



Annals and Magazine of Natural History: Series 7

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tnah13>

XV.—Descriptions of Brazilian Coccidæ

Adolph Hempel^a

^a S. Paulo, Brazil

Published online: 01 Dec 2009.

To cite this article: Adolph Hempel (1901) XV.—Descriptions of Brazilian Coccidæ, *Annals and Magazine of Natural History: Series 7*, 8:44, 100-111, DOI: [10.1080/03745480109442894](https://doi.org/10.1080/03745480109442894)

To link to this article: <http://dx.doi.org/10.1080/03745480109442894>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan,

sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

XV.—*Descriptions of Brazilian Coccidæ*.

By ADOLPH HEMPEL, S. Paulo, Brazil.

[Concluded from p. 72.]

Genus *PULVINARIA*, Targ.*Pulvinaria ficus*, Hempel.

Dr. F. Noack, formerly of Campinas, told me that he had found *Pulvinaria psidii*, Maskell, at Campinas and São Paulo on the leaves of *Psidium* sp., and specimens in our collection, also on *Psidium*, were identified as such. A closer study of the specimens, however, shows that they do not agree with the description and figures of *P. psidii*, Maskell. The specimens are here described as a new species.

Adult female before gestation elliptical or oval, depressed, yellowish brown; derm slightly wrinkled near the margin. Anal lobes dark brown; anal cleft scarcely 1 millim. long. Length 5 millim.; width 2.25 millim. Ovisac white, homogeneous, oval, convex: length with dried and shrivelled animal 5 millim.; width 3.25 millim.; height .2 millim. The wax of ovisac is fluffy and adheres firmly to anything it touches. The insect begins to secrete the ovisac by first secreting a soft fringe of white wax around the entire margin of the body. Boiled in a solution of KOH it imparts to the liquid a light straw-colour. The derm becomes soft and transparent.

Antennæ variable, of eight joints, all bearing hairs; joints 2 and 5 each bearing one very long one. Occasionally an individual will be found with only seven joints to the antennæ. Length .425-.540 millim. Length of joints: (1) 48-53, (2) 66-70, (3) 97-110, (4) 53-70, (5) 53-79, (6) 31-48, (7) 31-44, (8) 48-66. Approximate formula: 3 (5 2 4) 8 1 (6 7). Legs long; trochanter with a very long hair; tarsus slightly curved. Length of joints of first pair of legs: coxa 156, trochanter and femur 326, tibia 267, tarsus 120, claw 31, digitules of claw 62. Tarsal digitules short, slender, with tips slightly expanded; digitules of claw large, with widely expanded ends. Rostrum ordinary, situated between the first pair of legs; rostral loop extending beyond the second pair of legs. Anal plates small, triangular, the antero-lateral side shorter than the postero-lateral. Anal ring with eight hairs. Around the lateral margin of the body there is a thickly-set row of short hairs, with tuberculate bases, and

flattened, expanded, and fringed ends. The abdomen bears several long hairs in front of the anal plates and between the antennæ, four of those between the antennæ being very long and characteristic. Each stigmatal area is characterized by a group of three spines, two very short and one long and curved, and by a double row of thirty to thirty-five small round spinnerets. On the dorsal surface there is a sub-marginal row of eleven to twelve small cone-shaped glands. The ventral surface bears many small glands and large round spinnerets in the anal region; on the dorsum there are some minute hairs.

Hab. São Paulo; on the upper and under sides of leaves and twigs of *Ficus* sp., *Psidium* sp., *Mangifera* sp. (mango), and *Ixora coccinea*. Many individuals will cluster on the leaves and twigs, causing considerable damage, especially to shade-trees in some parts of the city.

Pulvinaria eugeniæ, Hempel.

