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KEYS TO SEPARATE SUBGENERA AND SPECIES GROUP IN *Anthonomus* GERMAR (Coleoptera: Curculionidae, Anthonomini) OF THE NEW WORLD

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Abstract: *Anthonomus* Germar is the most polymorphic and difficult genus to identify at the species level within the subfamily Curculioninae; more than 500 species are known worldwide, with more than 90% found in the American continent. These are grouped into 10 subgenera; six of which are distributed in the Nearctic and Neotropical regions: *Anthomorphus* Weise, *Anthonomochaeta* Dietz, *Anthonomocyllus* Dietz, *Anthonomorphus* Dietz, *Cnemocyllus* Dietz and *Anthonomus* Germar. This last subgenus with more than 400 species and them are grouped into 53 groups. On the other hand, there are more than 60 American species that are not found within any group, and more than 50 species with a Palearctic or Afrotropical distribution; same that were not considered in this work. The botanical families with records of *Anthonomus* are Asteraceae, Betulaceae, Combretaceae, Cornaceae, Cupressaceae, Euphorbiaceae, Fabaceae, Fagaceae, Flacourtiaceae, Gleicheniaceae, Malpigiaceae, Malvaceae, Melastomataceae, Myricaeceae, Myrtaceae, Myrsinaceae, Pinaceae, Rhizopharaceae, Rosaceae, Rubiaceae, Rutaceae, Solanaceae and Tiliaceae. However, for most species their host plant is unknown. The objective of the current work was to facilitate the identification of *Anthonomus* species, taxonomic key and digital illustrations are provided, as well as a summary of each subgenus and species group.
Keywords: Weevils, plants, distribution, taxonomy, morphology.

INTRODUCTION

Anthonomus Germar, 1817 is the most diverse and complex genus in Curculioninae, more than 90% of the described species are distributed in the Nearctic and Neotropical regions; they are divided into 10 subgenera; six of which are found in the New World: *Anthomorphus* Weise 1883, *Anthonomochaeta* Dietz 1981, *Anthonomocyllus* Dietz 1891, *Anthonomorphus* Dietz 1891, *Anthonomus* Germar and *Cnemocyllus* Dietz 1891, which were systematically studied by Horace R. Burke and Wayne E. Clark from 1962 to 2019 (Burke 1962, Clark *et al*. 2019). *Anthonomus* is differentiated from other weevils by combination of morphological characters. Body oval, elongated-oval or oblong-oval, in lateral view from slightly to strongly convex, variable length, 81% of the species measure between 1.0-4.0 mm (mean, 3.0 mm in length), less than 6% measure between 5.0-7.5 mm. Integument yellowish, reddish or black, with or without setae or dense scales. Rostrum cylindrical and curved, scrobe with the upper and lower margins directed to the ventral half of the eye. Eyes small or large, circular and convex; antennal funiculus with seven segments; except, some species with six segments (*Cnemucyllus* with 14 species); besides, the species groups: *A. calvescens*, *A. guttatus* and *A. apionoides* (with four species each group) and the species: *A. sallei* Burke and *A. lomonga* Clark, among others. Prothorax conical with straight anterolateral margin (sinuous in the species group *A. alboscutellatus*). Humeri oblique, rounded (except in *A. cavei*, humeri prominent). Elytra wider than prothorax; pygidium slightly exposed or not; ventral segments straight; profemur slightly to strongly robust toothed, in some species, the tooth is closed or bi/tridentate (like in *A. triensis*). Protibia straight or strongly curved; tarsal nails with basal processes.

Some groups of species superficially resemble those of other genera as in *A. flavirostris, A. alboannulatus,* and *A. triensis* with species of the genus *Atractomerus* Douponchel and Chevrolat*; Anthonomus albolineatus* with species of the genus *Loncophorus* Chevrolat. *Atractomerus* differs from *Anthonomus* in having the protuberances on the elytra in the even interestriae and the tooth of the profemur without a depression. *Loncophorus* dif-

fers in that it presents patches of dense scales in different areas of the elytra and elytral slope, the tooth of the pro- and mesofemur with a depression (Soto *et al*. 2013).

In this work, keys are presented to separate the subgenus and groups of species in *Anthonomus;* likewise, digital illustrations are provided for identification purposes. This is based in a comprehensive analysis of the systematic studies conducted by Horace R. Burke and Wayne E. Clark from 1962 to 2019; therefurther, Dietz (1891), Blantchey and Leng (1916), and Champion (1903, 1910); as well as more recent publications.

