

mode of selection has played a great part in the perfecting of the regenerated limb. I have been able to remark, in fact, that the regenerated portions were so much the more perfect according as the amputations had been performed with greater regularity and the hemorrhage had been less copious. When the limb is cut off somewhat obliquely, the result is a teratological regeneration with tarsal joints misshapen and but little distinct one from another. A limb so imperfect as this almost always becomes detached from the body at the next ecdysis. The same applies to the limbs mangled by the teeth of the enemies of the Phasmids. Here, then, we have a real selection effected by the ecdyses, and I propose for it the term *exuvial selection*.

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#### XXIV.—*Further new Species of Forficularia*.

By MALCOLM BURR, F.E.S., F.Z.S.

IN the following paper four new *Forficularia* are described, of which three were taken in Ecuador by Mr. Rosenberg and the other in Java by Herr Frühstorfer. Two of the species from Ecuador will later require a new genus, but the material at hand is barely sufficient for the purpose. These two are considered by M. de Bormans, to whose examination I have submitted all the species described, to be identical; but several small characters, worth little in themselves, but of cumulative value taken together, have induced me to regard them as separate, though closely allied.

I take this opportunity of impressing collectors abroad with the necessity of packing earwigs with extreme special care, as I have at least a dozen novelties in my collection that I am unable to describe, as they are mutilated; for the slightest accident may destroy a valuable character. Of others also I possess only females, which it is highly undesirable to describe without the male.

The number of undescribed earwigs still existing in collections is probably very large; M. de Bormans has informed me that he alone has no less than sixty novelties.

I seize the occasion to express my thanks to this entomologist for the assistance he has very kindly rendered me in examining my types, communicating descriptions of sexes which I do not possess, and for much valuable information.

I have taken the measurements as follows:—of the body, from the mouth to the apex of the anal segment; of the



forceps, from the base to the apex of the longest branch, not including the anal segment, as is often done.

*Pygidicrana imperatrix*, sp. n.

Statura maxima; caput latitudine pronotum æquiparens, vel eo latius; pronotum ovale, antice rotundatum, postice truncatum, angulis rotundatis; elytra latiora, immaculata; alæ valde prominentes; forceps cruribus validis, depressis, basi subcontiguis, margine externo prope basin dente obtuso armatis, margine interno basi crenulatis, apice decussatis, irregulariter curvatis, crure dextro magis superne, crure sinistro minus inferne curvatis.

*Colour.* Mouth-parts, frons, abdomen, and forceps black, the rest testaceous.

*Head* as broad as the pronotum or broader; frons as far as the eyes black; eyes black. *Antennæ* fuscous, ?-segmentate.

*Pronotum* oval, raised in the centre, the sides and hinder margin flat; all angles rounded, posterior margin straight.

*Elytra* broad and flat, darkish near the apex, obliquely rounded at the apex. *Wings* protruding well beyond the elytra and paler in colour.

*Abdomen* black; anal segment large and broad, with a median suture, very faint, the posterior border rounded, emarginate roundly, and not deeply at each side.

*Legs* hairy, testaceous.

*Forceps*, ♂, stout; black; the branches are finely crenulate on inner margin at the base; dilated and depressed, straight at first; incurved at the apical third, the right branch being more strongly curved than the left and above it; each branch is armed with a stout conical tooth on the outer margin near the base. ♂.

	♂.
Long. corporis .....	30 mm.
„ pronoti .....	5 „
„ elytrorum .....	8 „
„ forcipis .....	6.5 „

*Patria.* Java occidentalis; Mons Gédé at 4000', 1896 (*Frühstorfer*).

This fine species falls into the second group of the genus, characterized by the head being as broad as the pronotum, by the prominent wings, and by the shape of the forceps, which is almost the same in both sexes. The general form of the forceps recalls the shape of that organ in *Psalis* and *Anisolabis*. The type of this group is *P. Dameli*, Dohrn.



*Opisthocosmia amazonensis*, Borm., sp. n.

“Voisin de *O. americana*, Borm. Antennes (reste 12-art.) forme typique, mais très allongées et grêles (plus que chez *O. americana*), 9 et 10 en partie ou entièrement jaunes-blanchâtres; le reste brun. L'insecte est tout entier brun foncé terne, sauf un petit point jaunâtre à l'angle sutural de l'écaille ailaire, l'extrémité apicale des tibias et le tarse tout entier testacés. La pince est d'un brun rougeâtre, luisant, plus claire que le reste du corps. L'apex de l'abdomen est plus étroit que chez *O. americana*, les pattes plus longues et grêles. ♂.

	♂.
“Longit. corp. (absque forcepe) . . . .	10 mm.
„ forcipis . . . . .	6 „

“Branches de la pince ♂ : allongés, grêles, subdroites légèrement sinueuses, écartés à la base, armées au milieu de l'arête interne d'une dent beaucoup plus longue que large et dont la pointe est obliquement tournée vers le haut (chaque dent touche celle de l'arête opposée). Les branches divergent ensuite très peu, puis se croisent vers le  $\frac{5}{6}$  de leur longueur à partir de la base.”

*Opisthocosmia amazonensis*, Borm., in litt.

Type in coll. de Bormans.