Adult female before gestation oval or elliptical in outline; dorsum shiny, slightly roughened by gland-pits, not very convex; light brown in colour, with a yellow longitudinal median stripe. The segments of the body are indicated by shallow transverse furrows and fine lines of dark brown. Some individuals show two dark brown eye-spots in the cephalic region. Beneath light yellow. Size 3-4.5 millim. long, 2-3 millim. wide, and 1 millim. high. After gestation the insect becomes yellow and shrivels. Ovisac white, closely felted, straight or slightly curved, a little wider at the distal end than at the end where the insect is; transversely striated, with two longitudinal ridges, dividing it into three subequal areas, the middle one being slightly elevated. Length 5.25-7.50 millim.; width 2-2.25 millim.; height 1 millim. Before gestation the insects usually infest the branches and twigs; but the ovisacs are almost invariably placed on the under-sides of the leaves. One individual secreted an ovisac 7.25 millim. in length in nineteen days. Boiled in a solution of KOH it colours the liquid light yellow. The derm becomes soft and transparent.

Antennæ variable, usually of eight joints, all bearing hairs. Sometimes but seven joints are present. Length .321-.395 millim. Length of joints: (1) 44-53, (2) 44-57, (3) 66-70, (4) 40-57, (5) 35-48, (6) 24-31, (7) 24-31, (8) 44-48. Approximate formula 3 (2 1 4 8 5) (6 7). Legs ordinary; trochanter with a long hair. Length of joints of first pair of legs: coxa 110, trochanter and femur

209, tibia 156, tarsus 79, claw 26; digitules of claw 48. Tarsal digitules long, with slightly expanded ends; digitules of claw large, ends round and expanded. Rostrum situated between the first pair of legs; rostral loop extending to the second pair of legs. Anal plates small, the antero-lateral side shorter than the postero-lateral. Anal ring with six hairs. Around the lateral margin of the body there is a row of long hairs, flattened and fringed at the ends, set rather wide apart, and within this another row of shorter jointed hairs. Each stigmatal area is characterized by two very short spines and one very long one, curved, and by a double row of thirty to fifty round spinnerets extending to the spiracle. The ventral surface bears a group of about one hundred round spinnerets around the genital opening, as well as many small glands. It also bears a double row of six long hairs in front of the genital opening and four long and several shorter hairs between the antennæ and rostrum.

Larva (just hatched).—Small, elliptical, light yellow; margin slightly serrated, and bearing a few very short hairs. Abdomen ends in two plates, each with a long terminal seta. Stigmatal areas characterized by one stout spine. Antennæ apparently of six joints, of which 3 and 6 are about equal. Legs short; tarsal digitules long and slender. Digitules of claw shorter, of unequal size, ends expanded; claw long, slender, slightly curved. Rostral loop long, extending to the anal plates. Length .356 millim.; width .244 millim.

Hab. Ypiranga and São Paulo. On *Eugenia jaboticaba* and other shrubs of the order Myrtaceæ. The leaves and twigs infested by this species are usually covered with a black fungus.

Pulvinaria depressa, Hempel.

Adult female brown, with a light yellow median stripe; elliptical, flat, surface wrinkled by slight ridges radiating from the central stripe; these ridges are darker than the rest of the derm. Below whitish. The dorsal surface is usually covered with particles of wax, thus giving it a white appearance. Length 3.5 millim.; width 2 millim. Ovisac white, flat, smooth, sides parallel; no ridges or grooves. Length 7 millim.; width 2 millim. Boiled in a solution of KOH the derm becomes soft and transparent.

Antennæ variable, of eight joints, all bearing hairs. Length .346–.391 millim. Length of joints: (1) 35–44, (2) 44–53, (3) 70–79, (4) 44–53, (5) 48, (6) 31–35, (7) 26, (8) 48–53. Legs ordinary; length of joints of first pair of

legs : coxa 79, trochanter and femur 231, tibia 156, tarsus 89, claw 24, digitules of claw 48. Tarsal digitules long, with slightly expanded ends; digitules of claw large, with ends round and expanded. Rostrum situated between the first pair of legs; rostral loop hardly extending to the second pair of legs. Anal plates small, the antero-lateral side a little longer than the postero-lateral. Anal ring with eight hairs. Around the lateral margin of the body there is a simple row of long pointed hairs, rather closely set. Each stigmatal area is characterized by two large flat spines and one longer one, and by a double row of about thirty spinnerets extending to the spiracle. The derm on the abdomen bears some tubular glands.

