but the frontal stria is carinate and straight anteriorly, and beneath the mesosternal stria is complete.

Hab. Bulawayo, Matabeleland, July 1900 (Guy A. K. Marshall).

XLVIII.—*A Preliminary Report on some new Brazilian Hemiptera.* By ADOLPH HEMPEL.

Aphidæ.

Genus CERATOYACUNA, Zehntner, 1897.

It will be necessary to revise the characters of this genus, as published by Dr. Leo Zehntner in 1897, from Java, in order to include the Brazilian species.

Characters.—Wingless form with antennæ of four joints,

joint 3 being longest. Honey-tubes represented by small orifices arising from a slight tubercle. No caudal tail present. Two large spines or horns project forward on the ventral surface between the antennæ. Larvæ and adults secreting a white wax, which may entirely cover them or may be in the form of a marginal fringe. Winged forms with antennæ of five joints, of which joint 3 is the longest. Wings folded horizontally on the back. Fore wing has the cubitus with one branch; the two oblique veins are united for a short distance at the base. Hind wings with two oblique veins. All forms viviparous.

Type *Ceratovacuna lanigera*, Zehntner. Java.

Ceratovacuna brasiliensis, sp. n.

Adult wingless female.—Ovate, convex, very dark brown; dorsum covered with a very thin colourless layer of wax; with a conspicuous narrow transverse band of white wax separating the thorax from the abdomen. The lateral margin is furnished with a conspicuous fringe of white wax, giving the insect the appearance of an Aleurodid. Dorsal derm hard, with a transverse groove between thorax and abdomen, and a number of small hairs scattered over it. It does not soften after prolonged boiling in a solution of KOH. The lateral margin is ornamented by fine regular crenulations, due to the wax-glands it bears. Eyes small, black, divided into three divisions. On the anterior margin of the abdominal surface there are two stout horns or spines, varying from 68–80 microns in length. The ventral surface also bears two stout lance-shaped spines and four stout hairs near the base of the antennæ.

Antennæ close together, of four joints, of which the third is the longest. Total length .252 to .290 millim. Length of joints in microns: (1) 47–54, (2) 43–47, (3) 112–122, (4) 43–72. All the joints bear hairs. Legs ordinary; tarsus with two long slender digitules with ends slightly expanded, and with two to four slender hair-like digitules. Claw much curved, with a slight notch at the base. Cornicles small perforated tubercles, situated close to the lateral margin of the body. Cauda not developed. Rostrum short, extending about halfway to the second pair of legs. Total length 1.30 to 1.46 millim.; width 1.09 to 1.22 millim.

The larvæ are like the adult, but lighter in colour.

Larva of the winged female.—Light brown, ovate, slightly narrower than the preceding form, but of the same length. No waxy secretion present. The two spines on the anterior

border are indicated by two small tubercles. On the ventral surface near the anterior margin there are two groups of three spines each. These spines are tuberculate and lance-shaped, one pointing forward, the other two downward.

Antennæ of five joints, of which the third is the longest. Cornicles, cauda, claws, and digitules the same as in the preceding form.

Adult winged female.—Brown, the antennæ and dorsum of the thorax darker than the rest of the body. Antennæ of five joints, joint 3 the longest. Length .500 to .597 millim. Length of joints: (1) 36–43, (2) 29–36, (3) 234–277, (4) 108–133, (5) 93–108. Joints 1 and 2 short and globose; joints 3, 4, and 5 cylindrical, circled with numerous elevations, which, however, do not make complete rings, as the ends fail to meet on the dorsal surface. Eyes black. Three ocelli are present, one at the base of each antenna and the other on the anterior margin between the antennæ. Length of the body 1.27–1.41 millim. Legs ordinary. Cornicles, cauda, claws, and digitules similar to those of the other forms.

Wings colourless; veins brown. The costa of the anterior wings has one branch near the distal end. The two oblique veins are united for a short distance near their bases. Posterior wings with two oblique veins. When at rest the wings are folded horizontally on the back. Length of fore wing 2.05 millim.; extent 4.61 millim.

Hab. Campinas, Brazil, on a species of palm; S. Paulo, on another species of palm, on a species of *Epidendron*, and on *Cattleya Harrisonia*.

Aleurodidæ.

Genus ALEURODES, Latreille.

Aleurodes Youngi, sp. n.

