

duction were supplied within the phylum of these animals themselves and their peculiar circumstances. In the same way, too, this point of view may well be adopted for the Medusan Strobila also, no matter whether we would derive it with Claus * from the gemmation of stolons or not.

We thus arrive at the final result, that the customary idea of the intimate relationship between fission and gemmation has no justification in facts, but rather that the separation of the asexual reproductions of the Metazoa possesses not only a notional meaning, but also a real foundation.

The cases of asexual reproduction in the various animal phyla have proceeded independently of one another from conditions existing within these phyla, so that that which, it may be, can be rendered probable for a single case of reproduction or for a congeries of similar cases, includes no binding force for other instances of multiplication by fission or gemmation.

It will be the task of future investigation, in determining the originating causes which have decided the character of each form of reproduction belonging to the present category, to separate chaff from wheat, so to speak, *i. e.* to eliminate from the series of **propagations** those modes of multiplication which represent mere **augmentations**. Merit is due to von Kennel for having emphatically drawn attention to this important difference †.

VII.—*On some undescribed Cicadidæ, with Synonymical Notes.* By W. L. DISTANT.

IT has been urged, and with some reason, that descriptive papers should, where possible, be confined to the diagnoses of members of some particular zoological region; and if this course could always be pursued the convenience it would afford to purely faunistic workers would doubtless be great. But the formulation of rules and theories is often a very special gift of a very few, and is sometimes in an inverse ratio to possibilities and experience. There is, however, a course which will enable the descriptions of widely distributed insects to be faunistically apprehended, and that is by geographically tabulating the species described in some manner similar to the following, which applies to the present paper.

* C. Claus, 'Untersuchungen über die Organisation und Entwicklung der Medusen,' Leipzig, 1883, p. 18.

† J. v. Kennel, 'Ueber Theilung und Knospung der Thiere,' p. 8.

All the species described are contained in my own collection.

ETHIOPIAN REGION.

Cicada madagascariensis, sp. n. Madagascar.

NEOTROPICAL REGION.

Fidicina amazona, sp. n. Ega.
 — *bogotana*, sp. n. Bogota.
 — *rubricata*, sp. n. Brazil.
Tympanoterpes colombiæ, sp. n. Colombia.
 — *Bergi*, sp. n. Argentine Republic.
Dorachosa (gen. nov.) *explicata*, sp. n. Panama.
Tibicen egæ. Ega.
Tettigades parva. Argentine Republic.

AUSTRALIAN REGION.

Psaltoda flavescens, sp. n. Australia.
Cicada extrema, sp. n. Australia.
Melampsalta labeculata, sp. n. Australia.

PACIFIC REGION.

Kanakia (gen. nov.) *typica*, sp. n. New Caledonia.
Tibicen pumilus, sp. n. New Caledonia.

CICADINÆ.

Psaltoda flavescens, sp. n.

♂. Head ochraceous; the base and lateral areas of front, the area of the ocelli, a broad fascia between the eyes, a central basal fascia, and a linear spot near anterior angles of vertex, black. Pronotum with the disk castaneous, the lateral and posterior margins and a central fascia ochraceous; inner edge of lateral and posterior margins, a central spot on posterior margin, the fissures, and the margins of the central fascia, black. Mesonotum castaneous, with four obconical black spots, the central pair shortest, the outer pair sometimes broken, and a spot in front of the basal cruciform elevation, black. Abdomen above pale castaneous, the anterior margins of the segments broadly blackish, especially on the basal segments, where the markings are centrally macular. Tympanal coverings, excluding anterior margins, blackish. Head beneath, sternum, legs, and opercula ochraceous; the central sulcation and transverse striations to face, space between face and eyes, rostrum (excluding base), coxal streaks, anterior tibiæ, apical halves of intermediate tibiæ, the anterior

and intermediate tarsi, and the inner margin of the opercula, blackish. Abdomen pale castaneous, with the base narrowly black, enclosing two small ochraceous spots.

Tegmina and wings pale hyaline, the venation castaneous. Tegmina with the costal membrane and basal cell pale castaneous; the transverse veins at the bases of the second and third apical areas narrowly infuscated, and a series of small and somewhat indistinct fuscous marginal spots on the apices of the longitudinal veins to the apical areas. Wings with the margins of the claval areas infuscated.