I have in my collection a female which M. de Bormans assigns to this species. I add the following description:—

Gracilis, elongata; caput pronoto latius; pronotum parvum, angustum; abdomen apicem versus dilatatum, apice ipso valde attenuatum; pedes gracillimi; forceps ♀ cruribus elongatis, gracilibus, rectis, inermibus, apice decussatis, apicem versus margine interno minutissime crenulatis; caput, pedes, abdomen, et forceps plus minus pilosa. ♀.

	♀.
Long. corporis . . . . .	14 mm.
„ forcipis . . . . .	7 „

*Patria*. Upper Amazons (*de Bormans*); Ecuador, Paramba, at 3500', V. '97, in dry season (*Rosenberg*, in coll. mea). (No. 1321.)

Differs from *O. americana*, Borm., in the longer and more slender antennal segments, by the much narrower apex of the abdomen, by the longer and more slender legs, and, finally, in the shape of the forceps.



*Forficula ? remota*, sp. n.

Corpus glabrum ; statura majore ; antennæ segmentis 13, gracilibus, elongatis ; caput pronoto latius ; pronotum angustum, margine antico recto, margine postico subrotundato, angulis rotundatis ; elytra basi dilatata, latiora, apice angustata, oblique truncata ; alæ valde prominentes ; tarsorum articulus secundus cordiformis, minimus ; abdomen apice quam basi paullo latius, plicis tuberculi-formibus segmentorum abdominalium 2 et 3 vix distinguendis ; forceps ♂ gracilis, cruribus basi dilatatis, subcontiguïs, pygidio tantum separatis, apicem versus attenuatis, incurvis, apice attinentibus, in tertia parte basali supra vel margine interno dentibus validis binis armatis ; forceps ♀ gracilis, inermis, cruribus basi contiguïs, subrectis, decussatis ; pygidium quadratum, ♂ margine postico minutissime emarginato, ♀ marginibus rectis, integris.

*Colour* testaceous or reddish, varied with fuscous.

*Head* large and flat, reddish testaceous or black. *Eyes* black. *Antennæ* long, 13-segmentate, the segments long and slender ; segments 10-11 pale, the remainder darker. *Mouth-parts* pale.

*Pronotum* small, considerably narrower than the head, paler in colour, raised anteriorly, depressed posteriorly, showing a faint median carinula ; anterior margin straight, rectangular ; posterior margin slightly rounded ; the angles rounded.

*Elytra* large, fuscous or testaceous, broad at the shoulders, narrower at the apex, where they are obliquely truncate.

*Wings* protruding well beyond the elytra, narrow, dark fuscous, sometimes with a large pale discoidal spot.

*Legs* pale testaceous ; femora and tibiæ with a few hairs ; tarsi hirsute.

*Abdomen* reddish testaceous, slightly broader at the apex than at the base ; the tubercles of the second and third segments very faint.

*Forceps* testaceous. ♂ with the branches dilated at the base, subcontiguous, only separated by the pygidium ; the basal third is dilated, armed in the centre and at the apex of this third with a blunt tooth, sometimes directed horizontally, sometimes perpendicularly, the basal part itself minutely crenulate on the inner margin ; from the second tooth the branches attenuate, incurved, to meet at the apex, where they slightly decussate. ♀ with branches attenuating from the slightly dilated base, nearly straight, decussating near the apex, concealing the pygidium.

*Pygidium* square ; ♂ with the margins faintly crenulate,



the posterior margin very faintly emarginate; ♀ with margins smooth and straight. ♂ ♀.

	♂.	♀.
Long. corporis .....	14.5 mm.	16 mm.
„ pronoti .....	2 „	2 „
„ elytrorum .....	4 „	4.5 „
„ forcipis .....	5.5 „	5.75 „

*Patria*. Ecuador, Chimbo, 1000', VIII. '97; Cachabé, low, I. '97, XII. '96 (*Rosenberg*). Type in coll. mea.

This earwig and the following will require a new genus when further allied species are discovered. The slender antennal segments, the narrow pronotum, and the broad elytra betray affinity with *Opisthocosmia*, Dohrn, while the general form of the forceps, dilated at the base and slender beyond, with the presence of abdominal tubercles, however faint, show intimate connexion with *Forficula*, L. The second tarsal segment is distinctly cordiform, and not cylindrical, and is very minute, being no broader than the other segments.

*Forficula? divergens*, sp. n.

A *Forficula? remota* differt:—Statura minore, abdomine cylindrico, colore fusciori. ♂ forcepe cruribus dente singulo subperpendiculari armatis; ♀ cruribus pygidio distincte separatis, basi dilatatis, dehinc attenuatis, fere rectis, apice attingentibus, nec decussatis. ♂ ♀.

	♂.	♀.
Long. corporis .....	9-10 mm.	8 mm.
„ elytrorum .....	2.5 „	2.5 „
„ forcipis .....	2.5-3 „	2 „

*Patria*. Ecuador; Cachabé, low, XI., XII., '96; III., '97, at 3500', in dry season (*Rosenberg*). Type in coll. mea.

This species differs so little from the last that it is with hesitation that I give it specific rank; but the general appearance, with the considerably smaller size, darker and more reddish colour, and the slightly different form of the forceps, have led me to describe it as more than a mere variety.

Bellagio, East Grinstead,  
December 29, 1898.



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