Hab. Ypiranga. On the underside of the leaves of *Miconia* sp. Not common.

Pulvinaria grandis, Hempel.

Adult female oval to elongate in outline; dorsum convex, highest behind the middle; orange-yellow in colour. Anal plates very small, dark brown. Two small black eye-spots are situated on the lateral anterior margin. Length 6 millim.; width 4.5 millim.; height 2.5 millim. Ovisac dirty white, long, convex, usually curved, loosely woven, with one prominent white zigzag median ridge. Loose cotton fibres, resembling spider-webs, extend the whole length of the dorsum. Length 19.5 millim.; width 3.75 millim.; height 2.50 millim. One individual constructed 3.5 millim. of ovisac in one day. The cotton is loose and adheres to anything it touches. Boiled in a solution of KOH it colours the liquid light yellow. The derm becomes soft and transparent.

Antennæ variable, of eight joints, all of which bear hairs. Length .531-.564 millim. Length of joints: (1) 70-75, (2) 79-83, (3) 114-120, (4) 79-93, (5) 66, (6) 40-44, (7) 35, (8) 48. Approximate formula: 3 4 2 1 5 8 6 7. Legs long; tarsus slightly curved. Length of joints of first pair of legs: coxa 133, trochanter and femur 404, tibia 276, tarsus 123, claw 40, digitules of claw 75. Tarsal digitules not very long, slender, with ends but little expanded. Digitules of claw of unequal length, narrow, with ends round and expanded. Rostrum situated between the first pair of legs; rostral loop short, extending a little more than halfway to the second pair of legs. Anal plates small, triangular, the antero-lateral side longer than the postero-lateral. Anal ring with ten hairs. The lateral margin of the body bears a double row of very short sharp hairs. Each stigmatal area

is indented on the margin and bears two to four very small spines and one larger one, and has a double row of forty-five to sixty small round spinnerets extending to the spiracle. The ventral surface bears a double row of long hairs between the last pair of legs and the genital opening and four long hairs between the antennæ. The abdomen bears many small tubular glands, and numerous large round spinnerets are grouped about the genital opening.

Larva (just hatched).—Elliptical, light yellowish brown. Antennæ of six joints, joints 3 and 6 longest and about equal in length. Legs slender, all the digitules fine, with slightly knobbed ends. Margin of the body finely serrated, with a few minute hairs. Each stigmatal area bears one short, blunt, curved spine. Each anal plate bears a long terminal seta. Rostral loop extending to the anal cleft. Eyes small, conical, dark brown. Length .453 millim.; width .276 millim.

Hab. Ypiranga. On twigs and leaves of *Illyrica* sp. and other plants of the order Myrtaceæ. Rare.

Genus *LICHTENSIA*, Sign.

Lichtensia argentata, Hempel.

Ovisac, covering the adult female, curved, 8.5 millim. long, 4.25 millim. wide, and 1.50 millim. high. The inside is a white, loose, cottony structure that adheres to objects that it touches; over this is a thin covering of cream-coloured closely felted material, which in turn is covered by a very thin layer of glassy secretion, giving the sac a shiny silver-grey appearance. Adult female elliptical, orange, posterior end of body light yellow and wider than the anterior end. Length, after boiling in a solution of KOH, 6 millim.; width 3.5 millim. The derm becomes soft and transparent.

