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Descriptions of a new Genus and of some new Species of *Galerucinæ*, also Diagnostic Notes on some of the older described Species of *Aulacophora*. By JOSEPH S. BALY, F.L.S.

[Read 6th May, 1886.]

MANY of the insects characterized in the following paper were collected in the Eastern Archipelago by Mr. A. R. Wallace. Types of all the species mentioned are contained in my collection.

Genus AULACOPHORA.

Many of the species of this genus, more especially those described by the older authors, are in a state of great confusion, arising to some extent from the great similarity in general appearance and coloration of many of them; but principally from the brief descriptions given by the various authors and from the total absence of any reference to structural characters.

In the present paper I have attempted to work out some of these species, pointing out the structural characters by which they may be separated. I have retained, in most cases, the old names, although I cannot be sure in every instance that the species to which they are assigned were those from which the descriptions were originally drawn.

I have not attempted to work out the whole genus, many species sufficiently characterized by their respective describers, as



well as others which, from want of sufficient material, I have not had the opportunity of studying, having been omitted.

The Synoptical Table given below will, I trust, be of use to the future student of the genus.

*Table of Species.*

MALES.

I. Antennæ filiform.

**A.** Elytra transversely depressed or excavated below the basilar space.

**a.** Apical segment of abdomen trilobate, the middle lobe oblong or oblong-quadrate, its surface deeply concave or sulcate longitudinally.

**a.** Antennæ (the base sometimes excepted) black or fuscous.

*a*<sup>1</sup>. Elytra entirely black.

*b*<sup>1</sup>. Breast black, the abdomen fulvous or flavous .....

1. **nigripennis.**

*b*<sup>2</sup>. Breast and abdomen rufo-fulvous .....

2. **melanopus.**

*a*<sup>2</sup>. Elytra black, with flavous bands or markings.

*c*<sup>1</sup>. Pygidium fulvous.....

3. **albofasciata.**

*c*<sup>2</sup>. Pygidium black .....

4. **pygidialis.**

**b.** Antennæ fulvous or flavous, rarely stained towards the apex with fuscous, basal joints sometimes fuscous or black.

*d*<sup>1</sup>. Elytra entirely black.

*e*<sup>1</sup>. Body broadly ovate.....

5. **melanoptera.**

*e*<sup>2</sup>. Body oblong-ovate .....

6. **atripennis.**

*d*<sup>2</sup>. Elytra black, the extreme basal margin rufous.

7. **lata.**

*d*<sup>3</sup>. Elytra black, their apices to a greater or less extent rufous.....

8. **rosea.**

*d*<sup>4</sup>. Elytra black, with flavous markings .....

9. **instabilis.**

**B.** Apical segment of abdomen trilobate, middle lobe quadrate or subquadrate, its disk plane or only slightly concave.

**a.** Thorax rufous or flavous.

*f*<sup>1</sup>. Elytra entirely black .....

10. **Boisduvali.**

*f*<sup>2</sup>. Elytra black with flavous markings.

*g*<sup>1</sup>. Body not exceeding 4 lines in length .....

11. **propinqua.**

*g*<sup>2</sup>. Body 5 lines or more in length .....

12. **rubrozonata.**

*f*<sup>3</sup>. Elytra flavous, with black patches or markings.

13. **approximata.**

*f*<sup>4</sup>. Elytra flavous, the posterior half black .....

14. **postica.**

*f*<sup>5</sup>. Elytra entirely flavous .....

15. **testacea.**

**b.** Thorax black.....

16. **flaviventris.**

**B.** Elytra not transversely depressed or excavated below the basilar space.

**A.** Trilobate apex of abdomen with its middle lobe deeply concave or longitudinally sulcate.

*h*<sup>1</sup>. Elytra flavous, unicolorous.

*i*<sup>1</sup>. Antennæ, at the base excepted, nigro-fulvous.

*j*<sup>1</sup>. Legs entirely flavous .....

17. **abdominalis.**

*j*<sup>2</sup>. Four hind legs black .....

18. **Fabricii.**

*i*<sup>2</sup>. Antennæ flavous or fulvous.

*k*<sup>1</sup>. Scutellum black or nigro-fulvous.

*l*<sup>1</sup>. Thoracic sulcation deeply excavated on the middle disk, obsolete or interrupted towards the lateral margin.

19. **nigroscutata.**



- l*<sup>2</sup>. Thoracic sulcation entire, more deeply impressed on the middle disk ..... 20. **Wallacii**.  
*k*<sup>2</sup>. Scutellum flavous or fulvous.  
*m*<sup>1</sup>. Face armed on either side below the antennæ with a compressed tubercle. 21. **cornuta**.  
*m*<sup>2</sup>. Face unarmed.  
*n*<sup>1</sup>. Thoracic groove deeply excavated and abruptly sinuate on the middle disk, the hinder margin of the groove bitorulose ..... 22. **foveicollis**.  
*n*<sup>2</sup>. Thoracic groove straight or only moderately sinuate on the middle disk, its hinder margin not torulose.  
*o*<sup>1</sup>. Legs entirely flavous ..... 23. **similis**, var.  
*o*<sup>2</sup>. Anterior pair of legs fulvous, the two hinder pairs black or nigro-piceous ... 23. **similis**.  
2. Elytra flavous, with black markings.  
*p*<sup>1</sup>. Each elytron with two black spots ..... 24. **tetraspilota**.  
*p*<sup>2</sup>. Each elytron with four black spots ..... 25. **octomaculata**.  
*h*<sup>3</sup>. Elytra nigro-cæruleous, thoracic groove deeply excavated on the middle disk ..... 26. **excavata**.  
*h*<sup>4</sup>. Elytra nigro-piceous, narrowly edged with flavous; face with two compressed tubercles. 21. **cornuta**, var.  
B. Intermediate lobe of apical segment of abdomen quadrate or subquadrate, plane or slightly concave.  
*q*<sup>1</sup>. Elytra flavous.  
*u*<sup>1</sup>. Legs black or nigro-piceous; the labrum and the lower portion of the clypeus black. 27. **coffeæ**.  
*u*<sup>2</sup>. Legs, labrum, and lower surface of clypeus flavous..... 28. **bicolor**,  
var. F & G.  
*q*<sup>2</sup>. Elytra flavous, with black markings!..... 28. **bicolor**,  
var. D & E.  
*q*<sup>3</sup>. Elytra black, the apex rufo-fulvous ..... 28. **bicolor**, type.  
*q*<sup>4</sup>. Elytra entirely black ..... 29. **nigrivestis**.  
*q*<sup>5</sup>. Elytra black, fulvous at the base ..... 30. **Downesi**.  
II. Antennæ with the apical joint alone incrassate.  
*v*<sup>1</sup>. Elytra transversely depressed below the basilar space ..... 31. **antennata**.  
*v*<sup>2</sup>. Elytra not depressed below the basilar space. 32. **luteicornis**.  
III. Antennæ with three or four intermediate joints dilated.  
*w*<sup>1</sup>. Elytra flavous, with a submarginal black line. 33. **Stevensi**.  
*w*<sup>2</sup>. Elytra viridi-æneous ..... 34. **Duboulayi**.

## FEMALES.

- I. Surface of elytra plane or obsoletely sulcate.  
**A.** Elytra transversely depressed or excavated below the basilar space.  
**A.** Thorax nigro-fulvous or flavous.  
*a.* Apex of last abdominal segment entire.  
*a*<sup>1</sup>. Body entirely flavous ..... 35. **unicolor**.  
*a*<sup>2</sup>. Breast and abdomen black; legs and antennæ flavous\*.  
*b*<sup>1</sup>. Body above flavous ..... 15. **testacea**.

\* *A. palustris*, Perroud, belongs to this section, but differs from *A. testacea* in having the legs and antennæ black.