The face is very globose; the opercula do not meet centrally; the rostrum reaches the posterior coxæ.

Long., excl. tegm., ♂ 40, ♀ 30 millim.; exp. tegm., ♂ 107, ♀ 90 millim.

Hab. Australia (no precise locality).

This species is allied to *P. argentata*, Germ., from which it differs by the shape and colour of the opercula, the more globose face, the different colour-markings, &c.

I long possessed an unlocalized female specimen of this species, and have lately acquired a male example from Australia (no definite locality), which has enabled me to describe it.

Cicada extrema, sp. n.

♂. Head and thorax brownish ochraceous. Pronotum with the lateral and posterior margins pale ochraceous. Abdomen above castaneous, the posterior segmental margins paler in hue; apical half of the last segment and the anal appendage ochraceous; tympanal coverings obscure ochraceous. Head beneath and sternum brownish ochraceous; the face, space between face and eyes, lateral margins of prosternum, legs, and opercula, pale ochraceous; femora and tibiæ streaked with castaneous. Abdomen beneath castaneous, the apex pale ochraceous as above.

Tegmina and wings pale hyaline, the venation fuscous, ochraceous at basal area; tegmina with the costal membrane and upper part of basal cell ochraceous.

The face is very globose, centrally sulcated (excepting at base), and obliquely striated; the rostrum reaches the intermediate coxæ; the opercula are short, not extending beyond the basal segment, are convexly rounded, and overlap at their inner margins.

♀. Head and thorax above pale greenish ochraceous and unicolorous.

Long., excl. tegm., ♂ 34, ♀ 30 millim.; exp. tegm. ♂ ♀ 90 millim.

Hab. Australia, Swan River. Coll. Dist.

This somewhat large species of *Cicada* is allied to *C. intersecta*, Walk., and like that species has the pale apex to the abdomen; but *C. extrema* may be at once recognized by the more robust and less symmetrical body, the head and thorax being relatively wider, the unspotted head and thorax, the longer second apical area to the tegmina, &c.

Cicada madagascariensis, sp. n.

♂. Body above dull ochraceous. Head with the margins of front, fasciæ to lateral areas of vertex, and the area of the ocelli, black. Pronotum with a central longitudinal fascia margined with black (these black edges sometimes obsolete). Mesonotum with four obconical dull castaneous spots, the central pair shortest and somewhat fused, a similarly coloured spot in front of the basal cruciform elevation. Body beneath and legs pale ochraceous; central area of face and a fascia between base of face and eyes black.

Tegmina and wings pale greyish, semihyaline and talc-like, the venation ochraceous, inclining to fuscous towards apical areas; tegmina with the costal membrane ochraceous, the transverse veins at the bases of the second and third apical areas narrowly infuscated, and a submarginal series of small fuscous spots placed on the longitudinal veins to the apical areas.

The eyes are large, prominent, and subsessile; the rostrum reaches the posterior coxæ; the opercula are about the length of the posterior tibiæ, oblong, just or almost meeting at their inner basal margins, their apices convexly rounded but not extending beyond the basal abdominal segment.

Long., excl. tegm., ♂ 13–15 millim.; exp. tegm. 40 millim.

Hab. North Madagascar.

A very small species of the genus; its principal characteristics are its pale greyish semihyaline tegmina, with the darker venation and submarginal spots, the large and prominent eyes, and the well-developed opercula.

It is allied to *C. maculigena*, Sign., but differs from the description of that species by the smaller expansion of the tegmina, with the small submarginal fuscous spots to same; the markings of the pro- and mesonotum appear to be also altogether different.

*TIBICENINÆ.**Fidicina amazona*, sp. n.