KEY TO SEPARATE THE SUBGENERA OF *ANTHONOMUS* GEMAR

1. Mesocoxae widely separated, more than 0.5 times the width of a coxa; body oblong, strongly convex in lateral view; rostrum thin and slightly curved; species from 1.8 to 3.4 mm (Fig.1) ……..…. *Anthonomocyllus*

- Mesocoxae subcontiguous, separated no more than 0.5 times the width of a coxa……..… 2

2. Profemur thin and toothless; rostrum thin, long and curved, slightly wide beyond insertion of antenna; eyes small ……..…… *Anthonomochaeta*

- Profemur robust or dentate, if lacking tooth, rostrum not like the previous option….…….…….…….…….……3

3. Body elongated-oval, with dense, broad and rounded scales, almost completely covering the integument; scales on pronotum disc with oblique orientation; rostrum curved; antenna with six segments, if seven, male with metatibia curved; size from 1.7 to 3.4 mm (Fig.2)….…….…….…….*Cnemocyllus*

- Body oblong, oval or oblong-oval, antenna with seven segments, if with six, then body covered with elongated and narrow setae ……..…….…….…… 4

4. Pygidium sulcate or impressed; eyes round, convex, with the posterior margin slightly separated from the head (Figs. 75 and 76) …….…….……. *Anthomorphus*

- Pygidium without groove, if with groove, then rostrum small and robust …….5

5. Rostrum thin, slightly curved, tricarinate in the middle basal part; body oblong-oval, covered with dense, long, narrow setae; femur bidentate; eyes slightly convex adjoining head; size from 3.22 to 5.7 mm (Figs. 4-5) ……..…….…….…….. *Anthonomorphus*

- Rostrum very variable, curved and elongated, if rostrum small then the eyes are convex and large; body with wide or narrow and elongated scales; profemur uni-, bi- or tridentate; elytra without or with patches of black scales; protibia straight or strongly curved; body variable in size (Figs. 6-53) …….. *Anthonomus*

SYNOPSIS OF THE SUBGENERA IN *ANTHONOMUS*

Anthomorphus: subgenus with 26 species, separated into two groups of species: *A. rubidus* with eight species and *A. sulcatus* with 14 species. Some species have been collected in Betulaceae, Fagaceae, Malpigiaceae, Myricaeceae, Rosaceae and Pinaceae. Subgenus with wide distribution in the Nearctic and Neotropical regions; *A. phillocola* (Herbst) and *A. pinivorax* Silfverberg are found in the Palearctic region; see Clark (1987a) to separate the species.

Anthonomochaeta: monotypic subgenus *A. heterogenus* Dietz, distributed in Arizona, Colorado, Utah, Washington and Texas in the United States of America (O'Brien and Wibmer 1982); its host plant is unknown (Dietz 1891).

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Anthonomocyllus: subgenus with 17 species, separated into three groups of species: *A. tenuirostris* with 11 species, *A. leucostictus* with one species and *A. caeruleisquamis* with five species. Most species are distributed in Central and South America. Little is known about the host plants, they have been collected in *Alchornea sidaefolia* Baill. (Euphorbiaceae), *Faramea occidentalis* A. rich. (Rubiaceae), *Zanthoxylum fagara* (L.) Sarg. *Zanthoxylum spinifex* D. C., and *Zanthoxylum* sp. (Rutaceae); see Clark (1990a) to separate species

Anthonomorphus: subgenus with 4 species, with distribution more towards the United States of America; except, *A. texanus* which has been recorded in Mexico and some islands of the Antilles (O'Brien and Wibmer, 1982). Species associated with Malvaceae; see Burke (1964) to separate species,

Cnemocyllus: subgenus with 23 species, separated into five groups: *A. jacobinus* with five species, *A. decipiens*, *A. pictus*, *A. stolatus* with three species each group and *A. inermis* with nine species. Some of them are associated with Asteraceae (Burke 1968, Ahmad and Burke 1972); see Clark and Burke (2005) to separate species.

Anthonomus: the most diverse and complex subgenus with more than 418 described species, grouped into 53 species groups; 46 groups were taxonomically reviewed by Horace R. Burke and Wayne E. Clark from 1964 to 2019; therefore, 354 spp. are found in one of these groups. More than 50 species are distributed in the Palearctic or Afrotropical regions; species were not taken into this study. Additionally, it is anticipated that around 60 species are not included in any of the groups that were reviewed.

Special attention is required for the following species groups *A. furcatus* and *A. fischeri*; *A. rubiginosus*, *A. partiarius* and *A. ourateae*; *A. albolineatus* and *A. formosus* in Solanaceae group (Table 1).

No.	Name of the group	Spp.	No.	Name of the group	Spp.
1	*A. aeneolus*	2	8	*A. morbosus*	2
2	*A. aereus*	4	9	*A. morpheus*	1
3	*A. cyanicolor*	3	10	*A. orichalceus*	5
4	*A. eugenii*	5	11	*A. tenebrosus*	9
5	*A. formosus*	6	12	*A. soporatus*	6
6	*A. humerosus*	3	13	*A. varipes*	2
7	*A. mexicanus*	3			

Table 1. Groups of species associated with members of the Solanaceae family; see Clark and Burke (1996) to separate the species.

On the other hand, it is worth noting that there exist certain species that do not belong to any specific taxonomic group, yet exhibit superficial similarities to species within recognized groups. For instance, *A. sallei* Burke, a species that is very similar in appearance to the *A. guttatus* species group; However, it differs from *A. guttatus* since it has a larger body; profemur more robust; and the head constricted at the junction with the eyes (Burke 1979).