Antennæ variable, of eight joints, all but joints 3 and 4 bearing hairs. Length .519–.556 millim. Length of joints: (1) 48–57, (2) 66, (3) 141–146, (4) 75–84, (5) 53–64, (6) 48, (7) 35–40, (8) 53. Approximate formula: 3 4 2 (5 1 8) 6 7. Legs long. Length of joints of first pair of legs: coxa 156, trochanter and femur 364, tibia 244, tarsus 110, claw 31, digitules of claw 53. Tarsal digitules very long, with expanded ends. Digitules of claw short, trumpet-shaped, with the ends obliquely truncated and widely expanded. Rostrum situated between the first pair of legs; rostral loop short, not extending halfway to the insertion of the second pair of legs. Anal cleft short, scarcely .75 millim. long. Anal plates triangular, each with six short hairs, the antero-lateral side shorter than the postero-lateral. Anal ring with ten hairs.

Around the lateral margin of the body there are two rows of spines: one consists of large stout blunt spines, about .014 millim. long, placed regularly at intervals exceeding the length of the spines; the other consists of smaller, thinner, spine-like hairs, placed irregularly. Each stigmatal area is characterized by three or four longer spines with curved ends and twenty to thirty small round spinnerets. On the dorsal surface near the posterior margin there are five small pyriform glands, two on one side and three on the other; near the anterior margin there are also five of these glands. The dorsal derm also bears numerous fine filamentous glands. The abdomen bears many round spinnerets grouped about the genital opening and a double median row of long hairs.

Hab. Ypiranga. On the upperside of leaves of a tree of the order Illicineæ.

Lichtensia? attenuata, Hempel.

Adult female scale waxy, white, elliptical, smooth; dorsum slightly convex, ends rounded, the caudal end with a short incision. The scale is apparently composed of four plates—one dorsal, one lateral on each side, and one terminal anterior. The dorsal and lateral plates are narrow and elongate; the anterior plate is small and more or less triangular in shape. The wax is thin, hard, and tough. The insect is crowded in the anterior end of the scale, the remaining space being occupied by the eggs. Length 6 millim.; width 3 millim.; height 1.50 millim. Adult female, boiled in a solution of KOH the derm becomes soft and transparent, except a narrow marginal strip, which is chitinized. The body is oval; posterior end attenuate, the anal cleft is very wide, the body thus ending in two conspicuous points. Length 4 millim.; width 2.25 millim.

Antennæ variable, of eight joints, all but joint 3 bearing hairs. Length 385–423 millim. Length of joints: (1) 40–44, (2) 53–57, (3) 84–89, (4) 62–75, (5) 53, (6) 31–35, (7) 22–26, (8) 40–44. Approximate formula: 34 (25) (18) 67. Legs ordinary; trochanter and coxa each with a long hair. Length of joints of first pair of legs: coxa 89, trochanter and femur 182, tibia 110, tarsus 102, claw 22, digitules of claw 35. Tarsal digitules very long, with slightly expanded ends; digitules of claw unequal in size, ends round and expanded. Rostrum situated between the first pair of legs; rostral loop extending to the second pair of legs. Anal plates small, the antero-lateral side shorter than the postero-lateral. Anal ring with ten hairs. The lateral margin of the body bears a row

of numerous short thick spines and a few short hairs. Each stigmatal area is characterized by three or four flattened spines and twenty to twenty-five small round spinnerets. The dorsal surface bears a submarginal row of about twenty-six of the peculiar pyriform glands, as in the preceding species. The abdomen bears a group of round spinnerets about the genital opening, while the derm of both surfaces bears numerous large tubular glands.

Hab. Ypiranga. On the stems of *Baccharis genistelloides*, var. *trimera*, Baker. Many individuals are infested with a small hymenopterous parasite. Not common.

This species is placed in this genus provisionally; perhaps it would more properly belong to *Ceroplastodes*, Ckll.

Subfamily *DIASPINÆ*.

Genus *ASPIDIOTUS*, Bouché.

Aspidiotus (Odonaspis) janeirensis, Hempel.

Adult female scale elongate, white, the posterior end rounded. Pellicles light yellow, placed on the extreme anterior end. Ventral scale thick, with the dorsal scale forming a complete sac which encloses the insect. Length 3.50 millim.; width 1.25 millim.