- b*<sup>2</sup>. Posterior half of elytra black..... 14. **postica**.  
*a*<sup>3</sup>. Breast, legs, and antennæ black; elytra black with yellowish markings ..... 11. **propinqua**, var.  
*a*<sup>4</sup>. Breast and abdomen (the apical segment sometimes excepted) rufo-fulvous or fulvous; elytra more or less black.  
*c*<sup>1</sup>. Elytra entirely black.  
*d*<sup>1</sup>. Antennæ black..... 2. **melanopus**.  
*d*<sup>2</sup>. Antennæ flavous or fulvous, the basal joint sometimes piceous or black.  
*e*<sup>1</sup>. Labrum black ..... 10. **Boisduvali**.  
*e*<sup>2</sup>. Labrum rufo-fulvous ..... 31. **antennata**.  
*c*<sup>2</sup>. Elytra black, the basal margin more or less distinctly edged with rufous ..... 7. **lata**.  
*c*<sup>3</sup>. Elytra black, their apices to a greater or less extent rufous ..... 8. **rosea**.  
*c*<sup>4</sup>. Elytra black, with flavous bands or markings.  
*f*<sup>1</sup>. Legs entirely black.  
*g*<sup>1</sup>. Body not exceeding 4 lines in length ..... 11. **propinqua**.  
*g*<sup>2</sup>. Body upwards of 4 lines in length. 12. **rubrozonata**.  
*f*<sup>2</sup>. Legs with the thighs and the basal portion of the tibiæ rufo-fulvous or flavous, the rest black.  
*h*<sup>1</sup>. Pygidium black ..... 4. **pygidialis**.  
*h*<sup>2</sup>. Pygidium rufo-flavous ..... 3. **albofasciata**.  
*f*<sup>3</sup>. Legs entirely flavous ..... 9. **instabilis**.  
*c*<sup>5</sup>. Elytra nigro-piceous, the lateral margin and the suture from below the base to the apex fulvous ..... 38. **semilimbata**.  
*c*<sup>6</sup>. Elytra flavous, with black markings.  
*i*<sup>1</sup>. Surface of elytra obsoletely sulcate..... 36. **nigrosignata**.  
*i*<sup>2</sup>. Surface of elytra plane ..... 13. **approximata**.  
*b*. Apex of anal segment of abdomen emarginate.  
*k*<sup>1</sup>. Antennæ black..... 1. **nigripennis**.  
*k*<sup>2</sup>. Antennæ and legs flavous.  
*l*<sup>1</sup>. Body broadly ovate ..... 5. **melanoptera**.  
*l*<sup>2</sup>. Body oblong-ovate ..... 6. **atripennis**.  
**B**. Thorax entirely black ..... 16. **flaviventris**.
- B**. Elytra not transversely depressed or excavated below the basilar space.  
*a*. Apex of anal segment of abdomen entire.  
*m*<sup>1</sup>. Body not exceeding 3 lines in length.  
*n*<sup>1</sup>. Elytra nigro-piceous, the base flavous ... 30. **Downesi**.  
*n*<sup>2</sup>. Elytra flavous, with black markings.  
*o*<sup>1</sup>. Elytra each with four black spots..... 25. **octomaculata**.  
*o*<sup>2</sup>. Elytra each with two black spots ..... 24. **tetraspilota**.  
*m*<sup>2</sup>. Body 3 lines in length or upwards.  
*p*<sup>1</sup>. Body subelongate or oblong, slightly dilated posteriorly.  
*q*<sup>1</sup>. Elytra flavous.  
*u*<sup>1</sup>. Lower portion of clypeus and the labrum black ..... 27. **coffeæ**.  
*u*<sup>2</sup>. Lower portion of clypeus and the labrum flavous ..... 28. **bicolor**, var.  
*q*<sup>2</sup>. Elytra variable in tint and markings, not metallic ..... 28. **bicolor**.  
*q*<sup>3</sup>. Elytra metallic green ..... 34. **Duboulayi**.



- p*<sup>2</sup>. Body ovate or oblong - ovate, dilated posteriorly.
- v*<sup>1</sup>. Elytra flavous, the suture and a sub-marginal vitta black ..... 33. **Stevensi**.
- v*<sup>2</sup>. Elytra and abdomen black..... 37. **Lewisii**.
- b*. Apex of anal segment of abdomen rounded, its middle portion produced into an oblong process ..... 19. **nigroscutata**.
- c*. Apex of anal segment of abdomen slightly sinuate, its surface deeply concave on either side ..... 22. **foveicollis**.
- d*. Apex of anal segment of abdomen broadly subangulate-emarginate ..... 18. **Fabricii**.
- e*. Apex of anal segment of abdomen abruptly concave-emarginate ..... 20. **Wallacii**.
- f*. Apex of anal segment of abdomen broadly concave-emarginate ..... 21. **cornuta**.
- g*. Apex of anal segment of abdomen bilobate.
- w*<sup>1</sup>. Lobes concave ..... 23. **similis**.
- w*<sup>2</sup>. Lobes plane.
- x*<sup>1</sup>. Elytra flavous ..... 40. **excisa**.
- x*<sup>2</sup>. Elytra nigro-cæruleous ..... 26. **excavata**.
- h*. Apex of anal segment of abdomen bisinuate ... 39. **Duvivieri**.
- i*. Apex of anal segment of abdomen trilobate.
- y*<sup>1</sup>. Lobes nearly equal in length ..... 41. **Mouhoti**.
- y*<sup>2</sup>. Lobes with the intermediate much shorter than the lateral ones ..... 32. **luteicornis**.
- II. Elytra strongly costate ..... 42. **costatipennis**.

1. AULACOPHORA NIGRIPENNIS, *Motsch. Etud. Entom.* 1857, p. 38.

*A. atripennis*, *Hope, Proc. Ent. Soc.* 1841, p. 64.

Anguste ovata, postice ampliata, convexa, fulva aut flava, antennis, pedibus, pectore elytris que nigris, his infra basin transversim depressis, distincte punctatis; thorace vix pone medium sat profunde transversim sulcato, sulco fere recto. Long. 3-3½ lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, longitudinaliter concavo.

*Fæm.* Abdominis segmento anali apice concavo-emarginato.

*Hab.* Mantchuria; Japan (*Lewis*); China (*Bowring*).

Labrum and antennæ black, the latter with the basal joints, and sometimes with the four or five outer ones, nigro-piceous. Thorax nearly twice as broad as long; sides sinuate and slightly diverging from the base to beyond the middle, thence obliquely converging towards the apex; disk rather strongly sulcate just behind the middle. Elytra distinctly punctured.

2. AULACOPHORA MELANOPUS, *Blanch. Voy. au Pôle Sud*, p. 346, pl. 19. fig. 20.

Anguste oblongo-ovata, postice ampliata, convexa, rufo-fulva, nitida,



antennis, pedibus totis, pygidio elytrisque nigris; thorace lævi, sat profunde transversim sulcato; elytris infra basin transversim depressis, tenuissime punctatis. Long.  $3\frac{1}{2}$ -5 lin.

Var. A. Femoribus pygidioque rufo-fulvis.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio transverso-quadrato, angulis anticis rectangulis, apice truncato, disco longitudinaliter sulcato.

*Fœm.* Abdominis segmento anali late sed leviter angulato-emarginato.

*Hab.* New Guinea, Dorey; Amboina (*Wallace*).

Antennæ slender, filiform, nearly equal to the body in length in either sex, black, the two to four lower joints usually rufo-piceous; labrum and mouth nigro-piceous. Thorax transverse; sides nearly straight and parallel from the base to beyond the middle, thence rounded and converging towards the apex, anterior angle obtuse; disk smooth, impunctate, discoidal groove nearly straight, more deeply impressed on either side the median line. Elytra dilated posteriorly, convex, transversely excavated below the basilar space, very minutely punctured.

The dark antennæ, equally long in both sexes, will separate this species from others with similarly coloured elytra. It is with some doubt that I have placed var. A under the same specific head; it agrees, however, entirely in structural characters.

3. *AULACOPHORA ALBOFASCIATA*. Anguste ovata, postice paullo ampliata, convexa, fulvo-nitida, antennis, ore, tibiis tarsisque nigro-piceis aut fuscis; thorace transverso, disco transversim sulcato; elytris convexis, infra basin prope suturam leviter transversim excavatis, nigris, utrisque fascia obliqua prope medium communi, ad marginem abbreviata, albida. Long. 4-5 lin.

Var. A, ♂. Elytrorum fascia albida fere obsoleta.

*Mas.* Abdominis segmenti analis lobo intermedio oblongo, profunde concavo.

*Fœm.* Abdominis segmento ultimo late obtuso.

*Hab.* New Guinea, Dorey (*Wallace*).