KEY TO SEPARATE SPECIES GROUPS OF THE SUBGENUS *ANTHONOMUS* OF THE NEW WORLD

1. Antenna with six segments……..……2

- Antenna with seven segments …….. 4

2. Elytra in the mid-dorsal region with a large patch, or with scattered small patches of black setae (Figs. 7-8) ……..…….…… *A. calvescens* in part

- Elytra with setae or scales with a variable arrangement, not in the form of a patch in the mid-dorsal region ……..…….……3

3. Body robust, oblong–oval; elytra with a patch of whitish post-scutellar scales, at the interstia sutures or diagonally; medium-sized species from 2.0 to 3.5 mm (Fig. 6) ……..…….…….…….. *A . guttatus*

- Body elongated-oval; elytra with subparallel sides; without post-scutellar or dia-

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gonal scale patches, small species 1.5 to 2.5 mm (Fig. 11) ……..…… *A. apionoides*

4. Body elongated; pronotum and elytra convex in lateral view; profemur moderately robust and with a long, sharp tooth; protibia curved (Figs. 9-10)…….…….…. ….…….…….…….…… *A. albolinetus*

- Body oval, elongated-oval or oblong; if pronotum and elytral convex; then, eyes large and convex, slightly separated from the head; integument black and shiny or protibia slightly straighter…….…….…….…….…….……. 5

5. Elytra with whitish or ochraceous scales forming a "V" or in oblique lines…….…….…….…….…….…….6

- Elytra with setae or scales if present with a different design…….…….…….8

6. Integument with pale and dark areas, contrasting with the arrangement of the white, reddish or dark reddish scales; femur with a small, sharp, conical tooth and another smaller one distal to the first; pronotum with a line of pale scales (Fig.12) …….…….…….……. *A. ornatus*

- Integument not like above …….……. 7

7. Profemur robust 1.6x wider than mesofemur, with two or three large teeth; protibia strongly curved; eyes convex; elytra at the base of interval 3 raised (Figs. 13-14)…….…….…….…….*A. venustus*

- Profemur moderately robust less than 1.6x the width of the mesofemur, with a large tooth and a small one distal to the first; protibia straight (Figs. 16-17)…… .…….…….…….…….. *A. nebulosus*

8. Humeri prominent, angled; elytra taper progressively towards the rear; intervals 3 and 4 with a sub-basal prominence; prothorax slightly widens at the base, with prominences in the anteromedial and posteromedial region, longitudinal middle region with ochraceous scales forming a spindle-shaped line (Fig. 15)…….…….…….…….……. *A. cavei*

- Humeri rounded; elytra do not taper towards rear; interval 4 without elevation at the base; prothorax not like the previous option …….…….…….……. 9

9. Elytra in dorsal view slightly wider in the middle part …….…….…….……. 10

- Elytra in dorsal view with subparallel or rounded sides …….…….…….……. 12

10. Elytra strongly convex, with a carinate elevation at interval 3 near the slope; eyes small (Fig. 18)…..….*A. quadrigibbus*

- Elytra almost flat or slightly convex, without elevation in declivity; eyes moderately large …….…….…….……. 11

11. Body with narrow, dense, mottled setae; profemur with large uncus and a preapical tooth; metafemur bidentate, if unidentate, pleuron with dense pale scales; eyes round and slightly convex (Figs. 20 and 65) …….*A. marmoratus*

- Body with narrow, evenly spaced setae; profemur with small uncus and lacking preapical tooth; metafemur unidentate; prothorax with dense punctures, pleuron without dense scales; eyes moderately large and slightly separated from the head (Figs. 23 and 66……...*A. gibbicrus*

12. Elytra at the base on interval 2 or 3 elevated or with a line of dark scales……13

- Elytra at the base of elytral interval 2 or 3 not like the previous option…..…….19

13. Body oval and convex; protibia with a sharp protuberance on the inner margin; profemur with a sharp tooth (Figs. 19 and 69) …….…….…….*A. alboannulatus*

- Protibia without acute protuberance; profemur uni- or bidentate …….…….14

14. Body elongated slightly convex; dorsal surface with reddish or fulvoferruginous scales; protibia curved; ventral sur-

face with scales denser and paler than the dorsal ones; elytra in the middle region with unintelligible patch of dark scales; narrow and straight metatibia (Fig. 21)…….…….…….…….…*A. ourateae*

- Body oval and convex; surface with variable scales…….…….…….…….15

15. Scutellum with adjacent dark scales; elytra with conspicuous prominences; profemur with a large, sharp tooth with a "V" -shaped depression (Figs. 22 and 70)…….…….…*A. flavirostris*

- Scutellum without adjacent scales; if prominences are present, they are not conspicuous; profemur uni-or bidentate…….…….…….…….…….16

16. Elytra on post-lateral margin with a patch of dark setae; protibia with or without a long spine on ventral margin; profemur bi– or tri–dentate (Figs. 24 and 71)…….…….…*A. triensis*