Adult female oval, pink, 1.770 millim. long and 1.230 millim. wide. The pygidium is thick, light brown, and chitinized, and is differentiated into five plates, the median longest, narrowest, and three-lobed, the others irregularly notched and toothed. The lateral margin of the two segments, just preceding the pygidium, is also chitinized and plate-like. On both the dorsal and ventral surfaces, between the abdominal segments, are what appear to be narrow chitinous bands, but in reality are narrow rows of small glands or spinnerets. There are three groups of circumgenital glands present, forming nearly a continuous arched row. The anterior group consists of about twenty-seven glands and the lateral groups of about one hundred and six glands each. Around each anterior spiracle there is a group of about forty-five spinnerets, and around each posterior spiracle a group of about thirty-six spinnerets. The derm is thin and transversely striated. The antennæ are present as minute tubercles with one hair. The margin of the pygidium and the other abdominal segments bear many small glands. Rostrum very large. Anal orifice situated just behind the anterior group of spinnerets.

Hab. On the Ilha das Flores, in the Bay of Rio de Janeiro. Collected about the joints of grass and covered by the leaf-sheath.

Aspidiotus (Chrysomphalus) paulistus, Hempel.

Female scale circular, flat, brownish black, covered with a grey or light brown secretion. Pellicles blackish, placed centrally or slightly to one side, and covered with a small nipple-like mass of secretion. Diameter about 2.50 millim.

Male scale of same colour and shape as that of the female. Diameter 1.50 millim.

Adult female ovate. Pygidium with three pairs of lobes, slightly wider than long, subequal in size, the median pair being a trifle wider than the others, with the edges slightly indented. There are four very long and conspicuous thickenings of the body-wall at the base of the lobes and several shorter ones. The lateral edges of the pygidium are thick and chitinous laterad of the last pair of lobes and present four or five sharp-pointed lobes with serrated edges. Between the median lobes and the median and second pair of lobes there are two deeply incised plates; between the second and third pair of lobes and laterad of the third pair of lobes there are two deeply incised plates and one simple one. Four groups of circumgenital glands are present, the anterior laterals varying from six to ten, the posterior laterals from three to seven. The anal orifice is close to the posterior lateral groups. Numerous very long slender tubular glands are borne by the pygidium, and a few are also borne by the other abdominal segments. The antennæ are present as short tubercles with one stout curved hair. The posterior edge of the cephalothorax is on each side modified into a short hump or tubercle, but does not bear a horn or spine. The derm is transversely striated and bears a few hairs. Length 1.90 millim.; width 1.50 millim.

Adult male light yellow, with a narrow dark band across the thorax. Thorax long; segments of the abdomen shrivelled. Antennæ of ten joints; joints 1 and 2 short; all joints bear many hairs; joint 10 apparently with one or two knobbed hairs. Legs long, hairy; claw very long and thin, with digitules extending beyond the tip. Tarsal digitules not extending to the tip of claw. Wings ordinary; halteres present. Genital spike long, thin, sharp, .400 millim. long. Total length, including genital spike, .950 millim.; width .350 millim.

Larva (just hatched).—Small, orange, elliptical, flat, about .275 millim. long and .150 millim. wide.

Hub. Ypiranga and São Paulo. On the leaves of *Laurus* sp. and other cultivated and uncultivated bushes.

Genus *PSEUDISCHNASPIS*, Hempel.

The adult female scale brown, flat, long and narrow, with a superficial resemblance to *Ischnaspis*. Pellicles orange, not overlapping, placed at the extreme anterior end of the scale. Male scale similar in shape and structure to that of the female, but much shorter. The pygidium of the adult female has three well-defined lobes and body-thickenings, as in *Chrysomphalus*. Four groups of circumgenital glands are present. No reticulated area on the dorsum of the pygidium.

Type *Pseudischnaspis linearis*, Hempel.

Pseudischnaspis linearis, Hempel.