Head scarcely longer than broad, trigonate. Antennæ slender, equal to the body in length in both sexes; the four or five lower joints sometimes obscure fulvous; eyes in the male large, prominent. Thorax nearly twice as broad as long; sides slightly diverging or nearly parallel from the base to beyond the middle, thence obliquely converging to the anterior angle; disk transversely sulcate, the sulcation rather more deeply impressed



on either side. Elytra broader than the thorax, rather broadly dilated behind the middle, convex, rather strongly excavated below the basilar space, minutely punctured, the puncturing on the hinder disk nearly obsolete.

4. *AULACOPHORA PYGIDIALIS*. Oblongo-ovata, postice ampliata, convexa, flava, nitida; abdominis segmento ultimo plus minusve, pygidio, pedibus posticis fere totis, tarsis anticis quatuor, tibiis intermediis (basi exceptis), labro, antennis (basi exceptis) elytrisque nigris; his infra basin transversim excavatis, minute punctatis, fascia lata prope medium, interdum interrupta aut abbreviata, flavo-fulva; thorace vix pone medium transversim sulcato. Long. 3-3½ lin.

Var. A. Abdominis disco plus minusve nigro-piceo tincto.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, profunde concavo.

*Fœm.* Abdominis segmento anali apice obtuso, integro.

*Hab.* Aru Islands; New Guinea, Dorey; Ceram; Ké Islands (*Wallace*).

Antennæ slender, filiform, black, more or less piceo-fulvous at the base. Thorax more than half as broad again as long; sides obliquely diverging from the base to beyond the middle, subangulate anteriorly; disk transversely sulcate just behind the middle. Elytra very finely punctured.

Closely allied to *A. albofasciata*, smaller and the male broader than that species, its eyes less prominent; the coloration of the legs varies greatly in degree.

5. *AULACOPHORA MELANOPTERA*, *Boisduval, Voy. de l'Astrol.* p. 549.

Late ovata, postice ampliata, convexa, flavo-rufa, nitida; elytris nigris, labro piceo; thorace lateribus fere parallelis, obtusis, ad apicem convergentibus, disco minute punctato, transversim sulcato; elytris convexis, infra basin prope suturam transversim excavatis, minute punctatis. Long. 4 lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, profunde concavo.

*Fœm.* Abdominis segmento anali apice subangulato-emarginato.

Var. A, ♂. Tarsis piceis.

*Galeruca melanoptera*, *Boisduval, Voy. de l'Astrol.* p. 549, t. 8. fig. 11.

*Hab.* Celebes (*Wallace*).

Antennæ slender, filiform, nearly three fourths the length of the body; labrum piceous. Thorax nearly twice as broad as



long; sides nearly parallel, obliquely converging towards the apex; disk smooth, minutely punctured, transverse groove rather more deeply impressed on either side. Elytra broadly dilated posteriorly, convex, transversely excavated below the basilar space; minutely punctured, lateral limb reflexed, more strongly punctured than the disk.

Broader in both sexes than *A. atripennis*, Fabr., the lateral margin of the elytra broader and more strongly punctured.

6. *AULACOPHORA ATRIPENNIS*, *Fabr. Syst. El.* i. p. 482.

Oblongo-ovata, postice ampliata, convexa, rufo-fulva aut rufa, nitida, antennis flavis, articulo basali interdum rufo-piceo tincto; thorace transversim sulcato; elytris nigris, tenuissime punctatis, labro (*in mare*) nigro-piceo. Long. 3-4 lin.

Var. A. Pedibus rufo-piceis.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, profunde concavo-excavato.

*Fœm.* Abdominis segmento anali apice leviter angulato-emarginato.

*Hab.* Sumatra; Amboina; Gilolo; Tondano; Ké Islands (*Wallace*).

Antennæ slender, filiform. Thorax transverse; sides obliquely diverging from the base to beyond the middle, thence converging towards the apex; disk smooth, impressed on either side with a few minute punctures; discoidal sulcation nearly straight. Elytra dilated posteriorly, convex, transversely excavated below the basilar space, very finely punctured.

This species is smaller in size than either of the following two; the deeply concave intermediate lobe of the anal segment of the abdomen in the male, together with the obtusely emarginate apex of the same segment in the female, will separate it from either. Many of the specimens that I have seen differ from the diagnosis given by Fabricius in not having the basal joint of the antennæ darker than the following ones; in other respects they agree with the description given. I possess three specimens of the male; in this sex the labrum is piceous, in the other one it is concolorous with the upper face; in some individuals the legs are stained with piceous.

7. *AULACOPHORA LATA*. Late ovata, postice ampliata, convexa, rufo-fulva, nitida, tarsis, tibiis plus minusve elytris nigris, his basi extrema plus minusve rufo-marginatis; antennis pallide flavis; thorace transverso, lateribus obtuse rotundatis, reflexis; disco trans-



versim sulcato, lævi, ad latera minute punctato; elytris late oblongo-ovatis, postice ampliatis, convexis, infra basin transversim excavatis, minute punctatis, limbo externo reflexo. Long. 4-5½ lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio quadrato, longitudinaliter sulcato.

*Fœm.* Abdominis segmento anali apice obtuso; pygidii apice leviter emarginato.

*Hab.* Ceram; Macassar; Celebes; Gilolo; Batchian (*Wallace*).

Antennæ filiform, nearly equal to the body in length in both sexes; labrum concolorous with the upper face. Thorax nearly twice as broad as long; sides obtusely rounded, the hinder angle obsolete, the anterior one very minute; lateral margin more broadly reflexed than in most species of the genus; disk smooth, very minutely punctured on the sides, transverse sulcation nearly straight. Elytra broadly oblong-ovate, dilated posteriorly, convex, transversely excavated below the basilar space, minutely punctured; outer limb rather broadly dilated and reflexed for nearly its whole extent.

This species is closely allied to *A. rosea*, Fabr.: both insects closely agree in the form of the thorax and in all other structural characters; but the present one is distinctly broader in form and its elytra are (the extreme basal margin excepted) unicolorous.

#### 8. AULACOPHORA ROSEA, *Fabr. Syst. El.* i. p. 479.

Ovata, postice ampliata, convexa, rufo-fulva aut rufa, nitida, tibiis tarsisque nigris, antennis flavis, articulo primo sæpe rufo; thorace sat profunde transversim sulcato; lateribus obtuse rotundatis, reflexis; elytris infra basin transversim depressis, nigris, apice plus minusve rufis. Long. 3½-6 lin.

*Mas.* Abdominis segmenti analis lobo intermedio late oblongo, longitudinaliter sulcato.

*Fœm.* Abdominis segmento anali integro.

*Hab.* Sumatra; Java; Philippine Islands; Malacca.

This species so closely resembles *A. lata* in the form of its thorax and in other structural characters, that I do not give a detailed description; it is separated by its less broadly ovate form and by the rufous apex of its elytra. The rufous coloration of the apex of the elytra extends upwards to a greater or smaller extent over the disk. *A. albicornis*, Chapuis, is apparently identical with the present insect; at any rate, I cannot separate it on the slight diagnosis given by the author.



9. *AULACOPHORA INSTABILIS*. Oblongo-ovata, postice ampliata, flava, nitida, antennis extrorsum fuscis; thorace transversim sulcato, sulco fere recto; elytris convexis, infra basin leviter transversim depressis, nigris, fascia interrupta lata prope medium, interdum interrupta aut extrorsum abbreviata, flava. Long. 4 lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, concavo, longitudinaliter sulcato.

*Fœm.* Abdominis segmento anali apice obtuso.

*Hab.* Batchian; Mysol (*Wallace*).

Antennæ slender, filiform, entirely, or with the apices of the six or seven outer joints alone, fuscous. Thorax about one half broader than long; sides parallel and slightly sinuate from the base to beyond the middle, thence slightly converging towards the apex; disk deeply impressed with a transverse sulcation. Elytra dilated posteriorly, convex, slightly flattened along the suture, and faintly excavated behind the basilar space; nitidous, very minutely punctured.

10. *AULACOPHORA BOISDUVALI*. Ovata, postice ampliata, convexa, rufo-fulva aut fulva, labro nigro-piceo, nitido, antennis flavis; tibiis plus minusve tarsisque piceis, elytris nigris; thorace profunde transversim sulcato. Long. 4-5 lin.

Var. A. Labro rufo-fulvo.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio transversosubquadrato, plano.

*Fœm.* Abdominis segmento anali apice obtuso.