- Elytra without patches of dark scales on the post-lateral margin; scales with different arrangement, oblique or in small or large patches on the elytral disc; protibia without spine on the inner margin….17

17. Base of interstriation 2 slightly elevated; moderately thin face; convex eyes; male with abdominal sternite 5 depressed at the mid-apical margin and with a mid-posterior prominence; elytra with the scales directed to the midline of the interstria (Figs. 25-26)……....*A. furcatus*

- Elytral interval 3 with light or high elevation; pronotum with dense and coarse punctures..…….…….…….…..….18

18. Elytra with black scales formed oblique lines or patches, on the base, disc or side; dorsal margin of carinate scrobe; profemur slightly robust; rostrum thin ; metatibia with a small and sharp tooth (Figs.7-8)…….…….*A. calvescens*

- Elytra if with dark scales they do not form large patches or well-marked oblique lines; rostrum tri-carinated; metatibia with mucro that extends parallel to the tibia, directed towards the tarsi; profemur robust (Fig. 27)…….…*A. fischeri*

19. Lobe postocular well-developed; prosternum depressed in front of the procoxae; mesocoxas widely separated; postscultellar area with dense setae (Figs. 28-29).…….…....*A. alboscutellatus*

- Anterolateral margin straight; prosterno without depression; mesocoxae narrow..…….…….…….…...….20

20. Rostrum with a groove above the scrobe; black, smooth and shiny body; ventral region with scattered setae; eyes convex (Figs. 30-31)……..…*A. puncticeps*

- Rostrum without groove above the scrobe; if shallow groove, then punctures in the groove and body with scattered narrow dense setae, denser in the ventral region..…….…….…….…..….21

21. Body oblong; eyes large and convex; pronotum with a narrow line of setae along the middle, the pleural region and posterior margin; profemur 1.4 to 1.9x more robust than the metafemur (Fig. 32)…….…….…….…….*A. dogma*

- Body variable, covered with scales or narrow setae, scattered or confined in patches on both the prothorax and the elytra…….…….…….…….…….22

22. Profemur bidentate…….…….….23

- Profemur unidentate…….…….….31

23. Body with dense, elongated and long scales…….…….…….…….….24

- Body with narrow and short setae or pubescence…….…….…….…….25

24. Integument completely covered by scales, denser on the ventral surface; pro- and mesotibia with a prominence on the

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ventral margin; uncus robust, large and acute, and with a preapical tooth (Figs. 33 and 67…….……*A. salvini*

- Integument visible, not completely covered by scales; pro- and mesotibia with slight prominence; uncus small, without preapical tooth (Fig. 34)……..*A. grandis*

25. Elytra and pronotum with very small, narrow pubescence or setae, uniform in color and size, integument visible, black or dark-reddish in color…….……..26

- Elytra and pronotum with smaller setae, some grouped in patches, whether or not they cover the integument……..…28

26. Pronotum slightly concave on disc; elytra flat on disc; eyes prominent; head slightly constricted; elongated-oval body (Figs. 36-37).……..…*A. planipennis*

- Pronotum and elytra convex on the disc; eyes moderately large and convex; prothorax with rounded sides; head without constriction…….…….…….27

27. Body elongated-oval; protibia straight on dorsal margin; profemur tooth and uncus small and oblique; eyes moderately large and convex (Figs. 35 and 72)……..…….…….….*A. gularis*

- Body oblong-oval; protibia curved on dorsal margin; profemur tooth and uncus large; eyes large, protuberant and convex; head slightly constricted (Figs. 38-39)……..……...…*A . ocularis*

28. Body oblong-oval and strongly convex…….…….…….…….…….…….29

- Body elongated–oval and slightly convex…….…….…….…….…….…….30

29. Elytra with a large patch of dark scales on the mid-dorsal region; rostrum slightly tricarinate; pronotum with dense punctures; protibia with the uncus thin, curved and acute (Figs. 40 and 68)…….…….…….…*A. monostigma*

- Elytra with small patches of pale and reddish scales on the intervals, some patches larger than others (Fig. 41)…….…….…….…….*A. albocivitensis*

30. Antennal club elongated with the sutures exposed and smooth joints (Fig. 73)..…….…….…….... *A. rubiginosus*

- Antennal club compact with the sutures not exposed and funiculus with submoniliform segments (Fig. 74)……*A. partiarius*

31. Elytra smooth blue with elytral striae with punctures; head and prothorax reddish or black (Fig. 42-43)……*A. ruficollis*

- Elytra reddish or black …….…….…32

32. Rostrum slightly curved almost as long as head and prothorax; body oblong-oval, convex; eyes small; antennal club with smooth joints and few pubescences; species small of 1.0 to 2.2 mm (Figs. 44-45) …….…….…….…….…… *A. pusillus*

- Rostrum curved, variable on length; eyes moderately large and convex……...33

33. Elytra on posterolateral region at interval 2 the integument is smooth, glabrous and black, and with adjacent whitish scales (Fig. 46…….*A. curvirostris*