Full-grown larva broadly oval in outline, flat, usually bare and with no distinct fringe on the margin. Colour light yellowish to greyish; eyes small, dark chestnut-brown. Margin of body very thin, crenulated, with one pair of setæ on the anterior end and two pair on the posterior end. Vasi-form orifice large, broadly subovate in outline, situated about 0.100 millim. from the posterior margin of the body. Operculum short, subcordate, truncated posteriorly. Lingula not extending to the posterior edge of orifice; distal end expanded, cordate; edges serrated, with a pair of prominent setæ extending beyond the posterior edge of orifice. Length 1.10 millim.; width .80 millim.

Very young larva light greyish to yellowish, elliptical in outline, very flat; margin of body but slightly crenulated, but with a fringe of thirty-four large hairs or setæ. Antennæ and legs well developed, the latter with one long claw. Vasisform orifice large, broadly subovate in outline. Operculum elliptical, short, much wider than long. Lingula extending to the posterior edge of orifice, subspatulate, with the posterior half serrated and setose, terminating in a pair of long setæ.

Pupa light yellow in colour, of same size and shape as full-grown larva. Eyes very large, dark chestnut-brown. Marginal setæ and vasisform orifice as in full-grown larva.

Adult female light yellow in colour; wings creamy white, becoming colourless in balsam, covered with a fine white powder. Fore wings with a small dark spot at the distal end of the vein, which under the microscope shows that it is composed of a number of minute polygonal cells or areas. Eyes large, oval, but slightly constricted in the middle, dark chestnut-brown in colour. Antennæ of seven joints. Length .475 to .500 millim. Approximate length of joints in $\mu\mu$: (1) 21, (2) 70, (3) 147-175, (4) 56, (5) 70, (6) 59, (7) 53. The length of the joints varies in different individuals, but the relative proportions are preserved, these showing that joint 1 is very short, joint 3 very long, and joints 2, 4-7 are subequal. Legs very long. Length of insect .750-.940 millim.; extent of wings 3.150 millim.

Adult male: colour, antennæ, wings, and legs as in the female. Genitalia large, with a strong upward curve. Length .940 millim.; extent of wings 2.530 millim.

Hab. Iguape and Campinas, State of S. Paulo, Brazil; on cabbage and collards, usually preferring the underside of the leaves, but sometimes found scattered on the upper surface also.

The adults fly readily when disturbed. The damage done to the plants attacked is considerable, as the leaves become yellow, wilted, and covered with a white powder, being thus rendered unfit for use. This species is dedicated to Mr. Ernesto Young, of Iguape, who first sent specimens, and furnished the following notes on the life-history of the insect:—"The female lays about thirty-five eggs, sometimes in a semicircle, but frequently also in irregular clusters or singly, taking from thirty-five to thirty-six hours for the entire operation. The larvæ hatch from the eggs in sixty-eight to eighty-two hours, and in about five days become full-grown. The pupa stage lasts but a few days; so that, under favourable circumstances, the life-cycle is accomplished in from twelve to fifteen days."

Aleurodes struthanthi, sp. n.

Pupa broadly ovate or subcircular, slightly pointed, and narrower anteriorly than posteriorly, flat, hard, black or a mixture of black and yellowish. Dorsum bare, and no lateral fringe of wax present. Lateral margin of body not crenulated. In all specimens there is a narrow black marginal border. The rest of the dorsum is black except a Λ -shaped yellowish patch near the anterior margin, with a small yellowish spot behind it on each side, and a semilunar space near the posterior margin of the same colour. In many specimens the dorsum shows a reticulated appearance as well as many fine radiating lines, especially near the margin. Surface or margin without hairs or setæ. Vasisform orifice about .400 millim. from the posterior margin of body, small, hemispherical. Operculum hemispherical, completely closing the orifice. Lingula small, subspatulate, with two lobes on each side and one terminal lobe. At the base of the orifice there is a pair of crescent-shaped thickenings. The scale is perforated at three places, posteriorly at the anal orifice and laterally at the first stigmatal areas. These perforations are very small and close to the margin. Length 2.20 millim.; width 1.90 millim.

Adult female unknown.

Adult male yellowish brown in colour; eyes large, black, dumbbell-shaped, nearly separated in the middle. Wings of a uniform smoky colour. Length of body 1.60 millim.; extent of wings 3.60 millim. The basal branch of the vein in the fore wing is but slightly developed. Legs long and hairy. Antennæ of seven joints, .805-.870 millim. long. Length of joints in $\mu\mu$: (1) 35, (2) 63-70, (3) 84-122, (4) 14, (5) 14-21, (6) 252-273, (7) 315-350. Genitalia well developed, forcipate; valves strongly curved at tip and furnished with a few hairs. Penis about $\frac{1}{2}$ length of valves, bent upward with a slight gradual curve.