*Hab.* New Guinea (*Boisduval*); Borneo, Sarawak; Celebes; Bouru (*Wallace*).

Antennæ slender and filiform in either sex; nearly equal to the length of the body in the male, shorter in the other sex; labrum nigro-piceous, rarely concolorous with the upper face. Thorax with its sides sinuate and slightly diverging from the base to beyond the middle, thence obliquely rounded and converging towards the apex; upper surface smooth, finely but not closely punctured; discoidal sulcation nearly straight, deeply impressed, more deeply so on the sides. Elytra much broader than the thorax, their sides nearly parallel anteriorly, abruptly dilated posteriorly, convex, slightly excavated transversely below the basilar space, minutely punctured.

Nearly allied in coloration to *A. lata*, differing in the form of the thorax, the sides of which in the present species are



obtusely angulate and not rounded as in the before-named insect; there is also a distinct difference, both in the anal segment of the abdomen in the male and in the male genital organ.

11. *AULACOPHORA PROPINQUA*. Anguste oblongo-ovata, postice ampliata, convexa, flavo-fulva, nitida, labro, antennis (his basi interdum exceptis), pedibus elytrisque nigris; his infra basin transversim excavatis, tenuissime punctatis, utrisque fascia lata prope medium, plerumque ad marginem abbreviata, flavo-fulva. Long.  $3\frac{1}{2}$ –4 lin.

Var. A. Pectore nigro, cæteris ut in typo.

Var. B. Pectore, abdomine pygidioque nigris, cæteris ut in typo.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio flavo, obtuso.

*Fœm.* Abdominis segmento anali obtuso.

*Hab.* New Guinea, Dorey; Ké Islands; var. A, Batchian; var. B, Sulu Islands (*Wallace*).

Antennæ slender, filiform. Thorax about one half as broad again as long; sides nearly straight and slightly diverging from the base to beyond the middle; upper surface transversely sulcate behind the middle. Elytra dilated posteriorly, distinctly excavated on the suture below the basilar space, very minutely punctured.

Var. B is at first sight very similar to *A. dorsalis*, Boisduval; but that species is smaller, and its elytra are more strongly punctured and not depressed below the base.

12. *AULACOPHORA RUBROZONATA*, *Blanch. Voy. au Pôle Sud*, p. 345, pl. 19. fig. 19.

Ovata, postice ampliata, convexa, rufa aut fulva, nitida, antennis (his basi plerumque exceptis) pedibusque nigris; thorace sat profunde transversim sulcato; elytris infra basin leviter transversim depressis, fere impunctatis, nigris, fascia lata mediali rufa aut fulva. Long. 4–5 lin.

Var. A. Elytrorum margine apicali rufo aut fulvo, cæteris ut in typo.

Var. B. Elytris fulvis, utrisque basi lata, maculaque subapicali, nigra.

Var. C. Elytris macula subapicali nigra obsoleta.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio quam lateralibus paullo longiore, plano, apice obtuse rotundato.

*Fœm.* Abdominis segmento anali apice obtuso.

*Hab.* New Guinea, Dorey; Celebes (*Wallace*).



Head longer than broad, trigonate; mouth nigro-piceous or piceous. Antennæ slender, rather shorter than the body. Thorax nearly twice as broad as long; sides slightly sinuate and very slightly diverging from the base to beyond the middle; disk deeply impressed with a transverse sulcation. Elytra nitidous, nearly impunctate.

13. *AULACOPHORA APPROXIMATA*. Anguste oblongo-ovata, postice ampliata, convexa, fulvo-flava, nitida, tibiis (basi exceptis) tarsisque nigro-fuscis; thorace transversim sulcato, sulci medio leviter sinuato; elytris obsolete sulcatis, lævibus, minute punctatis, utrisque fascia basali plagaque pone medium, nigris. Long.  $3\frac{1}{2}$ -5 lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio quadrato, leviter concavo.

*Fæm.* Abdominis segmento anali apice obtuso.

*Hab.* Celebes (*Wallace*).

Antennæ slender, filiform, nearly equal to the body in length, their outer joints more or less stained with fuscous. Thorax rather more than one half broader than long; sides nearly straight and parallel from the base to beyond the middle; disk smooth, deeply impressed transversely, the sulcation faintly sinuate in the median line. Elytra oblong-ovate, dilated posteriorly, very finely punctured; a common transverse band at the base, and a subrotundate patch halfway between the middle and apex of each elytron, black.

The pale underside, together with the absence of any longitudinal sulcations on the elytra, will separate the female of this species from that of *A. nigrosignata* (sp. 36); the male of the latter insect is unknown to me.

14. *AULACOPHORA POSTICA*, *Chapuis, Ann. Soc. Ent. Belg.* xix. 1876, p. xcix.

Elongato-ovata, postice ampliata, sordide fulva, nitida, pedibus posterioribus quatuor, pectore, abdomine elytrorumque dimidio postico nigris; thorace sat profunde transversim sulcato; elytris infra basin leviter transversim depressis, distincte punctatis. Long.  $4\frac{1}{2}$ -5 lin.

*Mas.* Abdominis segmenti analis lobo intermedio oblongo, profunde longitudinaliter sulcato.

*Fæm.* Abdominis segmento anali apice leviter sinuato.

*Hab.* Philippine Islands; Java; Malacca.

Thorax nearly twice as broad as long; sides nearly straight and slightly diverging from the base to beyond the middle; disk



transversely sulcate, the sulcation nearly straight. Elytra obsoletely depressed below the base, very minutely punctured.

15. *AULACOPHORA TESTACEA*, *Fabr. Mant. Ins.* i. 1787, p. 87.

Oblonga, postice paullo ampliata, convexa, flava, nitida; labro, pectore abdomineque nigris; thorace vix pone medium transversim sulcato; elytris infra basin leviter depressis, tenuissime punctatis. Long. 3 lin. *Mas.* Abdominis segmenti analis lobo intermedio transverso-quadrato, plano.

*Fœm.* Abdominis segmento anali rotundato, integro.

*Hab.* India (*Fabr.*); Assam (*Chennell*: coll. *Baly*).

Labrum shining black; antennæ entirely flavous. Thorax nearly twice as broad as long; sides nearly straight and slightly diverging from the base to beyond the middle; disk transversely sulcate immediately behind the middle, the sulcation straight. Elytra slightly but distinctly depressed below the basilar space, very minutely punctured. Hinder femora in the male slightly stained on their outer surface with piceous.

The entirely black abdomen, together with the entirely different structure of the anal segment of the abdomen, will at once separate this species from *A. foveicollis* and *A. abdominalis*, with which insects it is usually confounded; it also differs from both in the depression below the basilar space of the elytra.

16. *AULACOPHORA FLAVIVENTRIS*. Late ovata, postice ampliata, convexa, nigra, nitida, pectore piceo, abdomine antennisque (articulo basali excepto) pallide flavis; thorace lævi, ad latera minute punctato, sulco transverso, fere recto, sat fortiter impresso; elytris convexis, infra basin transversim excavatis, minute punctatis. Long. 4 lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio transverso-quadrato, plano, angulis anticis obtusis.

*Fœm.* Abdominis segmento anali obtuso, leviter sinuato.

*Hab.* Malay Peninsula, Penang, Tringano, Malacca.

Antennæ from the second to the tenth joint slender, filiform (the terminal joint broken off). Thorax nearly twice as broad as long; sides nearly straight and slightly diverging from the base to beyond the middle, thence obliquely converging towards the apex; upper surface smooth, very finely punctured on the sides; discoidal sulcation nearly straight, deeply impressed. Elytra much broader than the thorax, dilated posteriorly; convex, transversely excavated below the basilar space, very minutely punctured.

Similar in form to *A. lata*, differing in the colour of the thorax and lower surface of the body, which is uniform in the three spe-



cimens (two males and one female) before me; the sides of the thorax are also straight posteriorly, instead of rounded as in the former species.

17. *AULACOPHORA ABDOMINALIS*, *Fabr. Spec. Ins.* i. p. 151.

Oblonga, postice paullo ampliata, convexa, flava, nitida, antennis extorsum, pectore abdomineque (ano excepto) nigris; thorace transversim sulcato, sulci medio magis profunde impresso. Long.  $3\frac{1}{2}$  lin.

*Mas.* Abdominis segmenti analis lobo intermedio oblongo, profunde longitudinaliter concavo.