♂. Body above olivaceous, inclining to ochraceous. Head with a central fascia to front and an irregular transverse fascia between the eyes (enclosing the ocelli) black. Pronotum with the anterior margin, the fissures, and a central transverse spot on the inner edge of posterior margin, black. Mesonotum with four obconical black spots, the central pair shortest; the anterior margin of the basal cruciform elevation and a small spot in front of each of its anterior angles black. Abdomen much shaded with black; the black markings are situate on the abdominal segments, narrowing to apex and again obliquely branching off from near base to lateral margins; the inner areas of the tympana and four longitudinal stripes on anal appendage—the central pair short—black. Body beneath and legs olivaceous; the central sulcation (partly) and transverse striations to face, margins of face, coxal spots, femoral shadings, apices of anterior and intermediate tibiæ and the tarsi, base, lateral margins, and apex of abdomen, black; abdomen with the anal appendage and a large spot on apical lateral margins ochraceous, and with a central series of blackish spots; opercula olivaceous, with their bases and margins black.

Tegmina and wings pale hyaline, the venation fuscous; tegmina with the costal membrane and basal cell olivaceous; bases of both tegmina and wings narrowly blackish.

The front has a distinct central sulcation; the face is profoundly sulcated and striated; the head beneath, sternum, and legs strongly pilose; the rostrum reaches the posterior coxæ and has its apex black; the opercula are small, just meeting at their inner basal angles, their posterior margins sinuated. The first and third apical areas of the tegmina are equal in length.

Long., excl. tegm., ♂ 25 millim.; exp. tegm. 87 millim.

Hab. Ega, on the Amazons.

A strikingly marked species, to be easily recognized by the black fasciated abdomen.

Fidicina bogotana, sp. n.

Body above brownish ochraceous; the eyes, lateral and posterior margins to pronotum, and the posterior margins of the abdominal segments pale ochraceous. Head with the anterior margin of front, a transverse fascia between the eyes,

the posterior margin of eyes, and a spot at anterior angles of vertex, black. Pronotum with the anterior margin and a transverse central spot on inner edge of posterior margin black. Mesonotum with two short, central, angulated black fasciæ at anterior margin, with a shorter and more obliterated spot on each side, a lineate spot on hinder portion of disk, a spot on each side of the cruciform elevation, the anterior margin of same, and a small spot in front of its anterior angles, black. Abdomen with the basal segmental margins narrowly blackish. Body beneath and legs ochraceous; the central sulcation (partly) and the transverse striations to face, margins of face, fascia between face and eyes, apices of anterior and intermediate tarsi, apex of rostrum, and the basal margins of opercula, black.

Tegmina and wings pale hyaline, the venation ochraceous or fuscous, their extreme bases narrowly ochraceous, streaked with black; tegmina with the costal membrane and upper part of basal cell ochraceous, the postcostal area fuscous.

The front has an obscure central sulcation, the face is profoundly sulcated and striated; the body beneath is slightly pilose; the rostrum reaches the posterior coxæ; the opercula are small, not quite meeting at their inner basal angles, their posterior margins sinuated.

Long., excl. tegm., ♂ 25 millim.; exp. tegm. 93 millim.

Hab. Bogota.

This species is closely allied to the preceding, *F. amazona*, although of very different coloration and markings. It differs also from *F. amazona* by the broader and less anteriorly produced head, the much less pilose body, the narrower central sulcation to the face, and by the shorter upper apical area to the tegmina, which is not equal to the third area in length.

Fidicina rubricata, sp. n.

♀. Body above brownish ochraceous. Head with the area of the ocelli and the hinder margin of the eyes broadly black. Pronotum with the anterior margin and a central transverse spot on inner edge of posterior margin black. Mesonotum with two central curved fasciate lines on anterior margin, a small spot in front of the anterior angles of the cruciform elevation, the anterior margin, and a large spot on each side of same, blackish; the posterior lateral margins blackish, narrowly edged with ochraceous. Abdomen reddish ochraceous (excluding central base), much shaded with black, and very strongly pilose, the hairs being distinctly ochraceous

on the lateral areas; anal appendage with an irregular black fascia on each side. Body beneath and legs ochraceous and thickly pilose.

Tegmina and wings pale hyaline, the venation ochraceous; tegmina with the costal membrane, postcostal area, and basal cell ochraceous, the extreme base also narrowly ochraceous; wings with the base narrowly pale ochraceous and the upper half of the abdominal area pale sanguineous.