Female scale elongate, narrow, flat; sides parallel; the posterior end sometimes obliquely truncated; dark brown in colour. The pellicles are orange in colour and are placed at the anterior end. The first pellicle is darker than the second, with a small central ring on the dorsum. Length 2-3 millim.; width .75 millim.

Male scale lighter in colour, but of the same texture and shape as the female scale. Length 1.25 millim.; width .50 millim.

Adult female elongate, flat, white; pygidium with three pair of well-developed lobes, the median pair narrowest, the third pair the widest. The posterior edge of the median pair is entire or slightly notched, but the edge of the second and third pair is serrated. There are six pair of elongate thickenings of the body-wall at the base of the lobes, arranged in the following manner:—the median pair short, the next long, the next short, the next longer, the next long, and the last short. Between the median lobes there is a deeply incised bifid plate; between the median and second pair of lobes there is a deeply incised plate; between the second and third pair of lobes there are two plates and one hair, and laterad of the third pair of lobes there are two or three plates and one hair. The lateral margin is chitinized and notched and serrated laterad of the third pair of lobes. Four pair of circumgenital glands are present. The anterior laterals vary from six to eight, the posterior laterals from four to seven. The anal orifice is situated on a plane between the posterior groups of glands. The pygidium bears numerous long, fine, tubular glands. Some of these glands are also found on the other abdominal segments. The antennæ are present as small tubercles with a long curved hair. The derm is transversely striated, and bears a few hairs.

Larva (just hatched).—Flat, ovate, light yellow, .262 millim. long and .178 millim. wide. Antennæ long, slender, wrinkled as in *Aspidiotus*. Legs short. The sides of the abdomen are notched; the derm is transversely wrinkled. The median pair of abdominal lobes are wide, large, and serrated. The abdominal setæ are short.

Hab. Ypiranga, State of S. Paulo. On the upperside of leaves of *Myrcia* sp. Usually placed along the midrib of the leaf.

Genus *DIASPIS*, Costa.

Diaspis australis, Hempel.

Scale of adult female white, opaque, oblong to subcircular in outline, very convex, about 2.75 millim. long. Pellicles light brown, usually exposed, placed near the margin.

Male scale white, narrow, unicarinate, forming a complete sac, inflated anteriorly and depressed posteriorly. Pellicle light brown. Length 1.50 millim.

Adult female yellowish, the posterior end of the abdomen light brown; oval, widest anteriorly, the three segments before the pygidium produced laterally. Pygidium with three pair of lobes; the median pair wide apart, large, the inner margins diverging, and entire or slightly crenulated, the outer margins partly united with the body-wall. The second pair short and usually bilobed, but sometimes trilobed. The third pair bilobed. There are also two pair of short tooth-like projections laterad of the third pair of lobes. There is one large plate with incised end on each side, between the first and second lobes, one between the second and third lobes, and two or three laterad of the third lobes; aside from these there are also about twenty simple cone-like plates on each side. The segment next to the pygidium bears about twenty-two of these plates on each side, and the next segment bears about ten. Between the median lobes there are two sharp hairs. The pygidium and the other abdominal segments bear numerous large and small tubular glands. The circumgenital glands are present in five groups, the anterior median varying from fifteen to twenty-eight, the anterior laterals from seventeen to forty-five, and the posterior laterals from seventeen to thirty-two. About each spiracle there are twenty to twenty-five round spinnerets. The derm is transversely striated and bears a few short hairs. The antennæ are present as small tubercles with one hair.

Hab. Ypiranga, State of S. Paulo. On the twigs of a bush of the order Myrtaceæ.

Genus *DIASPIDISTIS*, Hempel.

Female scale subcircular; pellicles central, superimposed as in *Aspidiotus*. Circumgenital glands in four groups. Pygidium of adult female with a continuous marginal series of lobes.

Male scale white, forming a complete sac, convex, not carinate, but the surface roughened by small nodules of secretion. Pellicle placed more or less centrally.