- Elytra with setae or scales distributed evenly or in patches, if like the previous option then it starts at interval 3 or 4 and the scales are uniform in color……34

34. Elytra on mid-basal region with triangular patch of dark scales; integument reddish; body covered with grayish or ochraceous scales (Fig. 48)……..……...…*A. triangulifer*

- Elytra without a triangular patch in the post-scutellar region; integument and variable scales …….…….…….…….35

35. Body dark reddish or black, covered with scales scattered or confined in patches; eyes round slightly separated from

the head, rostrum slightly trimarinated; tergite 7 with a middle canal, species associated with Solanaceae (Figs. 53-60; Table 1)……..…...Solanaceae Groups

- Body with variable integument; dense scales or not…….…….…….……36

36. Body with narrow, short, whitish setae that do not completely cover the integument…….…….…….…….…37

- Body with dense or not dense scales, elongated and sharp or wide and rounded, black, reddish or grayish scales…….…….…….…….…….……38

37. Integument yellowish or reddish, setae distributed evenly; sternites subequal in length; rostrum slightly curved almost straight; profemur tooth small or absent tarsal tooth small or absent (Fig. 47)…….…….…….….*A. juniperinus*

- Integument reddish or black; setae evenly distributed, may be grouped in small patches on elytra; ventral segments 2-5 decrease; rostrum curved; profemur tooth median in lenght (Fig. 49)…….…….…….…….*A. suturalis*

38. Body with wide scales interspersed with some elongated ones, whether or not they completely cover the integument, denser on the ventrolateral surface; rostrum long, curved; eyes small and slightly convex (Figs. 61-64).…….……
…….…….…….…….…..*A. squamosus*

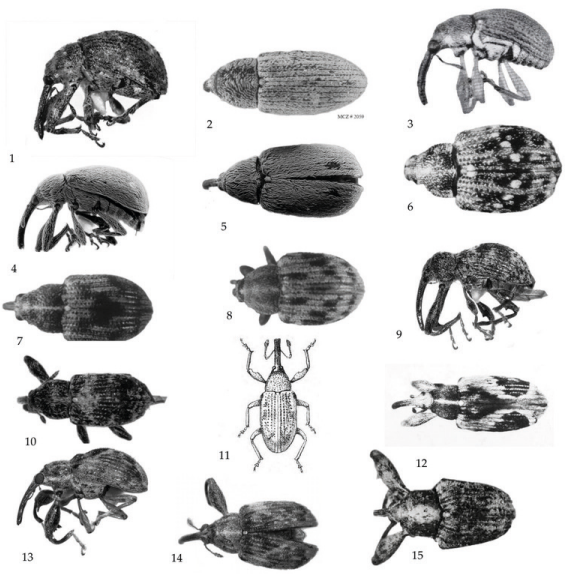
- Body with elongated and uniform scales; eyes moderately large and convex…….…….…….……39

39. Rostrum, robust, short and curved; pygidium with an apico-dorsal depression; elytra in the middle region with a patch of black scales, if depression and patch absent then eyes large and convex (Figs. 51-52)…..……...*A. unipustulatus*

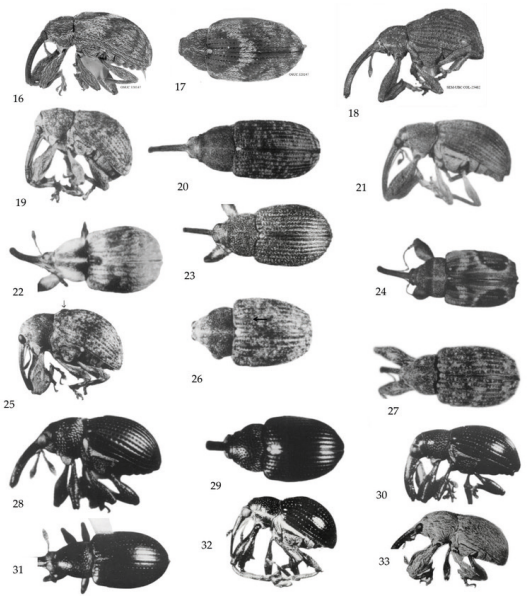
- Rostrum elongated, long and curved, longer than the pronotum; head on dorsal surface rough; rostrum on basal margin punctate, punctures scattered and smooth at the apex…….40

40. Scales of the pronotum and elytra interspersed with curved setae; eyes convex with the upper margin slightly separated from the head; medium-sized species from 3.5 to 4.0 mm (Fig. 50).....…….…….....*A. stupulosus*