The head is broad, with a profound central sulcation to front, the face is also profoundly sulcated and striated; the anterior angles of the cruciform elevation are very ill-defined; the rostrum only just passes the intermediate coxæ.

Long., excl. tegm., ♀ 30 millim.; exp. tegm. 100 millim.

Hab. Brazil (*sic*).

A species to be recognized by the ochraceous and sanguineous base of the wings and the obsolete nature of the anterior angles of the cruciform elevation.

Tympanoterpes colombiæ, sp. n.

♂. Body above brownish ochraceous. Head with the front black, its base and a central longitudinal fascia ochraceous; a broad irregular fascia between the eyes and enclosing the ocelli, anterior angles of vertex, and inner and posterior margins of eyes, black. Pronotum with two central longitudinal fasciæ (united posteriorly) and the fissures black, the posterior margin pale greenish or ochraceous, its inner edge and a spot near lateral angles black. Mesonotum with four large obconical spots (the central pair shortest), a large triangulated spot in front of cruciform elevation, and a transverse waved spot on each side of same, black. Abdomen with central transverse segmental fasciæ, narrowing and becoming obsolete towards apex. Body beneath and legs pale ochraceous; the opercula and the margins of the sternum greyish tomentose; discal portion of the transverse striations to face, a large spot at inner margin of eyes, and the apex of the rostrum, black.

Tegmina and wings pale hyaline, the venation ochraceous or fuscous; tegmina with the costal membrane and upper half of basal cell greenish or ochraceous, the postcostal area fuscous; extreme bases of both tegmina and wings narrowly pale fuscous, the wings with a pale fuscous streak on basal half of abdominal area.

The costal edge of the tegmina is finely serrated, with the teeth minute and fuscous in hue; the face is globose, sulcated and striate; the rostrum just passes the posterior coxæ;

the opercula are small, slightly sinuated on their posterior and lateral margins.

Long., excl. tegm., ♂ 29, ♀ 27-29 millim.; exp. tegm., ♂ 94, ♀ 85 millim.

Hab. Colombia, Manaure (*F. Simons*); Bogota.—Venezuela.

Tympanoterpes Bergi, sp. n.

Head and thorax above thickly covered with ochraceous pile and wholly ochraceous, excepting a few lineate marks at base of head; the fissures, a central spot near the base of the pronotum, a spot at angles of the posterior margin to same, and a central spot to the cruciform elevation, black. Abdomen dark castaneous, the rudimentary tympanal coverings black. Head beneath, sternum, opercula, and legs thickly pilose and ochraceous in hue; coxal spots, apices of the femora, basal annulation to the fore and intermediate tibiæ, bases of the tarsi, and margins of the opercula paler in hue; apices of the tarsi fuscous; abdomen castaneous, anal appendage ochraceous on each lateral area.

Tegmina and wings pale hyaline, the venation ochraceous, inclining to fuscous. Tegmina with the costal membrane ochraceous, containing a black central line; base of the upper vein and the terminal vein to basal cell, basal claval margin, outer edge of terminal vein to radial area, and spots on the longitudinal veins to the second, third, and fourth ulnar areas, black; transverse veins at the bases of the first, second, third, fourth, fifth, and seventh apical areas very darkly infuscated; a series of longitudinal fuscous lines in some of the apical areas and a marginal row of very dark fuscous spots; wings with the abdominal area margined with fuscous and with its base ochraceous, containing a black line.

The transverse vein at the base of the second apical area to the tegmina is only moderately oblique; the rostrum reaches the posterior coxæ; the opercula are wide apart at their inner basal angles, but almost meet at their inner apical angles, their outer margins are moderately convex, and their lateral margins slightly sinuate.

Long., excl. tegm., ♂ 24 millim.; exp. tegm. 72 millim.

Hab. Argentine Republic (*Berg*).

A species to be recognized by the ochraceously pilose head and thorax and by the well-marked tegmina.

KANAKIA, gen. nov.