Hab. Paruaityba and S. Paulo. On *Struthanthus flexicaulis*, Mart., growing on orange, *Mechilia flava*, and an unidentified forest tree.

Genus ALEURODICUS, Douglas.

Aleurodicus Cockerellii, Quaintance.

Grown larva and pupa yellowish, about 1.87 millim. long and 1.33 millim. wide; very flat; lateral edge thin. Dorsum covered with a dense thick mass of white secretion, arranged in a marginal fringe, and a submarginal oval ring.

Adult male light yellow in colour; head, eyes, wings, and antennæ as in the female. Body narrow, 2.21 millim. long. Extent of wings 4.93 millim. Genitalia large, .430 millim. long, forcipate, tips strongly curved. Penis fine, tip curved upward, .190 millim. long.

Eggs small, elongate, slightly curved, light yellowish, with a short peduncle; usually laid in an irregular mass and covered with a fine white powder. The eggs hatch in from 11 to 13 days. The larva stage lasts from 44-46 days, and the pupa stage from 15-16 days.

Hab. Campinas, State of S. Paulo, on the underside of leaves of a cultivated guava (*Psidium cattleianum*). The entire under surface of the leaves becomes coated with a fine white powder, while the upper surface is usually covered with a black fungus.

Coccidæ.

Genus DACTYLOPIUS, Costa.

Dactylopius subterraneus, sp. n.

Female, gall-producing, on roots of cultivated grapes. Galls irregularly globose, 3-5 millim. in diameter, forming a mass encircling the entire root. The interior is smooth and lined with a white powder.

Female, probably immature, oval-convex, length of prepared specimen 2.52 millim.; width 1.50 millim. Antennæ of eight joints, all bearing hairs; joint 8 the longest. Length of antenna about .380 millim. Length of joints in μ : (1) 56, (2) 42, (3) 56, (4) 31, (5) 31, (6) 35-38, (7) 38, (8) 84-91. Approximate formula: 8 (13) 2 (76) 45. Two small conical eyes present. Rostrum large, situated between the first pair of legs. Rostral loop extending halfway between the second and third pair of legs. Legs long. Length of joints of first pair of legs in μ : coxa 91, femur and trochanter 245, tibia 140, tarsus and claw 91. Claw small, well curved; both pair of digitules small, with slightly expanded ends. Anal ring with six hairs. Anal tubercles inconspicuous, each ending in one seta. On the dorso-lateral surface of the body, including the anal tubercles, there is a series of 34 groups of spines; each group consisting of two thick sharp spines, with tuberculate bases, around which are clustered 6-8 round glands. The abdominal segments are distinct. The last 4-5 segments bear on the ventral surface many large round glands, while the dorsal derm bears many small tubular glands.

Hab. La Plata, Argentine Republic, on the roots of

cultivated grapes. Found by Dr. Carlos Spégazzini, and sent to the writer by Dr. H. v. Ihering of S. Paulo.

Genus CEROPLASTES, Gray.

Ceroplastes campinensis, sp. n.

Adult female scale light yellow in colour, irregular, oval in outline. Dorsum irregular, usually with three rounded humps, one anterior and two posterior. Dorsal nucleus alone present, depressed, slightly darker in colour than the surrounding wax. The individuals vary considerably, the very young specimens showing the three humps distinctly; while in the older specimens the dorsum becomes more convex and the humps are less conspicuous. There are also specimens that are very irregular and have the dorsum ornamented by a larger number of humps. Not divided into distinct plates. Length about 4 millim.; width 3 millim.; height 2.50 millim. Very old specimens are frequently larger. The widest part is posterior of the middle. On each side, at the stigmatal areas, there are two filaments of white wax that grow out at right angles to the body, often attaining a length of 1.25 millim.