*Hab.* Islands of the Pacific Ocean (*Fabr.*); Western Australia (*my collection*).

Very similar in general appearance to *A. foveicollis*, Küst., the thorax less deeply excavated on the middle disk, the outer half of the antennæ black. I only know the male of this species.

18. *AULACOPHORA FABRICII*. Anguste subelongato-ovata, postice paullo ampliata, convexa, flava, nitida, antennis (basi exceptis), pedibus posticis quatuor, pectore abdomineque (hujus apice excepto) nigris; thorace transversim sulcato, sulco in mare disci medio magis profunde excavato; elytris tenuiter punctatis. Long. 3- $3\frac{1}{2}$  lin.

*Mas.* Antennarum articulo basali incrassato, abdominis segmento anali trilobato, lobo intermedio alteris longiore, sat profunde concavo-excavato.

*Fæm.* Abdominis segmento anali apice sinuato.

*Hab.* Tonga Islands.

Antennæ filiform, nearly three fourths the length of the body, the basal joint in the male strongly thickened. Thorax nearly twice as broad as long; sides nearly straight and slightly diverging from the base to beyond the middle, thence rounded and converging towards the apex; disk transversely excavated, the sulcation in the male more broadly and deeply excavated on the middle disk. Elytra narrowly oblong, slightly dilated posteriorly, very finely punctured.

Separated from *A. nigroscutata* by the flavous scutellum and by the thoracic sulcation extending entirely across the disk; the apical abdominal segment in the female is also differently formed.

19. *AULACOPHORA NIGROSCUTATA*. Anguste oblonga, postice paullo ampliata, convexa, flava, nitida, pectore, abdomine scutelloque nigris; thorace transverso, disci medio transversim excavato, sulco utrinque abbreviato; elytris tenuiter punctatis. Long. 3 lin.

*Mas.* Thoracis sulco profunde impresso; abdominis segmento anali trilobato, lobo intermedio profunde excavato.



*Fœm.* Abdominis segmento anali apice rotundato, medio processu oblongo retrorsum producto armato; pygidio apice emarginato.

*Hab.* Gilolo; Amboyna (*Wallace*).

Antennæ filiform. Thorax nearly twice as broad as long; sides parallel from the base to beyond the middle; disk convex, deeply impressed with a large transverse excavation, which terminates on either side some distance before reaching the lateral margin; this excavation is less deeply impressed in the female; in this sex on either side, between the excavation and the lateral border, is a small fovea. Elytra oblong, dilated posteriorly, convex, finely and rather closely punctured.

20. AULACOPHORA WALLACII. Subelongato-ovata, postice ampliata, convexa, flava, nitida, pectore abdomineque nigris, scutello femoribusque posticis quatuor nigro-piceis; thorace transversim sulcato; elytris subnitidis, minute punctatis. Long. 4 lin.

*Mas.* Thoracis sulco medio profunde excavato; antennis filiformibus, articulo primo sat valde incrassato; abdominis segmento anali trilobato, lobo intermedio oblongo, profunde excavato.

*Fœm.* Abdominis segmento anali apice emarginato, incisurâ transverso-quadrata, basi angulato-producta.

*Hab.* Timor (*Wallace*).

Antennæ filiform, about four fifths the length of the body, basal joint strongly thickened in the male; anterior half of labrum nigro-piceous. Thorax nearly twice as broad as long; sides more or less distinctly sinuate and slightly diverging from the base to beyond the middle, thence obliquely rounded towards the apex; upper surface finely but distinctly punctured on the sides, impressed across the middle with a nearly straight transverse sulcation, which is of nearly equal depth for its whole course in the female, but which is much broader and more deeply excavated on the middle disk in the male. Elytra subnitidous, not distinctly excavated below the basilar space, minutely punctured.

This insect in coloration closely resembles *A. similis*, but the four posterior thighs alone are nigro-piceous, the middle disk of the thorax is more deeply excavated in the male, and the emargination at the apex of the abdomen in the female is of an entirely different form. I only know three specimens, two males and one female, all from Timor.

21. AULACOPHORA CORNUTA, *Baly, Cist. Ent. ii. p. 445.*

Oblonga, postice paullo ampliata, convexa, flava, labro, pectore abdomi-



neque nigris; thorace transversim sulcato; elytris tenuiter punctatis.  
Long.  $3\frac{1}{2}$ –4 lin.

Var. A. Elytris nigro-piceis, anguste flavo-limbatis.

A. robusta, *Duviv. Notes Leyd. Mus.* vi. p. 124.

*Mas.* Antennarum articulo basali incrassato, intus compresso, carinato; fascie utrinque infra antennis tuberculo compresso, subconico, medioque lamina brevi, pube nigro circumdata, instructa; telo apice hastato; abdominis segmento anali trilobato, lobo intermedio profunde longitudinaliter sulcato.

*Fœm.* Abdominis segmento anali late concavo-emarginato, emarginationis medio dente brevi instructo.

*Hab.* Assam; Siam (*Mouhot*); Celebes; Ceram; Timor; Sulu Islands; Flores (*Wallace*); var. A, Wagaiou (*Wallace*); New Guinea (*v. Rosenberg*).

Antennæ filiform. Thorax twice as broad as long; sides rounded, nearly straight at the base; upper surface deeply grooved just behind the middle, the sulcation nearly straight. Elytra oblong, slightly dilated posteriorly, convex, not depressed below the basilar space, finely punctured.

Var. A at first sight is very dissimilar to the type, and has been described by M. Duvivier as a separate species; it agrees, however, so closely in structural characters that I cannot but place it under the same specific head.

22. AULACOPHORA FOVEICOLLIS, *Küster, Käf. Eur.* xxviii. p. 100.

Oblonga, postice paullo ampliata, convexa, flava, nitida, pectore abdomineque (ano excepto) nigris; thorace transversim sulcato, sulco medio angulato, magis fortiter excavato; elytris tenuissime punctatis.  
Long. 3– $3\frac{1}{2}$  lin.

*Mas.* Antennarum articulo basali incrassato; thoracis sulco medio ampliato et profunde excavato et margine postico utrinque tuberculo conico instructo; abdominis segmento anali trilobato, lobo intermedio oblongo, profunde longitudinaliter concavo.

*Fœm.* Abdominis segmento anali apice breviter sinuato; disco utrinque concavo-excavato, pygidio apice emarginato.

*Hab.* Southern Europe; Northern Africa; India.

The peculiar sculpture of the thorax, combined with the form of the anal segment of the abdomen in either sex, will distinguish this species at once from its congeners.

23. AULACOPHORA SIMILIS, *Oliv. Ent.* vi. p. 624, pl. 2. f. 23.

A. femoralis, *Motsch. Etud. Ent.* 1857, p. 37.

Elongato-ovata, postice ampliata, flava, nitida, pectore abdomineque (ano flavo plerumque excepto) nigris; pedibus posticis quatuor plus



minusve nigris; thorace transversim sulcato, sulco medio sinuato; elytris tenuiter sat crebre punctatis. Long. 3-3½ lin.

Var. A. Pedibus flavis.

Rhaphidopalpa flavipes, *Jac. Notes Leyden Mus.* v. p. 202.

*Mas.* Thoracis sulco transverso medio profunde excavato; abdominis segmento anali trilobato, lobo intermedio oblongo, profunde longitudinaliter excavato.

*Fœm.* Abdominis segmento anali bilobato, lobis concavis.

*Hab.* Mantchuria; Japan; Northern India, China; Canton; Cochin China; Malay Archipelago.

The male of the present species is very similar in form and in the structure of the anal abdominal segment to the same sex of *A. foveicollis* and of *A. abdominalis*; the four hinder legs are usually stained more or less with nigro-piceous, although in some specimens from Canton they are entirely flavous; it may be known, however, by the thorax being less deeply excavated. The female is at once distinguished by the deeply bilobate anal segment of the abdomen.

This species is very widely spread, and is often confounded in collections with *A. coffeæ*, Hornst.

24. AULACOPHORA TETRASPILOTA. Elongato-ovata, postice ampliata, pallide flava, nitida; pectore abdomineque nigris; thorace lateribus rotundatis, basi fere rectis, disco transversim sulcato; elytris tenuiter punctatis, utrisque puncto subbasali maculaque transversa pone medium, nigris. Long. 2½ lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo, profunde concavo.