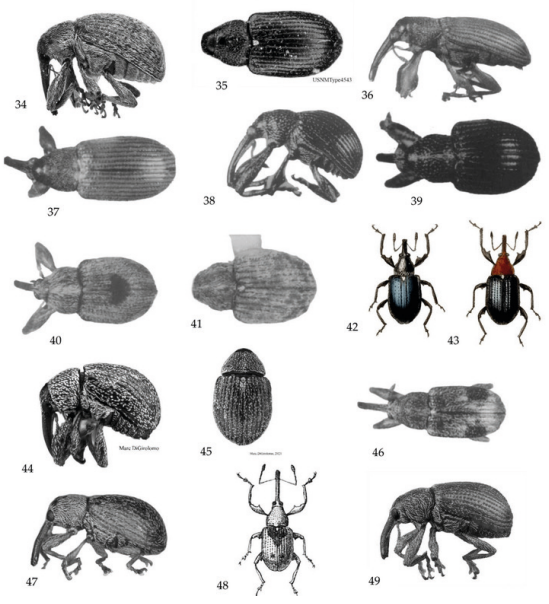
- Pronotum and elytra without curved scales; small species of 1.5 to 2.5…….……...…...*A. fulvipes*



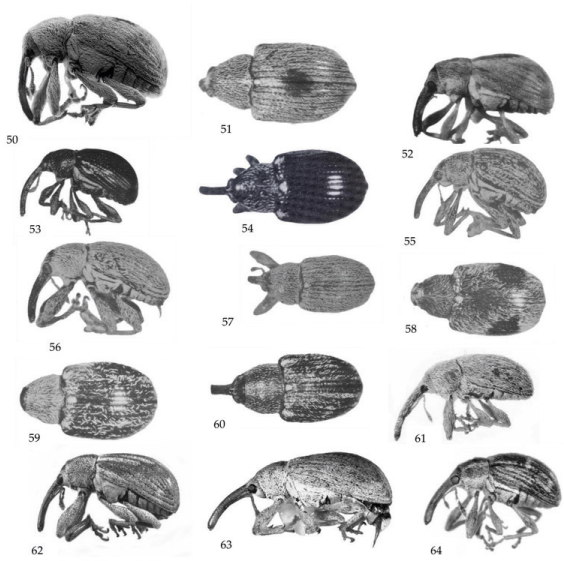
Figures 1-10. Representative sample of *Anthonomus* that occurs in the New World: 1-5 specimens of four subgenera, lateral and dorsal view: 1. *Anthonomocyllyus*, 2. *Cnemocyllus*, 3. *Anthomorphus*, 4-5. *Anthonomorphus*. 6-15: members of subgenus *Anthonomus* on lateral and dorsal view: 6. *A. guttatus,* 7-8. *A. calvescens* 9-10. *A. A. albolineatus,* 11. *apionoides,*12. *A. ornatus*, 13-14. *A. venustus*, 15. *A. cavei*



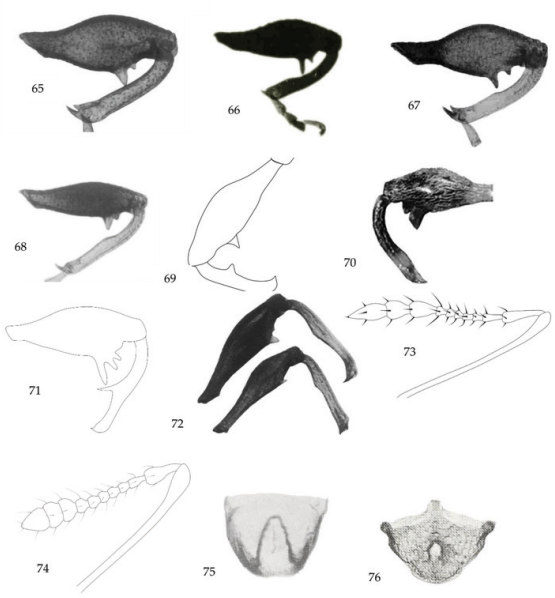
Figures 16-33. Representative sample of subgenus *Anthonomus;* habitus, lateral and dorsal view: 16-17. *A. nebulosus*, 18. *A. quadrigibbus*, 19. *A. alboannulatus,* 20. *A. marmoratus*, 21. *A. ourateae*, 22. *A. flavirostris,* 23 *A. gibbicrus,* 24. *A. triensis*, 25-26. *A. furcatus*, 27. *A. fischeri,* 28-29. *A. alboescutellatus*, 30-31. *A. puncticeps*, 32. *A. dogma*, 33. *A. salvini.*



Figures 34-49. Representative sample of subgenus *Anthonomus,* habitus, lateral and dorsal view: 34. *A. grandis*, 35. *A. gularis,* 36-37. *A. planipennis,* 38-39. *A. ocularis*, 40. *A. monostigma,* 41. *A. albocivitensis*, 42-43. *A. ruficollis,* 44-45. A. *pusillus*, 46. *A. curvirostris*, 47. *A. juniperinus,* 48. *A. triangulifer*, 49. *A. suturalis*.



Figures 50-64. Representative sample of subgenus *Anthonomus,* habitus, lateral and dorsal view: 50. *A. stupulosus,* 51-52. *A. unipustulatus,* 53-60. Members of *Anthonomus* associated to Solanaceae, species group with 51 Ssp., grupated into 13 species groups (Table 1). 61-64. Representative specimens of *A. squamosus* group.