Head somewhat convexly produced in front, about equal in length to the space between the eyes, including outer margins of eyes about equal in width to base of mesonotum; eyes large, obliquely directed backwardly; ocelli about equally wide apart from eyes as from each other; a distinct broad central sulcation from between ocelli to base. Pronotum more than twice as broad as long, with the lateral margins prominently and somewhat acutely angulated, the lateral posterior angles moderately amplified. Mesonotum large, with the cruciform elevation well developed. Tympana totally exposed and uncovered. Abdomen in the male moderately inflated, beneath grooved before the lateral margins; the opercula small; anterior femora armed with four spines, the one near base and one near centre longest and very prominent, remaining two small, situate about apex, and the apical one minute. Face long and somewhat depressed. Tegmina and wings hyaline. Tegmina with eight apical areas; the interior ulnar area with its anterior margin convex, and with its base and apex subequal in breadth; ulnar veins well separated; basal cell twice as long as broad. Wings with six apical areas.

Kanakia may be placed near the Madagascar genus *Malagasia*, Dist.

Kanakia typica, sp. n.

♂. Body above ochraceous. Head with two castaneous spots at base of front; a spot at anterior angles of vertex, base and area of ocelli (excluding central sulcation), and posterior margins of eyes, black. Pronotum with the interior margins, two central oblique fasciæ which are narrowed and convexly united posteriorly, the fissures, and two angular spots, black. Mesonotum with four large obconical castaneous spots, all of which are united to a large castaneous spot in front of the basal cruciform elevation, which is also castaneous. Abdomen with a series of small central spots, a series of larger lateral spots more or less continued inwardly, and a subapical transverse fascia, black. Body beneath and legs ochraceous; anterior and intermediate tibiæ and tarsi, longitudinal fasciæ to femora, and coxal streaks castaneous. Face with a broad central fascia (containing a triangular spot at base), the posterior margins, and a linear spot near base of antennæ, very dark castaneous.

Tegmina and wings pale hyaline, the venation ochraceous. Tegmina with the transverse veins at the bases of the second and third apical areas darkly infuscated; the costal membrane ochraceous, with its outer edge fuscous, the postcostal area fuscous. Wings with the margins of the abdominal area narrowly infuscated.

♀. The body above darker in hue than in the male; the spots of the abdomen fused and fasciate-like in appearance and distinctly greyishly tomentose; anal appendage with two oblique black fasciæ.

The rostrum reaches the posterior coxæ; the face is faintly sulcated on its posterior half and is somewhat obscurely transversely striate.

Long., excl. tegm., ♂ ♀ 37 millim.; exp. tegm., ♂ 100, ♀ 107 millim.

Hab. New Caledonia.

DORACHOSA, gen. nov.

Head about twice as long as the breadth between the eyes; the front somewhat broad and prominent; ocelli about as far apart from the eyes as from each other; lateral margins of the vertex somewhat convex; eyes very long, directed obliquely backwardly, their inner margins amplified and laminately produced inwardly. Pronotum rather more than twice as broad as long, the lateral margins straight and truncate, the posterior lateral angles moderately amplified. Mesonotum with the cruciform elevation well developed, with its anterior margin slightly gibbous, and its anterior angles very slender. Tympanal coverings absent, the tympana altogether exposed and uncovered. Face very broad, globose, and prominent. Anterior femora armed beneath with three large spines, one at base, one at centre, and one near apex. Rostrum with the apex rather broad and reaching the intermediate coxæ. Opercula very small and slender. Abdomen grooved beneath on each side before the lateral margins.

Tegmina and wings hyaline. Tegmina with eight apical areas, the ulnar veins well divided, the basal cell much longer than broad and wider at base than at apex; the interior ulnar area about as broad at base as at apex. Wings with six apical areas.

This genus is allied to *Tibicen*, from which it may at once be distinguished by the remarkable structure of the eyes; the structure of the front and face and the strongly spined anterior femora are also distinctive characters.

Dorachosa explicata, sp. n.

♂. Body above with the head and pronotum ochraceous, the mesonotum greenish ochraceous, and the abdomen castaneous. Head with a slender oblique black fascia between the eyes and the ocelli, a dark linear transverse fascia on anterior margin of vertex, and with some irregular castaneous marks at the region of the ocelli. Mesonotum with four subobsolete obconical dark spots, the central pair smallest. Head beneath, sternum, legs, and opercula pale ochraceous, the abdomen beneath castaneous; apices of the femoral spines and apex of the rostrum castaneous.