*Fœm.* Abdominis segmento anali apice obtuse truncato.

*Hab.* Batchian; Amboina; Gilolo (*Wallace*).

Antennæ filiform, equal to the body in length in the male. Thorax about one half broader than long; sides rounded, nearly straight from the base to beyond the middle; disk rather deeply transversely sulcate. Elytra finely but distinctly punctured; each elytron with a small round spot immediately below the middle of the basal margin, together with a second, transverse, placed obliquely a short distance below the middle, black.

25. AULACOPHORA OCTOMACULATA. Late ovata, postice ampliata, convexa, pallide flava, nitida; pectore abdominisque segmentorum maculis (his triseriatim dispositis) nigris; thorace lateribus a basi fere ad apicem subrectis, angulis acutis, disco utrinque transversim excavato; elytris tenuiter sed distincte punctatis; utrisque maculis quatuor (2, 2 transversim dispositis) nigris. Long. 3 lin.



*Mas.* Abdominis segmento anali trilobato, lobo intermedio oblongo-quadrato, concavo.

*Fœm.* Abdominis segmento anali apice obtuso.

*Hab.* Northern India.

Eyes black, vertex with two small piceous spots, sometimes obsolete; antennæ filiform. Thorax about one half broader than long; sides slightly diverging, and almost straight from the base nearly to the apex; the anterior and posterior angles acute; upper surface broadly and deeply excavated transversely on either side, the excavation extending nearly across the entire disk. Elytra subquadrate-ovate, dilated posteriorly; moderately convex, distinctly but not very closely punctured; each elytron with four large black patches, placed obliquely in pairs, two at the base and two below the middle; of the upper pair the first, near the suture, is attached to the basal margin, the other is placed just below the humeral callus; the outer one of the lower pair is attached to the lateral margin.

26. *AULACOPHORA EXCAVATA*. Oblongo-ovata, postice paullo ampliata, flava, nitida; thoracis disco sat profunde excavato; elytris subnitidis, tenuiter subcrebre punctatis, nigro-cyaneis; tibiis apice tarsisque infuscatis. Long.  $4\frac{1}{2}$ –5 lin.

*Mas.* Abdominis segmento anali profunde trilobato, lobo intermedio alteris paullo longiore, oblongo, apice truncato, concavo.

*Fœm.* Abdominis segmento anali bilobato, lobis apice incurvatis, pygidio apice angulato-emarginato.

*Hab.* India.

Antennæ filiform. Thorax about one half broader than long; sides nearly parallel and slightly sinuate from the base nearly to the apex; middle disk deeply excavated transversely, the hinder margin of the excavation obsoletely trisinate. Elytra finely punctured.

Nearly allied to *A. impressa*, Fabr., its thorax less deeply excavated, the excavation different in form, the elytra unicolorous, and the under surface of the body entirely flavous.

27. *AULACOPHORA COFFEEÆ*, *Hornst. Schrift. Berl. Ges.* viii. 1788, p. 5, t. i. f. 7.

*Aulacophora varians*, var. B?, *Chapuis, Ann. Soc. Ent. Belg.* t. xix. p. c. Subelongata, postice paullo ampliata, convexa, sordide flava, nitida; oculis magnis; pectore, abdomine pedibusque nigris, vertice plus minusve, clypei margine antice labroque nigro-piceis; scutello piceo; thorace lævi, sat profunde transversim sulcato; elytris minute punctatis, subnitidis. Long.  $3\frac{1}{2}$ –4 lin.



Var. A. Pedibus anticis flavis.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio quadrato, plano.

*Fœm.* Abdominis segmento anali integro, obtuso.

*Hab.* Java ; Sumatra ; Philippine Islands ; Tondano ; Tringano ; Cambodia ; India.

Antennæ filiform, equal to the body in length in the male, rather shorter in the female ; anterior margin of clypeus, together with the entire labrum, nigro-piceous ; vertex also stained more or less with the same colour. Thorax about one half broader than long ; sides very slightly diverging and obsoletely sinuate from the base to beyond the middle, thence converging and slightly rounded towards the apex ; disk smooth, deeply impressed transversely immediately behind the middle, the sulcation nearly straight. Elytra convex, not excavated below the basilar space, minutely punctured.

This species closely resembles *A. bicolor* in general form and in the structure of the anal segment of the abdomen in both sexes ; in addition, however, to the uniform coloration of the elytra, the nigro-piceous labrum and anterior margin of the clypeus will separate it from all the varieties of that species.

28. AULACOPHORA BICOLOR, *Weber, Obs. Ent.* 1801, p. 56 ; *Fabr. Syst. El.* i. p. 482.

Subelongata, postice paullo ampliata, convexa, nigra, nitida ; capite, thorace scutelloque flavis aut fulvis ; pedibus anticis femoribusque intermediis sordide flavis, plus minusve piceo tinctis ; elytris opacis, nigris, macula parva basali apiceque fulvis. Long. 4-5 lin.

Var. A. Corpore subtus toto fulvo.

Var. B. Elytris nigris, apice marginibus laterali et suturali et interdum fascia interrupta prope medium fulvis.

Var. C. Elytris rufo-fulvis, dimidio apicali et utrisque maculis duabus infra basin, nigris ; pedibus anticis quatuor fere totis sordide fulvis.

Var. D. Elytris fulvis, utrisque maculis transversis irregularibus duabus, una ad basin, altera vix pone medium positis, nigris ; pedibus ut in typo.

Var. E. Elytris flavis aut fulvis, utrisque maculis duabus, infra basin transversim positis, fasciaque transversa vix pone medium, utrinque abbreviata, nigris.

*Aulacophora sexnotata, Chapuis, Ann. Soc. Ent. Belg.* t. xix. p. c.

Var. F. Corpore flavo, oculis nigris.

Var. G. Minor ; corpore flavo, elytris nitidis.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio quadrato, leviter concavo.

*Fœm.* Abdominis segmento anali integro, obtuso.



*Hab.* Type, Sumatra, Java; var. A, Celebes, Gilolo, Flores; var. B, C, and D, Java; var. E, Java, Philippines, Lombok; var. F, Ceylon; var. G, Celebes.

The above species is very nearly allied to *A. coffeæ*, Hornst., agreeing closely in form and structural characters. The head in the male of the present insect is narrow and the eyes are larger and more prominent, and the apical surface of the intermediate lobe of the anal segment of the abdomen is slightly concave instead of plane. *A. bicolor*, however, although extremely variable in coloration, always has the lower edge of the clypeus and the entire labrum concolorous with the upper face; in *A. coffeæ*, on the contrary, these parts are nigro-piceous or black.

29. *AULACOPHORA NIGRIVESTIS*, *Boisd. Voy. de l' Astrol.* p. 548.

Subelongata, postice paullo ampliata, convexa, fulva, nitida; tibiis apice, tarsis antennarumque articulis intermediis piceis; abdomine elytrisque nigris, his æneo tinctis; thorace lateribus a basi fere ad apicem rectis, disco sat fortiter transversim sulcato, sulco utrinque magis distincte impresso. Long.  $3\frac{4}{5}$  lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio alteris longiore, transverso-quadrato, plano, apice truncato.

*Hab.* Fiji Islands, a single specimen.

Antennæ nearly equal to the body in length, slender, filiform. Thorax nearly twice as broad as long; sides straight and parallel, obliquely converging near the apex. Elytra narrowly oblong, slightly dilated posteriorly, convex, distinctly punctured. Extreme apex of the abdomen piceous.

30. *AULACOPHORA DOWNESI*. Ovata, postice ampliata, nigra, nitida, capite, thorace, scutello pedibusque flavis; thorace lateribus ante medium obtuse angulatis, disco modice transversim sulcato; elytris tenuiter punctatis, plaga magna basali, trigonata, communi, flava. Long.  $2\frac{3}{4}$ -3 lin.

*Mas.* Abdominis segmento anali trilobato, lobo intermedio late oblongo-quadrato, plano.

*Fæm.* Abdominis segmento anali apice sinuato.

*Hab.* India, Bombay (*Dr. Ezra Downes*).

Antennæ filiform. Thorax about one half broader than long; sides obtusely angulate before the middle, nearly straight posteriorly; upper surface transversely sulcate, the sulcation less deeply impressed than in most other species of the genus. Elytra dilated posteriorly, moderately convex, very finely punctured.



In the two specimens before me the flavous patch on the elytra varies in extent.

