

Key to the New World Genera of Anomalini

(after Paucar-Cabrera 2003)

(*Phyllopertha latitarsis* Nonfried is *incertae sedis* and was omitted from the key)

1. Protibial spur absent (Fig. 10). Maxilla reduced, with 2 or fewer teeth (Fig. 13) 2
- 1'. Protibial spur present (Fig. 9). Maxilla not reduced, with more than 2 teeth (Figs. 11-12, 14)
.....3



Figure 9. Foreleg in dorsal view of *Anomala chrysanthe*.



Figure 10. Foreleg in dorsal view of *Lepthoplia testaceipennis*



Figure 11. Left maxilla in ventral view of *Anomala chrysanthe*



Figure 12. Left maxilla in ventral view of *Dilophochila bolacoides*

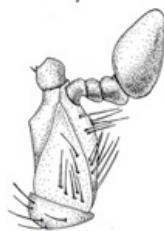


Figure 13. Left maxilla in ventral view of *Lepthoplia testaceipennis*

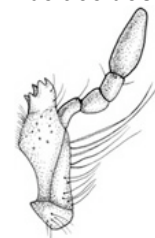


Figure 14. Left maxilla in ventral view of *Mazahuapertha tolucana*

- 2(1). Mesepimeron not visible in dorsal view (e.g., Fig. 6). Clypeus with lateral margins at base straight (forming a right angle with frontoclypeal suture). Maxilla with last segment of palpus 2 times wider than width of third segment (Fig. 13). Dorsal color testaceous ... ***Lepthoplia*** Saylor
- 2'. Mesepimeron visible in dorsal view (e.g., Figs. 3-5). Clypeus with lateral margins at base oblique (forming an acute angle with frontoclypeal suture). Maxilla with last segment of palpus subequal in width to third segment (Fig. 14). Dorsal color of head, pronotum, and pygidium castaneous with greenish reflections, elytron testaceous with castaneous, longitudinal markings
..... ***Mazahuapertha*** Morón and Nogueira



Figure 3. Mesepimeron of *Epectinaspis*



Figure 4. Mesepimeron of *Strigoderma*



Figure 5. Mesepimeron of *Popillia*



Figure 6. Mesepimeron of *Anomala*



Figure 13. Left maxilla in ventral view of *Leptohoplia testaceipennis*

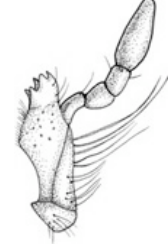


Figure 14. Left maxilla in ventral view of *Mazahuapertha tolucana*

3(1'). Labrum projecting anteriorly beyond apex of clypeus (Fig. 15). Apex of labrum deeply emarginate (Fig. 15, 18) **Chelilabia** Morón and Nogueira

3'. Labrum hidden or partially hidden, only apex exposed beyond apex of clypeus (Figs. 16, 17).
Apex of labrum quadrate, rounded, sinuate (Fig. 19), or emarginate (Fig. 20) 4



Figure 15. Head of *Chelilabia piniphaga*

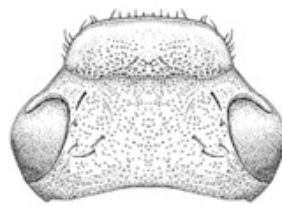


Figure 16. Head of *Anomala chrysanthe*

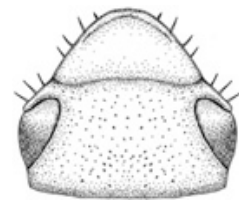


Figure 17. Head of *Anomalacra clypealis*



Figure 18. Labrum in ventral view of *Chelilabia piniphaga*



Figure 19. Labrum in ventral view of *Anomala chrysanthe*

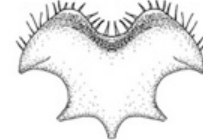


Figure 20. Labrum in ventral view of *Dilophochila bolacoides*

4(3'). Anterior border of clypeus emarginate, lobed either side of emargination (Fig. 21)