Tegmina and wings pale hyaline, the venation ochraceous, inclining to fuscous; tegmina with the costal membrane and postcostal area ochraceous.

The front has a short central apical sulcation; the face is very distinctly centrally sulcated and obscurely transversely striate; the opercula are slender, transverse, and attenuated at the apices, which are well separated from each other.

Long., excl. tegm., ♂ 12 millim.; exp. tegm. 37 millim.

Hab. Panama, Matachin.

Tibicen ega, sp. n.

♂. Body above dull dark ochraceous. Head with the lateral margins of the vertex and the inner margins of the eyes darker in hue. Pronotum with the margins dark fuscous, a central transverse fuscous spot on anterior and posterior margins, and with two faint central, linear, sinuated, fuscous fasciæ. Mesonotum with four faint darker obconical spots, the central pair shortest, a lateral fascia and a spot in front of the cruciform elevation of the same colour. Abdomen with the basal area somewhat darker in hue. Body beneath and legs dull dark ochraceous.

Tegmina and wings pale hyaline, the venation ochraceous, inclining to fuscous; tegmina with the costal membrane ochraceous, the postcostal area fuscous; the transverse vein at the base of the second apical area and the apical margin of the first apical area infuscated.

The face is very strongly transversely striate and the central sulcation is very narrow. The opercula are very small, with their basal margins somewhat darker in hue.

Long., excl. tegm., ♂ 14 millim.; exp. tegm. 42 millim.

Hab. Ega, on the Amazons.

A small and obscurely marked species, in coloration allied to *T. guatemalanus*, Dist.

Tibicen pumilus, sp. n.

♂. Body above dull dark ochraceous. Head with the interior margins of eyes, lateral margins of vertex, and the area of the ocelli black. Pronotum with a pale ochraceous central fascia, the fissures and a spot on each side of disk black. Mesonotum with four obconical black spots, the central pair shortest, and a black spot in front of the anterior angles of the basal cruciform elevation. Abdomen greyishly tomentose, the basal segmental margins blackish, the apical segmental margins pale ochraceous, excepting the two basal segments, which are almost uniformly greyishly tomentose; the lateral margins of the last four segments are also distinctly blackish, and the base of the anal appendage is of the same colour. Head beneath black, the margins of the face ochraceous. Sternum, legs, opercula, and abdomen beneath ochraceous; sternal spots, coxal streaks, longitudinal fasciæ to anterior femora, the intermediate and posterior femora (excluding bases and apices), apices of anterior and intermediate tibiæ and tarsi, the rostrum, the margins of the sonorous orifices, and the apical segment of the abdomen, dark castaneous or blackish.

Tegmina and wings pale hyaline, the venation fuscous; tegmina with the costal membrane ochraceous, its base fuscous.

The rostrum just passes the intermediate coxæ; the opercula are small and convexly rounded.

Long., excl. tegm., ♂ 9–10 millim.; exp. tegm. 27–30 millim.

Hab. New Caledonia.

A small species of the genus, in size somewhat allied to the Australian *T. Gregoryi*, Dist., and to be recognized by its very distinctive coloration and markings.

Tettigades parva, sp. n.

♀. Body above black; the eyes, the anterior and posterior margins of the pronotum, lateral and posterior margins of the mesonotum, anterior angles of the cruciform elevation, and posterior margins of the last two abdominal segments and of the anal appendage, ochraceous. Body beneath black and pilose; lateral margins of the face, sternal spots, coxal streaks and apices, bases and apices of the femora, posterior tibiæ and tarsi (*intermediate tibiæ mutilated*), disk of the abdomen, and lateral margins of the anal appendage, ochraceous.

Tegmina and wings pale hyaline and talc-like. Tegmina

with the venation fuscous; the extreme base, the costal membrane (excluding inner margin), the basal cell, the basal and apical veins of the lower ulnar area, the transverse veins at the bases of the three upper ulnar areas, and a spot on the lower vein of the third ulnar area, ochraceous. Wings with the venation of the basal area ochraceous, remainder fuscous.