31. *AULACOPHORA ANTENNATA*. Anguste ovata, postice ampliata, convexa, rufo-fulva, nitida; antennis flavis, pectore rarius pedibusque piceis; elytris convexis, infra basin prope suturam transversim excavatis, nigris, tenuissime punctatis; thorace lævi, sat profunde transversim sulcato. Long. 4-4½ lin.

*Mas.* Antennarum articulo ultimo incrassato, apice oblique sinuato-emarginato, dente acuto armato; abdominis articulo anali trilobato, lobo intermedio transverso-quadrato, disco concavo.

*Fæm.* Antennarum articulo ultimo non incrassato, abdominis segmento anali late truncato, obsolete sinuato.

Var. A. Pedibus fulvis.

*Hab.* Java; Singapore; Borneo, Sarawak (*Wallace*).

Antennæ filiform, the apical joint in the male thickened, its apex obliquely emarginate and armed with a short acute tooth; labrum and mouth concolorous with the upper face. Thorax nearly twice as broad as long; sides nearly straight and very slightly diverging from the base to just beyond the middle, thence obliquely converging towards the apex, anterior angle obliquely truncate, armed laterally with a small obtuse tooth; upper surface smooth, with a few scattered punctures on either side behind the anterior angle; transverse groove nearly straight, deeply impressed. Elytra dilated posteriorly, convex, transversely excavated below the basilar space, minutely but not closely punctured.

32. *AULACOPHORA LUTEICORNIS*, *Fabr.*

Late ovata, postice ampliata, thorace sat profunde transversim sulcato, lateribus obtuse rotundatis; elytris tenuissime punctatis. Long. 4 lin.

Var. A. Nigra, nitida; thoracis lateribus angustis antennisque pallide flavis; elytris rufis, apice nigris; tarsis interdum rufo-piceis.

Var. B. Thoracis lateribus disco concoloribus, cæteris ut in var. A.

*Galeruca luteicornis*, *Fabr. Syst. El. i. p. 482.*

Var. C. Elytris totis rufis, cæteris ut in varr. A et B.

*Aulacophora simplicipennis*, *Clark, Ann. & Mag. Nat. Hist. ser. 3, xv. 1865, p. 145.*

Var. D. Nigra, antennis (basi exceptis) pallide flavis.

Var. E. Tota flava.

*Mas.* Antennarum articulo ultimo incrassato, apice emarginato; abdominis segmenti analis lobo intermedio plano, transverso-quadrato angulis anticis obtusis.



*Fœm.* Abdominis segmento anali transversim emarginato, trilobato, lobo intermedio brevi, truncato, lobis lateralibus subacutis, apice incurvatis.

*Hab.* Malay Peninsula, Singapore, Penang, Tringano, Malacca; Borneo, Sarawak; Sumatra (*Wallace*).

This variable insect in point of coloration is, owing to the dilated apical joint of its antennæ in the male and to the peculiar emargination of the anal segment of the abdomen in the female, one of the best defined species of the genus; the formation of the anal segment of the abdomen will at once distinguish the latter sex from all others known to me of the genus. *Aulacophora antennata*, described in the present paper, is the only insect with which the male can be confounded; in the male of *A. antennata* the body is larger and narrower, the dilated apical joint of its antennæ is differently notched at the apex, and the intermediate lobe of the anal segment is concave, not plane as in *A. luteicornis*. The apical segment of the abdomen in the female of *A. antennata* is not emarginate.

33. AULACOPHORA STEVENSI. Anguste ovata, convexa, pallide flava, nitida, scutello nigro-piceo, oculis nigris; thorace transversim sulcato; elytris tenuissime punctatis, basi extrema, sutura, apice, nec non linea submarginali, a basi fere ad apicem extensa, nigris. Long.  $3\frac{1}{2}$ -4 lin.

*Mas.* Antennarum articulis 3<sup>o</sup>-5<sup>m</sup> incrassatis; abdominis segmento anali trilobato, lobo intermedio oblongo-quadrato, profunde concavo.

*Fœm.* Antennis filiformibus; abdominis segmento anali apice sinuato.

*Hab.* Ceylon; India, Dinapore.

Front impressed on either side with an oval fovea in the male. Antennæ in the same sex with the second joint very short, turbinate, the following three thickened; the third compressed, trigonate, its antero-external angle very acute; the fourth more strongly thickened, oblong-ovate; the fifth slightly compressed, subtrigonate, its outer edge armed near the apex with a short acute tooth, its upper surface excavated.

34. AULACOPHORA DUBOULAYI. Anguste oblonga, postice paullo ampliata, convexa, flava aut fulva, nitida, collo utrinque nigro, tibiis ad apicem tarsisque nigro-piceis; thorace transversim sulcato; elytris tenuissime, subcrebre punctatis, viridi-æneis. Long. 3- $3\frac{1}{2}$  lin.

*Mas.* Antennarum articulis tertio ad sextum dilatatis, fronte utrinque intra oculum foveolata; abdominis segmento anali trilobato, lobo intermedio oblongo-quadrato.

*Fœm.* Antennis filiformibus nigris, basi fulvis; abdominis segmento anali apice leviter sinuato.

*Hab.* Western Australia (*Duboulay*).



Upper portion of front in the male impressed just within the eye with a large round fovea; antennæ in the same sex entirely flavous, the second joint very short, moniliform, the third thickened, subtrigonal, its antero-external angle armed with a long acute tooth, the fourth joint strongly thickened, compressed externally, equal in length to the third, the fifth shorter than either of the preceding, compressed and dilated externally at the base; antennæ in the female simple, filiform. Thorax transverse, transversely sulcate, more deeply excavated on either side the median line; its surface smooth, impunctate; sides nearly straight and parallel, slightly converging anteriorly. Elytra narrowly oblong, parallel, very finely punctured.

This species is separated from *A. smaragdipennis*, Duv. (*viridipennis*, Chap.), by the dilated joints of the antennæ in the male sex.

*Females of which the males are unknown to me.*

35. AULACOPHORA UNICOLOR, *Jac. Notes Leyd. Mus.* v. p. 201.

Ovata, postice ampliata, convexa, flava, nitida; thorace sat profunde transversim sulcato; elytris infra basin transversim depressis, tenuiter punctatis. Long. 5 lin.

*Fœm.* Abdominis segmento anali integro.

*Hab.* Saleyer.

This insect, of which Mr. Jacoby has kindly sent me a specimen, exactly resembles *A. Boisduvali* in size, form, and sculpture, only differing in the uniform flavous coloration of the whole body; whether it is a distinct species or only a local form of *A. Boisduvali* it is impossible, in the absence of the male (which is at present unknown), to determine.

36. AULACOPHORA NIGROSIGNATA. Anguste ovata, postice ampliata, flava, nitida; pectore abdomineque nigris; thorace transversim sulcato, sulco medio subinterrupto; elytris subnitidis, tenuiter punctatis, utrisque plaga basali transversa, utrinque abbreviata, fasciaque pone medium, interdum ad suturam abbreviata, nigris. Long. 4-4½ lin.

*Fœm.* Abdominis segmento anali apice integro, obtuso.

*Hab.* Flores (*Wallace*).

Antennæ nearly three fourths the length of the body, filiform. Thorax nearly twice as broad as long; sides nearly straight and slightly diverging from the base to beyond the middle, thence converging towards the apex; upper surface finely but distinctly punctured on either side in front; disk deeply sulcate transversely,



the sulcation less deeply impressed in its middle. Elytra subnitidous, minutely punctured; on each elytron are several faint longitudinal sulcations.

37. *AULACOPHORA LEWISII*. Anguste ovata, postice ampliata, convexa, rufo-fulva, nitida; abdomine nigro-piceo; thorace vix pone medium transversim sulcato; elytris nigris, infra basin non excavatis, minute punctatis. Long. 3 lin.

*Fœm.* Abdominis segmento anali integro.

*Hab.* China, Hongkong (*Lewis*).

Thorax nearly twice as broad as long; sides nearly straight and parallel from the base to beyond the middle, thence converging towards the apex; disk smooth, impressed just behind the middle with a nearly straight transverse sulcation. Elytra not depressed transversely below the basilar space, minutely punctured.