..... *Dilophochila* Bates

4'. Anterior border of clypeus quadrate (Fig. 16), rounded, parabolic (Fig. 17), or produced anteriorly (Figs. 22a-b, 23a-c) 5



Figure 16. Head of *Anomala chrysanthe*

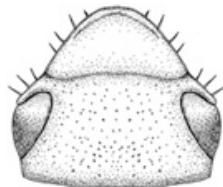


Figure 17. Head of *Anomalacra clypealis*

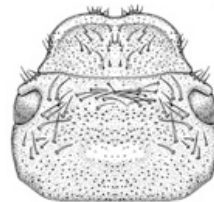
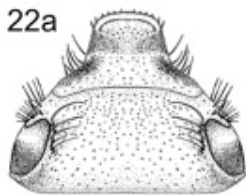
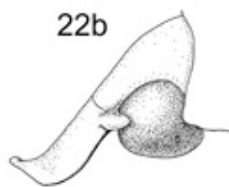


Figure 21. Head of *Dilophochila bolacoides*

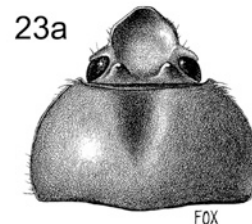


22a

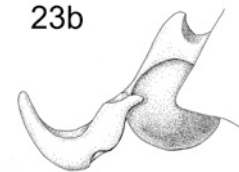


22b

Figure 22. Head of *Callirhynchus metallescens*
a) dorsal view, b) lateral view



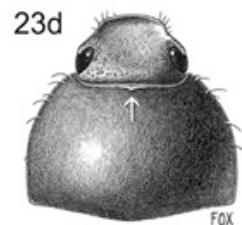
23a



23b



23c



23d

Figure 23a-d. Heads of: *Anomalorhina turrialbana*: 23a) male head and pronotum in dorsal view; 23b) male head in lateral view. *Anomalorhina osaensis*: 23c) male head and pronotum; 23d) female head and pronotum.

5(4'). Frontoclypeal suture incomplete (obsolete at middle, poorly defined at margin) (Fig. 23a).

Sides of clypeus elevated at base of canthus (Fig. 23b). Males with pronotal disc with depression (23a, 23c). Females with apical margin of pronotum with bead produced posteriorly at middle (V-shaped) (Fig. 23d) *Anomalorhina* Jameson, Paucar-Cabrera, and Solís

5'. Frontoclypeal suture complete (Fig. 16, 17). Sides of clypeus weakly elevated or flat at base of canthus (Fig. 16). Males with pronotal disc evenly rounded (without fovea). Females with apical margin of pronotum with bead not produced posteriorly 6

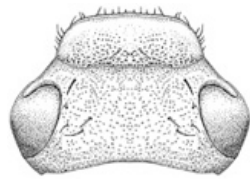


Figure 16. Head of *Anomala chrysanthe*

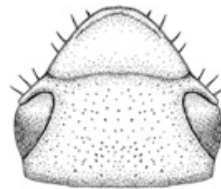
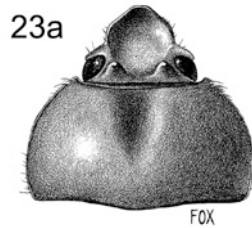
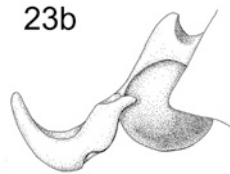


Figure 17. Head of *Anomalacra clypealis*



23a

FOX

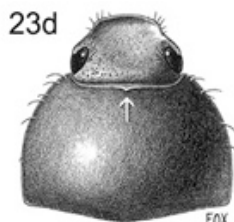


23b



23c

FOX



23d

FOX

Figure 23a-d. Heads of: *Anomalorhina turrialbana*: 23a) male head and pronotum in dorsal view; 23b) male head in lateral view. *Anomalorhina osaensis*: 23c) male head and pronotum; 23d) female head and pronotum.

6(5'). Clypeus abruptly reflexed and snout-like, apex abruptly constricted (Figs. 22a-b)

..... **Callirhinus** Blanchard

6'. Clypeus not abruptly reflexed and snout-like, apex quadrate, rounded, or parabolic (e.g., Figs.

