

mation d'un spermatophore, et surtout la ponte, qui revêt des formes si diverses. L'œuf, et après lui le jeune, ne sont pas toujours livrés à eux-mêmes : les mantes et les blattes assurent une protection mécanique aux œufs par la confection d'une enveloppe solide où ils sont enfermés (oothèque) ; quant aux jeunes, ils reçoivent parfois des soins assidus, dont le cas le plus remarquable est la sollicitude touchante que le vulgaire perce-oreille manifeste pour sa progéniture.

La production du son est un chapitre important ; les Orthoptères sont parmi les plus musicaux des insectes ; les sons qu'ils émettent sont de nature diverse, provenant d'ailleurs d'instruments différents : soit pattes ou élytres, soit élytres se frottant entre elles ; les mêmes formes peuvent produire des musiques différentes, certains Criquets, par exemple, ont un chant qui, par son but apparent, qui répond au plaisir de chanter, semblerait-il, et un autre qui est parfaitement distinct qui est lié au rapprochement sexuel.

Mais c'est surtout dans le domaine de la Biologie générale que les Orthoptères sont précieux.

Le Phasme *Carausius morosus*, qui est devenu un animal de laboratoire, et d'autres, permettent d'étudier la parthénogénèse, l'autonomie et la régénération, les réflexes et en particulier l'immobilité réflexe, la néoténie, l'hétérochromie, le mimétisme. Les Orthoptères ont été aussi un matériel de choix pour l'étude de la génétique ; et le phénomène des phases, marqué surtout chez les grands Criquets migrateurs où l'on voit une espèce se transformer en une autre dans une forme aussi bien que dans le comportement, est une des découvertes les plus remarquables de la Biologie actuelle.

M. CHOPARD expose toutes ces questions complètement et clairement sans aucun parti pris ; il donne volontiers les aspects, parfois contradictoires, d'un même sujet, tout en n'étant pas dupe des fausses interprétations ou des observations inexactes, et quelques cas méritent d'être cités.

L'un a traité au mode de vie d'une Courtilière dont le corps est si parfaitement cylindrique qu'on avait jugé *a priori* qu'elle vivait dans le bois, comme certains Coléoptères bien adaptés ; or on a trouvé ensuite que c'était faux : elle vit sous terre comme toutes ses pareilles. Cela montre à quelles erreurs on peut mener le principe de l'adaptation à tout prix lorsqu'on n'est pas appuyé sur l'observation.

Un autre exemple est aussi typique : un auteur a pratiqué la greffe de la tête sur un Orthoptère décapité et il a conclu, sans preuve, que l'Insecte vivait ainsi, avec une tête ressoudée ; un second auteur a établi qu'il y avait là une grossière erreur, et que l'opéré vivait comme tout autre exemple de décapité, traînant une tête morte ; mais un troisième a repris la question et a affirmé qu'il y aurait vraiment greffe, avec en particulier un tube digestif ressoudé ; tout serait donc à reprendre.

Cet ouvrage sera un manuel indispensable à tous ceux qui voudront entreprendre des recherches biologiques prenant pour base les Orthoptères.

L. BERLAND.

VOYAGE DE CH. ALLUAUD ET R. JEANNEL EN AFRIQUE ORIENTALE

STAPHYLINIDES CAVERNICOLES (1)

NEW SPECIES OF CAVE STAPHYLINIDS [Col.] FROM EAST AFRICA,

by Malcolm CAMERON, M. B., R. N., F. R. E. S.

OXYTELINAE

Oxytelus (Caccoporus) secretus, n. sp.

Moderately shining ; head black, the antennal tubercles and frontal margin reddish-yellow ; thorax darker, the elytra lighter, reddish brown ; abdomen yellowish brown. Antennae red the first three joints and legs reddish-yellow. Length 3 mm.