The rostrum reaches the intermediate coxæ; the face is distinctly sulcate, but obscurely striate.

Long., excl. tegm., ♀ 14 millim.; exp. tegm. 45 millim.

Hab. Argentine Republic (*Berg*).

A small species allied to *T. chilensis*, A. & S., from which it differs by its smaller size, the black lateral margins to the pronotum, the black centre of the cruciform elevation, the much less pilose surface of the body beneath, the less broadly sulcated face, &c.

Melampsalta luberculata, sp. n.

♀. Head and thorax above ochraceous; head with the margins of front, a lineate spot near anterior angles of vertex, and a very broad fascia between the eyes, enclosing the ocelli, black. Pronotum with two central fasciæ rounded and joined posteriorly, a spot on each side, and the fissures, black; a black spot on posterior margin at the lateral angles. Mesonotum with four large obconical spots (the central pair shortest), a central lanceolate fascia, anterior margin of cruciform elevation, a spot on its anterior angles, and a small spot in front of the same, and the posterior lateral margins, black. Abdomen black, moderately pilose, the posterior segmental margins very narrowly ochraceous; a spot on each side of the last dorsal segment, two large lateral spots (basal and apical), and two central lines to anal appendage, ochraceous. Body beneath and legs ochraceous; a broad central fascia to face on each side of the sulcation, base and apex of rostrum, sternal spots, longitudinal streaks to femora, anterior tibiæ (excluding bases), bases and apices of intermediate tibiæ, apices of the tarsi, a broad central fascia to abdomen, and anal appendage (the last centrally united with the dark coloration above), black.

Tegmina and wings pale hyaline: tegmina with the venation fuscous, the costal membrane ochraceous, and with a large blackish spot on the transverse veins at the bases of the second and third apical areas; wings with the venation ochraceous and fuscous.

Long., excl. tegm., ♀ 20 millim.; exp. tegm. 62 millim.

Hab. Australia (no precise locality).

This species cannot well be confused with any other of the Australian *Melampsaltæ*. By the prominent subapical spotting of the tegmina it is somewhat allied to *M. umbri-margo*, Walk., and *M. convergens*, Walk., but with both these species it has nothing else in common.

SYNONYMICAL NOTES.

Tympanoterpes sodalis.

Cicada sodalis, Walk. List Hom. i. p. 108. n. 9 (1850), = *Fidicina vultur*, Walk. Ins. Saund. Hom. p. 10 (1858).

Melampsalta mangu, B. White, Ent. Month. Mag. vol. xv. p. 214. n. 63 (1879), = *Melampsalta nervosa*, Walk. List Hom. i. p. 213. n. 166 (1850).

Tibicina lacteipennis, Puton, Rev. d'Ent. ii. p. 45 (1883).
N. Persia.

This name is already preoccupied in the genus *Tibicen* by *T. (Cephaloxys) lacteipennis*, Walk. List Hom. i. p. 237. n. 8 (1850), described from North India. I therefore propose to rename the Persian species as *T. Putoni*.

VIII.—*The Apodemes of Apus and the Endophragmal System of Astacus.* By HENRY M. BERNARD, M.A. Cantab.

[Plate V.]

THE endophragmal system of *Astacus* has been a considerable puzzle to all who have studied the subject. Though the elements of which it is made up are clearly seen to be folds of the outer skin, in some way connected with segmental constrictions, it has never been understood how they arose. No muscles are apparent which could have drawn them in; indeed, some of those attached to them, *e. g.* the coxal muscles, pull in the opposite direction, *i. e.* tend to straighten the skin and not to draw it into folds.

When attempting lately to show * that *Apus* is a primitive Crustacean nearly related to the Annelids, I was many times struck with the close resemblance between it and the Macrurous Decapod Crustaceans, and could not refrain from

* "The Apodidæ." Macmillan, 1892.



Distant, William Lucas. 1892. "On some undescribed Cicadidae, with synonymical notes." *The Annals and magazine of natural history; zoology, botany, and geology* 10, 54–67.

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