16-17) 7

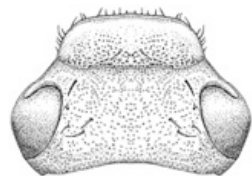


Figure 16. Head of *Anomala chrysanthe*

22a

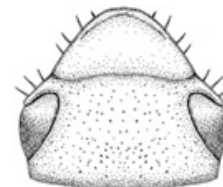


Figure 17. Head of *Anomalacra clypealis*

22b

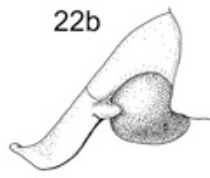
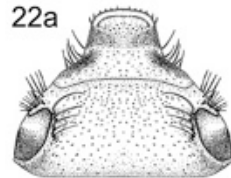


Figure 22. Head of *Callirhinus metallescens*
a) dorsal view, b) lateral view

7(6'). Clypeus parabolic (Fig. 17).....**Anomalacra** Casey

7'. Clypeus rounded or quadrate (Fig. 16) 8

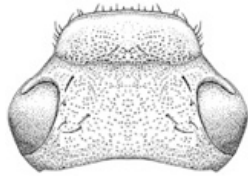


Figure 16. Head of *Anomala chrysanthe*

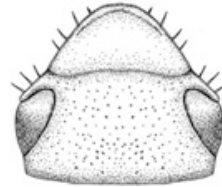


Figure 17. Head of *Anomalacra clypealis*

8. Pronotum suboval (Fig. 26), with anterior angles not acute (Fig. 31), not covering posterior portion of eye (Fig. 31). Hind wing with region anterior to RA3+4 without setae.

..... **Balanogonia** Paucar-Cabrera

8'. Pronotum sub-quadrate (Figs. 27, 28), with anterior angles acute (Fig. 32), covering posterior 1/3-1/6 portion of eye (Fig. 32) or pronotum sub-trapezoidal (Fig. 29), with anterior angles not acute, not covering posterior portion of eye. Hind wing with region anterior to RA 3+4 with setae

..... 9



Figure 26. Pronotum in dorsal view of *Balanogonia freudei*



Figure 27. Pronotum in dorsal view of *Epectinaspis moreletiana*

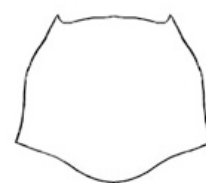


Figure 28. Pronotum in dorsal view of *Strigoderma vestita*



Figure 29. Pronotum in dorsal view of *Yaaxkumukia ephemera*

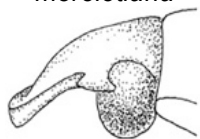


Figure 31. Head in lateral view of *Balanogonia freudei*

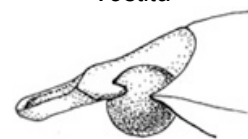


Figure 32. Head in lateral view of *Epectinaspis moreletiana*

- 9(8'). Mesepimeron partially visible anterior to base of elytron in dorsal view (Figs. 3-5) .. 10
 9'. Mesepimeron concealed by base of elytron in dorsal view (Fig. 6) 13



Figure 3. Mesepimeron of *Epectinaspis*



Figure 4. Mesepimeron of *Strigoderma*



Figure 5. Mesepimeron of *Popillia*



Figure 6. Mesepimeron of *Anomala*

- 10(9). Base of pronotum tri-emarginate (Fig. 5). Mesometasternum produced anteriorly beyond base of mesocoxae (Fig. 33) **Popillia** DeJean
 10'. Base of pronotum rounded posteriorly (e.g., Figs. 26-29). Mesometasternum not produced anteriorly beyond base of mesocoxae (Figs. 34, 35) 11