Type *Diaspidistis multilobis*, Hempel.

Diaspidistis multilobis, Hempel.

Scale of adult female subcircular, somewhat convex, light brown in colour; the ventral scale a very thin film. Diameter about 2.30 millim. Pellicles chrome-yellow, central, superimposed, usually exposed.

Male scale white, more or less elongate; not carinate, but the surface roughened by nodules of secretion. Pellicle light yellow, with a longitudinal dorsal ridge; more or less centrally placed. Length of scale 1.50 millim.

Adult female cordate to subcircular in outline, the anterior margin being always notched in the middle. Pygidium with about thirty-six lobes or lobe-like processes; the median pair of lobes is the largest and has the margin notched. The other lobes have the margin either entire or slightly serrated. All lobes have faint longitudinal striations. Three pair of simple sharp plates and three pair of gland-papillæ or projections are also present. The three segments preceding the pygidium have the lateral margins produced. The pygidium and other segments bear numerous tubular glands. Four groups of circumgenital glands are present. The anterior laterals vary from fifteen to twenty-eight, the posterior laterals from eighteen to twenty-seven. The anal orifice is on a level with the posterior groups of glands. The derm is conspicuously transversely striated. The antennæ are present as small tubercles with three hairs. There are ten or twelve round spinnerets about the orifice of the first pair of spiracles. Diameter .90-1.10 millim.

Adult male small, light yellow, the thoracic band of the same colour. Antennæ .870 millim. long, of ten joints, all of which bear many hairs; the last joint apparently with one knobbed hair. Body elongate; genital spike long and thin. Legs not very long; all the joints bear many hairs, but more especially the tarsus, which is thickly set with long hairs. Claw fine and slender; both digitules of claw and the tarsal digitules but slightly longer than claw. Wings rather

long. Halteres present. Length of body, including genital spike, .890 millim.; length of genital spike .265 millim.

Hab. Ypiranga, State of S. Paulo. On a bush of the order Myrtaceae. The females are found on the upperside of the leaves, but the male scales are usually clustered along the midrib on the underside of the leaves.

XVI.—*On a small Collection of Butterflies from the Kikuyu Country and Mombasa made by the Rev. K. St. Aubyn Rogers.* By ARTHUR G. BUTLER, Ph.D.

IT will be remembered that in the 'Annals' for January last I published an account of a collection of butterflies made by Mr. Rogers between Mombasa and the Forests of Taveta, and that therein I called attention to certain species which were either new to the Museum collection or of which we required additional examples.

Mr. Rogers has now sent some of the specimens asked for, together with a series of butterflies collected by him last year in the Kikuyu country, which is especially interesting as supplementing my paper upon Mr. Crawshay's collections recently published in the 'Proceedings of the Zoological Society.'

The present consignment from Mr. Rogers consists of fifty-six species, some of which are of considerable rarity in collections; the following are of especial importance to us:—Both sexes of *Precis Westermanni* (in two pairs); *Axiocerses punicea*, new to the Museum; the female of *Virachola dariaves*, which was also new to the general collection—of this species Mr. Rogers observes that he has only once come across it, "at a place about 14 miles up the creek, where it was quite common," so that he did not trouble much about it; *Uranotauma cordatus* and *Falkensteini*; *Cyclyreus Sharpie*; *Mylothris rubricosta* and the female of *M. Jacksoni*, which was new to us; a pair of *Terias regularis* (no. 250), which we have not received commonly from Eastern Africa; *Teracolus Rothschildi* in both sexes; a male of *T. castalis*; a beautiful and very lightly magenta-spotted male of *T. elgonensis* (214), of which we previously only possessed the worn male collected by Mr. Crawshay; *Belenois margaritacea*, of which we previously only had one example; females of *Papilio Mackinnoni* and *Jacksoni*; an example of what I believe to be *Sarangesa ophthalmica*, and which is new to the Museum. No new species were obtained, but a list of the species with

g*