At first sight very close to *A. nigripennis*, but at once to be known by the different coloration of the under surface of the body, by the pale legs, and by the absence of the subbasilar depression on the elytra. Although from so widely different a locality, it is just possible that this insect may be the female of *A. nigrivestis*, Boisd.

38. *AULACOPHORA SEMILIMBATA*. Anguste oblongo-ovata, convexa, flava, nitida; antennis (basi exceptis), tibiis apice tarsisque nigro-piceis; abdomine piceo tincto; thorace profunde transversim sulcato; elytris convexis, infra basin excavatis, nigris, nitidis, limbo suturali, nec non margine externo, his ante medium obsolete, flavis. Long.  $3\frac{3}{4}$  lin.

*Fœm.* Abdominis segmento anali obtuso, obsolete sinuato.

*Hab.* New Guinea, Dorey (*Wallace*).

Antennæ slender, filiform, the basal joint flavous. Thorax nearly twice as broad as long; sides distinctly angulate; disk transversely impressed with a deep sulcation, which is rather more strongly excavated on either side the median line. Elytra oblong, slightly dilated posteriorly; convex, distinctly excavated on the suture below the basilar space, shining, impunctate.

39. *AULACOPHORA DUVIVIERI*. Anguste ovata, postice paullo ampliata, convexa, flava, nitida; pectore, abdomine pedibusque posterioribus nigris, anticis piceis; thorace quam longo fere duplo latiore, transversim sulcato, sulco prope marginum fere obsolete; elytris minute punctatis. Long. 4 lin.

*Var. A.* Tibiis tarsisque intermediis piceis.

*Fœm.* Abdominis segmento anali apice late emarginato, leviter bisinuato.

*Hab.* Java; Malacca.



Antennæ filiform; labrum concolorous with the upper face. Thorax nearly twice as broad as long; sides nearly straight and parallel from the base to beyond the middle, thence obliquely converging towards the apex; disk transversely excavated across the middle, the sulcation nearly obsolete near the lateral margin. Elytra narrowly oblong, slightly dilated posteriorly, convex, not excavated below the basilar space, minutely punctured.

40. *AULACOPHORA EXCISA*. Ovata, postice ampliata, convexa, flava, nitida; pectore abdomineque (hoc apice excepto) nigris; femoribus posticis quatuor piceo-nigris; thorace sat profunde transversim sulcato; elytris minute punctatis. Long.  $3\frac{1}{3}$  lin.

Var. A. Antennis extrorsum pedibusque posticis quatuor nigris, pedibus anticis piceo tinctis.

*Fœm.* Abdominis segmento anali apice bilobato, lobis planis, ad apicem incurvatis.

*Hab.* Celebes; Flores; var. A, New Guinea (*Wallace*).

Antennæ slender, filiform, nearly two thirds the length of the body, the outer half slightly stained with piceous; labrum piceous. Thorax transverse; sides nearly straight and parallel from the base to beyond the middle, thence converging towards the apex, the posterior angle obtuse; disk deeply impressed across the middle with a transverse groove. Elytra minutely, but not closely punctured. Apical lobes of abdomen plane, separated by a broad deep incision.

The peculiar form of the apical segment of the abdomen in the female (the only sex known to me) will at once separate this species from its allies.

41. *AULACOPHORA MOUHOTI*. Anguste ovata, postice ampliata, convexa, flava, nitida; pectore abdomineque nigris, scutello nigropiceo; thorace sat profunde transversim sulcato; elytris minute subcrebre punctatis. Long. 3 lin.

*Fœm.* Abdominis segmento anali trilobato, lobis æquilongis, intermedio apice emarginato.

*Hab.* Cochin China; Malacca.

Antennæ slender, filiform, more than half the length of the body, stained with piceous. Thorax transverse; sides nearly straight and parallel from the base to just beyond the middle; disk deeply transversely sulcate. Elytra minutely punctured.

The above insect, of which I know only the female, agrees with *A. luteicornis* in the anal segment of its abdomen being trilobate,



but differs in the narrower form and in the intermediate anal lobe being nearly equal in length to the lateral ones.

42. *AULACOPHORA COSTATIPENNIS*. Ovata, postice ampliata, convexa, rufo-fulva, nitida; thorace sat profunde transversim sulcato, lateribus angulatis; elytris infra basin leviter transversim depressis, nigris, elevato-vittatis, interspatiis punctatis. Long.  $3\frac{1}{2}$  lin.

*Fœm.* Abdominis segmento anali apice obtuso.

*Hab.* —? A single specimen, my collection.

Antennæ slender, filiform. Thorax nearly twice as broad as long; sides straight and diverging from the base to beyond the middle, thence obliquely converging towards the apex; disk minutely punctured on either side, deeply transversely sulcate. Elytra broadly ovate, dilated posteriorly, convex, slightly depressed transversely below the basilar space; each elytron with nine distinctly elevated longitudinal costæ, their interspaces minutely punctate.

Nearly allied to *A. Batesi*, Jac., and *A. anchora*, Redt.; its elytra nitidous, entirely black, and distinctly depressed below the basilar space.

#### Genus PSEUDOCOPHORA, *Jacoby*.

*PSEUDOCOPHORA BRUNNEA*. Ovata, postice ampliata, valde convexa, pallide fulvo-picea, nitida, pectore, abdomine pedibusque posterioribus quatuor nigris; thorace leviter transversim sulcato, lateribus angulatis; elytris distincte punctatis. Long. 3 lin.

*Hab.* Celebes (*Wallace*).

Antennæ filiform. Thorax rather more than one half broader than long; sides distinctly produced and angulate before the middle; disk impressed transversely with a shallow sulcation. Elytra broadly oblong-ovate, dilated posteriorly, convex, distinctly punctured, the puncturing nearly obsolete on the hinder disk.

In the typical species of the genus, as well as in the present one, the prosternum is distinct and nearly equal in height to the coxæ; this character is not mentioned by Mr. Jacoby.

#### Genus PARIDEA.

*Corpus* ovatum, postice ampliatum. *Caput* exsertum; *oculis* rotundatis, integris; *antennis* filiformibus. *Thorax* transverso-quadratus, dorso transversim sulcatus. *Elytrorum epipleura* a basi ad medium extensa. *Pedes* simplices; *tibiis* apice spina brevi armatis; *tarsis posticis* articulo



basali ad duos sequentes æquilongis; *unguiculis* appendiculatis. *Prosternum* coxis anticis occultum; *acetabulis* anticis apertis.

Type *Paridea thoracica*.

Closely resembling *Aulacophora* in general form, separated by the prolonged elytral epipleura and by the appendiculated claws.

**PARIDEA THORACICA.** Ovata, postice ampliata, convexa, flava, nitida; pectore abdominisque maculis nigris; capite thoraceque rufopulvis; antennis (basi exceptis) nigropiceis; thorace quam longo latiore, lateribus fere parallelis, sinuatis, disco profunde transversim excavato; elytris tenuiter sed distincte punctatis, utrisque plaga basali subrotundata, alteraque pone medium, transversa, nigris. Long.  $2\frac{1}{2}$  lin.

*Fam.* Abdominis segmento anali integro, obtuso.

*Hab.* India.

Antennæ rather slender, filiform. Thorax about one fourth broader than long; sides parallel and rather deeply sinuate from the base to beyond the middle, very slightly dilated before the latter; disk smooth, broadly and deeply excavated transversely, more deeply excavated on either side. Elytra dilated posteriorly, finely but distinctly punctured. Abdominal segments stained with black on either side.

#### Genus *ÆNIDEA*, *Baly*.

**ÆNIDEA FACIALIS.** Elongata, flavo-fulva, nitida; thorace lævi, disco leviter transversim excavato; lateribus a basi ad ultra medium divergentibus, hinc ad apicem rotundato-convergentibus; elytris parallelis, puncto humerali suturaque basi, nigris. Long. 4 lin.

*Mas.* Facie infra antennis lamina transversa trigonata, antrorsum producta armata; clypeo transverso, tumido, apice superiori bispinoso; antennarum articulo tertio subtus emarginato.

*Hab.* Ceylon.

Clypeus in the male transversely swollen, its anterior border emarginate, its upper edge free, bispinose; face below the antennæ armed with a large, transverse, horizontal, triangular plate, its apex acute; antennæ in the same sex robust, the third joint sinuate beneath. Thorax about one half broader than long; sides straight and diverging from the base to beyond the middle, thence converging towards the apex. Elytra finely punctured.

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