Figure 5. Mesepimeron of *Popillia*



Figure 26. Pronotum in dorsal view of *Balanogonia freudei*



Figure 27. Pronotum in dorsal view of *Epectinaspis moreletiana*

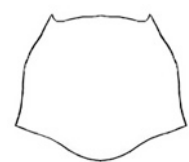


Figure 28. Pronotum in dorsal view of *Strigoderma vestita*



Figure 29. Pronotum in dorsal view of *Yaaxkumukia ephemera*

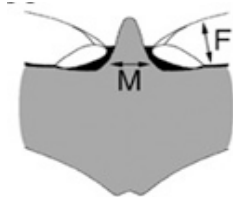


Figure 33. Mesosternum of *Popillia japonica*



Figure 34. Mesosternum of *Anomala autogramma*



Figure 35. Mesosternum of *Epectinaspis*

- 11(10'). Pronotal surface finely rugopunctate. Elytral surface finely rugopunctate, lacking punctate striae or raised longitudinal ridges **Rugopertha** Machatschke
 11'. Pronotal surface punctate. Elytral surface with punctate striae, raised longitudinal ridges, or entirely smooth 12

12(11'). Mesosternal intercoxal region subequal in width to base of mesofemur (Fig. 36).
 Mesepimeron subrectangular, well-exposed (Fig. 4). Clypeus of male narrowly reflexed at apex.
 Dorsal surface of elytron flat **Strigoderma** Burmeister

12. Mesosternal intercoxal region less than 1/4 width of base of mesofemur (Fig. 35).
 Mesepimeron subtriangular, partially exposed (Fig. 3). Clypeus of male broadly reflexed at apex.
 Dorsal surface of elytron evenly rounded **Epectinaspis** Blanchard



Figure 3. Mesepimeron of *Epectinaspis*



Figure 4. Mesepimeron of *Strigoderma*



Figure 35. Mesosternum of *Epectinaspis opacicollis*



Figure 36. Mesosternum of *Strigoderma rutelina*

13(9'). Mesosternal intercoxal region subequal in width to base of mesofemur or 1/2 width of base of mesofemur (Fig. 37). Mesometasternum produced anteriorly beyond base of mesocoxae (Fig. 37) 14

13'. Mesosternal intercoxal region less than 1/4 width base of mesofemur (Fig. 34).
 Mesometasternum not produced anteriorly beyond base of mesocoxae (Fig. 34)
 **Anomala** Samouelle



Figure 34. Mesosternum of *Anomala autogramma*



Figure 37. Mesosternum of *Callistethus specularis*

- 14(13') Height of clypeal apex in frontal view about 1/2 length of clypeus in dorsal view (Fig. 24).
 Maxilla with 5 teeth **Nayarita** Morón and Nogueira
- 14'. Height of clypeal apex in frontal view about 1/3-1/4 length of clypeus in dorsal view (Fig. 25).
 Maxilla with 6 teeth 15



Figure 24. Head in frontolateral view of *Nayarita*

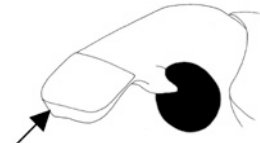


Figure 25. Head in frontolateral view of *Yaaxkumukia*

- 15(14'). Last abdominal spiracle tuberculiform in male (Fig. 38). Pronotum with apical margin not beaded **Yaaxkumukia** Morón and Nogueira
- 15'. Last abdominal spiracle simple, not tuberculiform in male or female (Fig. 39). Pronotum with apical margin beaded **Callistethus** Blanchard

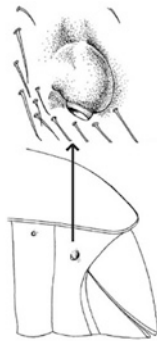


Figure 38. Last spiracle in lateral view of *Yaaxkumukia ephemera*



Figure 39. Last spiracle in lateral view of *Callistethus specularis*

Paucar-Cabrera, A. 2003. Systematics and phylogeny of the genus *Epectinaspis* Blanchard (Coleoptera: Scarabaeidae: Rutelinae) and description of a new genus of Anomalini from Mexico. Coleopterists Society Monographs 2:1-60.

URL: <http://www-museum.unl.edu/research/entomology/Guide/Scarabaeidae/Rutelinae/Rutelinae-Tribes/Anomalini/Anomalini-Key/AnomaliniK.html>