Figures 65–76. Morphological characters with taxonomic value in some species group: 65-72 legs in lateral view of: 65. *A. marmoratus*. 66. *A. gibbicrus*, 67. *A. salvini*, 68. *A. monostigma*, 69. *A. alboannulatus,* 70. *A. flavirostris,* 71. *A. triensis,* 72. *A. gularis,* 73-74. Antennal club in lateral view of: 73. *A. rubiginosus*, 74. *A. partiarus*. 75-76. Pygidium in the subgenus *Anthomorphus.*

SYNOPSIS OF THE SPECIES GROUPS OF THE SUBGENUS *ANTHONOMUS*

A. alboannulatus: 2 species, group with wide distribution in the New World and the Antilles, associated with Combretaceae, Myrtaceae and Rhizopharaceae; see Clark (1991a) to separate species.

A. albocivitensis: 6 species, group with known distribution in Mexico, Costa Rica, El Salvador, Guatemala, Panama, Bolivia, Brazil, Ecuador and Peru; Its host is unknown, see Clark (1993a) to separate species.

A. alboescutellatus: 2 species, *A. alboescutellatus* Champion associated with *Stigmaphyllon lindenianum* A. Jus., group with known distribution in Guatemala, Honduras, Mexico, and *A. acerolae* Clark associated with *Malpigia glabra* L. distributed in Brazil; see Clark (1988a) to separate species.

A. albolineatus: 26 species, one of the most diverse groups in the subgenus *Anthonomus*, and to facilitate identification they are divided into subgroups, which are: *nigripictus, postscutellatus, inopseptus, libertinus, albolineatus;* thus, see Clark (1987b) to separate species.

A. calvescens: 8 species; of which, only *A. agresti* has its host plant known *(Banisteriopsis malifolia (*Nees & Mart*)* Gates and *Stigmaphyllon lalandianum* A. Juss *(*Malpighiaceae*));* the known geographical distribution of the species is: *A. agresi* (Brazil)*; A. challtonni* (Guatemala, Mexico); *A. lomonga* (Mexico, Venezuela); *A. amari* (Mexico); *A. oenuatti* (Argentina, Brazil); see Clark (1990b) to separate species.

A. cavei: 3 species; group associated with Malpighiaceae, with distribution record: *A. cavei* (Salvador, Honduras, Mexico and Panama), *A. ironia* (Colombia) and *A. praetextum* (Brazil); see Clark and Burke (1993) to separate species.

A. curvirostris: 17 species. Some are associated with Euphorbiaceae, Myrsinaceae, Myrtaceae, Rutiaceae and Solanaceae. These are widely distributed from Florida (USA) and islands in the Caribbean Sea to Brazil. Some species in the group superficially resemble *A. signatus* (strawberry weevil) and *A. musculus* (blueberry weevil); see Clark (1991b) to separate species.

A. dogma: 4 species; some superficially resemble members of the *A. albolineatus* group. Group with known distribution in Brazil, Colombia, Panama and Venezuela. The host plant is unknown; see Clark (1994a) to separate species.

A. fischeri: 14 species; three of them are associated with Malpighiaceae, for most the host plant is unknown. Some species superficially resemble *A. flavirostris*. Most species with distribution in Central and South America; see Clark (1990c) to separate species.

A. flavirostris: 11 species; most without a record of host plant, some associated with Malpighiaceae. The group is distributed in Mexico, some islands in the Caribbean Sea to Argentina. Some species resemble members of *A. fischeri, A. furcatus, A. venustus* and species of the subgenus *Anthomorphus;* see Clark (1990d) to separate species.

A. furcatus: 12 species; some associated with Malpighiaceae; most of them with distribution more to the Neotropical region from Mexico to Argentina. Some species superficially resemble *A. venustus* and *A. unipustulatus* group members, as well as *Anthomorphus* subgenus species; see Clark (1988b, 1994a) to separate species.

A. gibbicrus: 2 species; they are found in Mexico, are associated with the Gleicheniaceae family, and are found in Bolivia, Brazil, Colombia, Panama, and Venezuela. In addition, they superficially resemble members of the *A. marmoratus*, *A. partiarius*, and *A. rubiginosus* groups; see Clark (1994b) to separate species.

A. grandis: 5 species; all of them develop in flower buds and occasionally in fruits of Malvaceae tribe Gossypiae, some populations of *A. grandis* have been observed in *Hibiscus pernambucensis.* They superficially resemble species belonging to the subgenus *Anthonomorphus;* see Jones and Burke (1997) to separate species.

A. gularis: 10 species; some of them associated with Fabaceae, the majority are distributed in the Neotropical region; see Clark and Burke (1986) to separate species.

A. guttatus: 4 species with distribution more towards the Neotropical region, two of them associated with Flacourtiaceae and Rubiaceae; some species superficially resemble members of the *A. triensis* and *A. alboannulatus* groups; see Clark (1991c) to separate species.