Near *fusciceps* Fauv. but smaller, darker in colour, less shining, the foreparts more closely sculptured, the eyes smaller, the antennae shorter and differently coloured. Head subtriangular, narrower than the thorax, the eyes large, the post-ocular region very short, the front depressed and coriaceous, the anterior border gently rounded, the rest of the surface closely and coarsely punctured. Antennae rather short, the 4th joint small, transverse, the 5th to 10th more strongly but differing little amongst themselves. Thorax transverse (5 : 3,75), the sides rounded in front, retracted and slightly sinuate behind, the posterior angles obtuse, the disc trisulcate, the median sulcus narrow and extending from base to apex, the lateral shorter, a little broader and less deep, towards the sides lightly impressed, the whole surface coarsely and closely striate-punctate. Elytra slightly longer and broader than the thorax and like it coarsely and closely striate-punctate. Abdomen finely coriaceous, practically impunctate.

♂ : 6th ventral segment very slightly produced in the middle, the produced

(1) Les grottes de l'Afrique Orientale, explorées par Ch. ALLUAUD et R. JEANNEL, ont été décrites dans *Biospeologica*, XXXIII. Enumération des grottes visitées, 1911-1913 (cinquième série). (*Arch. Zool. exp. et gen.*, Paris, tome 53, p. 363-385). [Il a été fait un tirage à part de cette partie de l'« Enumération » concernant les grottes de l'Afrique orientale, sous le titre de « Grottes de l'Afrique orientale », par Ch. ALLUAUD et R. JEANNEL.].

part truncate. 7th with a narrow, deep, almost parallel-sided excision, the apex rounded.

TANGANYIKA TERRITORY : grottes du Kulumuzi, près de Tanga (Alluaud et Jeannel, n° 74).

Oxytelus (Anotylus) abnormalis, n. sp.

Head black, moderately shining, the rest lighter or darker reddish-brown and somewhat more shining. Antennae black, the first four joints and legs reddish-yellow. Length 4 mm.

In facies much resembling an *Oxytelopsis* and like the species of that genus has a secretion to which adhere particles of dirt obscuring the sculpture, the tibiae however are not sulcate and the anterior and middle are finely spotted. The nose, the structure of the mouth parts, mesosternum and tarsi also is similar to *Oxytelus*. Head transverse, subtriangular, narrower than the thorax, the eyes small, much shorter than the rounded post-ocular region; frontal margin broadly rounded, depressed between the antennal tubercles, before the neck with three deep sulci of which the lateral are broader, above the eye with a deep impression, the whole surface coarsely coriaceous, at the sides the impressions with a few fine irregular rugae. Antennae with the 1st joint clavate, the 3rd a little longer than the 2nd, clavate, 4th oval, a little longer than broad, 5th and 6th a little longer than broad, broader than the 7th to 10th slightly transverse, 11th short, oval. Thorax transverse (8:5), widest just behind the middle, the sides rounded, somewhat uneven, emarginate before the rectangular and somewhat prominent posterior angle. Disc with three deep entire sulci separated by four strongly raised keels, the median sulcus narrower than the lateral, much narrower behind than in front; towards the sides strongly and broadly impressed; the keels with sculpture, elsewhere strongly coriaceous and with some irregular rugae in the lateral impressions. Elytra as long as but slightly broader than the thorax, more shining, the sides rounded and elevated, the suture and basal margin elevated, the rest of the surface concave, coarsely, rather closely but not deeply punctured and with some fine irregular rugae. Abdomen a little narrower before the apex, feebly coriaceous, obsolete and sparingly punctured. The whole insect without pubescence.

♂: 7th ventral segment feebly broadly arcuately emarginate.

KENYA COLONY. Grotte Campbell, prairies alpines du mont Kénya, versant nord-est, alt. 3.480 l., dans le guano d'Hyraux (Alluaud et Jeannel, n° 43).

STAPHYLINIDAE.

Xantholinus (Typhlodes) cavicola, n. sp.