Boiled in a solution of KOH, it colours the liquid carmine. Freed from wax, the adult female is convex, derm light brown; caudal horn very short, dark brown in colour. There are no distinct tubercles present, but the dorsum is slightly lobed, being wider posteriorly than anteriorly. Around the ventral margin there is a narrow flange, which is slightly indented at the stigmatal areas. Derm chitinous, semi-transparent. Length 3.25 millim.; width 2.50 millim.; height 2.25 millim. Antennæ small and thin, of six joints, all of which bear hairs. Length .241–.252 millim. Length of joints in μ : (1) 42, (2) 35–42, (3) 84–98, (4) 17–21, (5) 21–24, (6) 28–35. Approximate formula: 3(1 2 6)(5 4). Rostrum well developed. Rostral loop short. Legs weak. Length of joints of first pair of legs in μ : coxa 77, trochanter and femur 126, tibia 77, tarsus and claw 23. Claw small. Tarsal digitules fine, with slightly expanded ends; those of the claw larger, of unequal size, one being very large, with ends widely expanded. Lateral margin notched at the spiracles; each notch with a circular area of 75–85 large and small blunt spines. Dorsal surface studded with fine gland-hairs.

Male scales very light yellow, elliptical; dorsum convex, ends rounded; lateral margin with a slight fringe of bits of wax. Length 1.25 millim.; width .75 millim. Usually placed on the undersides of the leaves.

Hab. Botucatú and Campinas, State of S. Paulo. On a forest tree belonging to the family Myrtaceæ, and on cultivated guava (*Psidium* sp.). The female scales are found on the twigs, and on the midribs on the underside of the leaves, while the male scales are found scattered over the entire under surface of the leaves. The leaves and the scales themselves are usually thickly covered with a black fungus, so that it is nearly impossible to find well-preserved old specimens. A species of ant also accompanies this insect.

Ceroplastes bicolor, sp. n.

Adult female scale subcircular; general colour light greenish yellow, sides light reddish brown. Wax hard, surface roughened, the divisions into plates indicated by fine lines. Dorsum flat, greatly depressed about the dorsal nucleus, giving the scale a crater-like appearance. Lateral abdominal margins contracted, light reddish brown in colour, with two fine white lines on each side. Dorsal nucleus large, subquadrate, light orange in colour. The posterior edge of the scale is slightly notched. Size about 4 millim. in diameter. The individuals vary—sometimes the transverse diameter being the greater, sometimes the longitudinal diameter. Height 2–2·25 millim.

Boiled in a solution of KOH, it gives to the liquid the colour of port wine. Denuded of wax, light brown in colour; caudal horn very short, black. Derm neither hard nor thick. Outline slightly angular, dorsum convex, with no distinct humps; lateral margins slightly notched at the stigmatal areas. Length 3 millim.; height 2 millim.; width 2·5 millim. Antennæ small, of six joints, all of which bear hairs. Length 210–219 millim. Length of joints in μ : (1) 28, (2) 33–36, (3) 61–83, (4) 19–22, (5) 22–25, (6) 31–33. Approximate formula: 3 2 6 1 (5 4). Rostrum well developed. Rostral loop extending to the second pair of legs. Legs very small and weak. Length of joints of first pair of legs in μ : coxa 63, femur and trochanter 84, tibia 77, tarsus and claw 63. Digitules of tarsus long, with ends expanded; those of the claw larger, of unequal size, with ends expanded. Lateral margin slightly notched at the spiracles; each notch bears a circular area of about 90 large and small blunt spines.

Male scales small, reddish brown in colour, elliptical with the ends rounded, and the dorsum convex. Length 1·25 millim.; width ·60 millim.

Adult male small, dark brown in colour; antennæ and legs yellowish brown. Total length, including genital spike, ·825 millim.; genital spike ·175 millim. Extent of wings

3.84 millim. Halteres are not present, and the wings do not contain the pockets to receive the hooked ends. Antennæ apparently of nine joints, all bearing hairs; the last ending in three capitate hairs. Legs long and hairy. Claw large. The two pairs of digitules hair-like, with buttoned ends; not much longer than claw.

Hab. Campinas, State of S. Paulo, on an unidentified forest tree. The female scales are found on the twigs and branches, and the male scales on the upperside of the leaves. The insects and leaves become covered with a black fungus. A species of *Camponotus* also accompanies this insect.

Campinas, State of S. Paulo, Brazil,
July 22, 1901.

XLIX.—*Mysis relicta*, Lovén, in Ireland.

By WM. F. DE VISMES KANE, M.A.

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Mysis relicta, Lovén, which inhabits fresh water, differs but slightly from *M. oculata*, Fabr., an arctic marine species, except in its smaller size. According to Drs. Samter and Weltner, the latter has been taken in the sea off Grinnel-land, Greenland, Sabine Island, Iceland, Jan Meyen, Spitzbergen,