A. juniperinus: 3 species, all associated with plants of the genus *Juniperus (*Cupressaceae*),* with distribution more towards the Nearctic region, possibly they can be confused with *A. phoradendrae* Anderson; see Clark and Burke (2010) to separate species.

A. marmoratus: 8 species, some species associated with Fabaceae; Likewise, some species can be confused with species of the *A. rubiginosus* group. Group of species widely distributed in the Neotropical region, from Mexico to Brazil; see Clark (1992a) to separate species.

A. monostigma: 7 species, some of them associated with Melastomataceae, distributed from Mexico to Brazil. Some species can be confused with members of the groups *A. unipustulatus, A. venustus, A. rubiginosus* and *A. partiarius;* see Clark (1993b) to separate species.

A. nebulosus: 3 species, all of them associated with Rosaceae, distributed more towards the Nearctic region, the species resemble the European ones: *A. pomorum, A. piri* and *A. pedicularius;* see Burke (1988) to separate species.

A. ocularis: 17 species, five associated with Euphorbiaceae; group with wide distribution in the Neotropical region; some species resemble members of the group *A. furcatus* and subgenus *Anthomorphus;* see Clark (1993c) to separate species.

A. ourateae: 2 species, Brazilian species that develop in flower buds of *Ourateae* (Ochnaceae); a group of species related to *A. rubiginosus;* see Clark (1993d) to separate species.

A. ornatus: 7 species, monophyletic group, associated with *Berberis* (Berberidaceae) and with distribution restricted to Chile and Argentina; see Clark and Burke (1989) to separate species.

A. partiarius: 14 species, the host plant is only known for two species (Melastomataceae); The group is distributed in South America (Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Suriname, Uruguay and Venezuela). Some species resemble members of the *A. rubiginosus* and *A. marmoratus* groups; see Clark (1992b, 1993a) to separate species.

A. planipennis: 1, Brazilian species, host plant unknown. Species related to members of the *A. rubiginosus* and *A. ourateae* groups; see Clark (1993a) to separate species.

A. puncticeps: 6 species, associated with Malpighiaceae; group with Neotropical distribution from Mexico to Argentina; Brazil, with the largest number of species. Some species are similar to members of the *A. alboscutellatus* group; see Clark (1989) to separate species.

A. rubiginosus: 15 species; some associated with Fabaceae flower buds; group with Neotropical distribution, from Mexico to Brazil; some species are similar to members of the *A. partiarius* group; see Clark (1991d, 1993d) to separate species.

A. triensis: 5 species; the group is distributed in Honduras, Mexico, Jamaica, Venezuela, Florida and the Dominican Republic, some

species are associated with *Eugenia* (Myrtaceae) and are superficially similar to members of the *A. alboannulatus* group; see Clark (1991a) to separate species.

A. salvini: 3 species; two of them associated with Tiliaceae, which are distributed in Brazil, Costa Rica, Mexico, Nicaragua, Panama and Venezuela; some species could be confused with members of the *A. marmoratus* group; see Clark (1996) to separate species.

A. squamosus: 32 species in North America, species for the Neotropical region are unknown; group associated with Asteraceae and Malvaceae; see Clark *et al.* (2019) to separate species.

A. suturalis: 11 species; the group requires taxonomic revision, since some species could be confused with members of the *A. squamosus* group; see Dietz (1891) to separate species.

A. unipustulatus: 6 species; three of them associated with Malpighyaceae; group with distribution from the southeast of Texas (USA), islands of the Caribbean Sea to Venezuela. see Clark (1987b) to separate species.

A. venustus: 21. Most associated with Malpighyaceae; the group is distributed from Florida, Texas, Arizona (USA) to Brazil, and some islands in the Caribbean Sea; see Clark and Burke (1985) to separate species.

A. apionoides: 4 species, described by Champion (1903), which require taxonomic revision; group with distribution in Costa Rica, Guatemala, Mexico, Panama; see Champion (1903: 194) to separate species.

A. pusillus: 2 species: Dietz (1891) established them in the subgenus *Anthonomocyllus.* However, Clark (1990) excluded them from that subgenus and synonymous with *A. hamiltoni.* The species can be separated in Blatchley and Leng (1916:288)

A. quadrigibbus: 3 species, associated with Rosaceae and Cornaceae: *A. quadrigibbus* and *A. consors* with Nearctic distribution and *A. plaumanni* are only known from Brazil; see Burke and Anderson (1989) to separate species.

A. fulvipes: 6 species, little is known about the members of this group. The species are distributed in Guatemala, Mexico, Nicaragua and Panama; see Champion (1903: 190; 1910:188) to separate species.

A. ruficollis: 2 species, little is known about the members of this group, they are distributed in Mexico and Panama; see Champion (1903:171) to separate the species.

A. stupulosus: 2 species, little is known about the members of this group, they are distributed in Guatemala and Mexico; see Champion (1903:188) to separate species.

A. triangulifer: 3 species, little is known about the members of this group, distributed in Guatemala and Panama; see Champion (1903:188) to separate species.

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