Head and thorax black, elytra and abdomen light reddish-brown; legs greasy lustrous, the rest more shining. Antennae with the 1st joint reddish-brown, the following reddish-brown. Legs yellowish-red. Length 10-11 mm.

Head as long as broad, narrowed towards the front, the posterior angles broadly rounded, eyes very small and obsolete faceted; median frontal sulci long, converging behind, the lateral feeble; the disc sparingly covered with small umbilicate punctures except between the sulci, distinctly coriaceous. Antennae with the 3rd joint as long as the 2nd, 4th to 10th transverse. Thorax a little narrower than the head, longer than broad, the sides arcuately retracted behind, with dorsal row of 7 to 11 small punctures on each side and a lateral of 7 or 8, the ground sculpture finer than that of the head, more or less transversely striate. Elytra shorter (5:7) than the thorax, finely, sparingly scarcely seriatly punctured and without ground sculpture. Abdomen very sparingly punctured, with very finely striate ground sculpture the 7th segment without membranous border.

KENYA COLONY Grotte Campbell, prairies alpines du mont Kénya, versant nord-ouest, alt. 3.480 m., dans le guano d'Hyraux (Alluaud et Jeannel, n° 43).

ALEOCHARINAE.

Thamiaraea africana, n. sp.

Moderately shining black, the elytra yellowish-brown, the posterior margins of the abdominal segments narrowly yellowish. Antennae black, the first four joints and the legs reddish-yellow. Length 4 mm.

In size and build very similar to *cinnamomea* Gr. but at once distinguished by the colour, much longer antennae, smaller eyes, closer and coarser puncturation of the foreparts and much more closely punctured abdomen. Head transversely suborbicular, narrower than the thorax, eyes moderate, finely and rather closely punctured, distinctly coriaceous. Antennae rather long, the 3rd joint a little longer than the 2nd, 4th to 8th longer than broad, decreasing in length, 9th and 10th about as long as broad, 11th as long as the 9th and 10th together. Thorax transverse (8:5.5), convex, the sides rounded, rather more retracted in front, the posterior angles obtusely rounded, the base on each side feebly emarginate, sometimes with a slight median impression on the posterior half or only before the scutellum, the puncturation rather close, fine and rough as on the head and with similar ground sculpture. Elytra longer (6.5:5.5), and broader than the thorax, the puncturation very similar but rather closer, coriaceous. Abdomen gradually narrowed backwards, very finely, rather closely punctured, more sparingly on the 6th and 7th segments. Pubescence yellow, fine, short and close on the fore-parts, longer on the abdomen, the first four segments with a long black seta on each side near the lateral margin, the 4th also with 6 along the posterior margin, the apex with some others.

♂: 8th dorsal segment on each side with a short cultriform process; in the middle with a pair of triangular teeth separated by an arcuate emargination; 6th segment a little produced and rounded.

♀: 8th dorsal segment feebly arcuately emarginate in the middle.
KENYA COLONY. Grotte Campbell, prairies alpines du Mont Kénya, versant nord-ouest, alt. 3.480 m., dans le guano d'*Hyrax* (Alluaud et Jeannel n° 43).

***Thamiaraea soror*, n. sp.**

Colour and build of *africana* but smaller (3-3,5 mm.) and less robust, antennae shorter and stouter, only the first two joints reddish-yellow, the 7th 10th slightly transverse. Head and thorax more finely and more closely punctured, less coriaceous and a little more shining; elytra shorter, very little longer than the thorax, the sculpture as in *africana*; abdomen more finely and more closely punctured than in *africana*, only a little more sparingly on the 7th segment, the pubescence finer and denser.

♂: 8th dorsal segment feebly arcuately tri-emarginate, the median emargination broader than the lateral.

♀: 8th dorsal segment feebly arcuately emarginate.

TANGANYIKA TERRITORY. Grotte C du Kulumuzi, près de Tanga, dans le guano des Chauves-Souris (Alluaud et Jeannel, n° 43).

***Thamiaraea laticollis*, n. sp.**

Moderately shining, light, chestnut red, the abdomen black, the posterior margins of the segments rufescent. Antennae and legs reddish-yellow. Length 4.5 mm.

A little larger and more robust than *africana* and at once distinguished by the broad thorax which is broader than the elytra, longer antennae, etc.

Head as in *africana* but with a median impression on the disc, sometimes with a pair, the sculpture as in that species. Antennae long and slender all joints longer than broad, the penultimate only slightly. Thorax transverse (9,5 : 7), the sides rounded, more retracted behind than in front; before the scutellum with an impression and sometimes with an impressed median line in the posterior half, adjacent to the rounded posterior angles occasionally lightly impressed; sculpture as on the head. Elytra a little shorter and narrower than the thorax, the sculpture similar. Abdomen gradually narrower behind, very finely and closely punctured, gradually more sparingly behind. Pubescence and abdominal setae as in *africana*.

The specimens show no sexual difference.

KENYA COLONY. Grotte Campbell, prairies alpines du mont Kénya, versant du nord-ouest, alt. 3.480 m., dans le guano d'*Hyrax* (Alluaud et Jeannel n° 43).

***Atheta (Ousipalia) cavicola*, n. sp.**

Shining: head and thorax brown, elytra yellowish brown, abdomen black, the posterior margins of the segments narrowly reddish-yellow, the last segment yellow. Antennae and legs reddish-yellow. Length 2,5 mm.

Head transversely suborbicular widest behind, narrowed towards the front, narrower than the thorax, the eyes minute, rudimentary, consisting only of three facets, finely coriaceous and practically impunctate. Antennae slender, extending to the base of the thorax, the 3rd joint as long as the 2nd, 4th and 5th slightly longer than broad, 6th as long as broad, 7th to 10th slightly transverse, 11th as long as the 9th and 10th together; the joints with rather long hairs. Thorax very slightly transverse, convex, the sides very slightly rounded, equally retracted in front and behind, the posterior angles rounded, moderately closely but extremely finely and obsolete punctured with ground sculpture as on the head. Elytra a little wider behind, feebly emarginate postero-externally, one-third shorter and slightly broader than the thorax, very finely but more closely and much more distinctly punctured, the ground sculpture less evident. Abdomen slightly narrowed at the base, more strongly at the apex, finely rather sparingly punctured, very sparingly on the last two segments. Pubescence on the fore-parts fine, short and yellow, longer on the abdomen, the last two or three segments and apex with some long black setae. Middle and posterior tibiae each with a fine black seta.

KENYA COLONY. Grotte Campbell, prairies alpines du mont Kénya, versant nord-ouest, alt. 3.480 m., dans le guano d'*Hyrax* (Alluaud et Jeannel, n° 43).

TROIS LARVES DE STAPHYLINIDES D'AFRIQUE ORIENTALE (1),

par Renaud PAULIAN.

Au cours de la mission ALLUAUD et JEANNEL en Afrique orientale (1912), un certain nombre de grottes ont été explorées. Ces grottes étaient peuplées, entre autres insectes, par des Staphylinides qui subissaient leurs métamorphoses dans les grottes mêmes. Les Staphylinides adultes, étudiés par M. Malcolm CAMERON, ont été décrits ci-dessus; je vais donner la description des trois larves récoltées en même temps que les adultes et aisément identifiables grâce à cette capture simultanée et à leurs caractères morphologiques.

Je me bornerai ici à une simple description, réservant pour un travail ultérieur la discussion des caractères de parenté de ces larves avec les formes européennes connues.

1. *Oxytelus abnormalis* Cam. (fig. 1 à 7).

Matériel étudié: plusieurs larves de la grotte Campbell, prairies alpines du Kénya, versant nord-ouest, 3.480 m., 28 janvier 1912.

Ces larves ont été récoltées en compagnie de l'imago, dans le guano d'*Hyrax*

(1) Contribution à l'étude des larves de *Staphyloidea*. V.