THE TYPES OF *APHODIUS* SPECIES DESCRIBED BY HAROLD FROM MEXICO WITH DESCRIPTION OF A NEW GENUS (COLEOPTERA SCARABAEOIDEA: APHODIIDAE)

Marco DELLACASA[1], Robert D. GORDON[2] & Giovanni DELLACASA[1]
[1] Via Talamone 31/19- 16127 Genova - ITALY
[2] P.O. Box 65 - Willow City - ND 58384 U.S.A.

RESUMEN

Se redescriben e ilustran, usando criterios modernos y basándose en el estudio de material tipo, doce especies mexicanas de *Aphodiini* descritas por Harold *(azteca, flavocinctus, fuliginosus, gravidus, indutilis, lansbergei, luridiventris, mexicanus, oleosus, puncticeps, sallei* y *villosipes).* Se propone un nuevo género: *Cephalocyclus* con *fuliginosus* (especie tipo), *gravidus, luridiventris, mexicanus, puncticeps* y *villosipes.* La posición sistemática de los demás taxones de grupo especie se discute en las notas.
Palabras Clave: Coleoptera, Aphodiidae, Tipos de Harold, México.

ABSTRACT

In the present work, the twelve Mexican species of *Aphodiini* described by Harold *(azteca, flavocinctus, fuliginosus, gravidus, indutilis, lansbergei, luridiventris, mexicanus, oleosus, puncticeps, sallei* and *villosipes)* are redescribed and illustrated with modern criteria based on the study of type material, lectotypes are also designated. The new genus *Cephalocyclus* is proposed for *fuliginosus* (type species), *gravidus, luridiventris, mexicanus, puncticeps* and *villosipes.* The taxonomic position of the remaining species-group taxa is also discussed in remarks.
Key words: Coleoptera, Aphodiidae, Harold's types, Mexico.

INTRODUCTION

The twelve species of *Aphodius* described by Harold from Mexico are redescribed and illustrated on the basis of a study of their types. Most had been incorrectly assigned to previously established genus-group taxa and reassignements for nearly all of them are proposed. The new genus *Cephalocyclus* is created for six closely related species.

Harold described the following twelve new species from Mexico over a period of years (1860-1874):

- *Aphodius azteca*
- *Aphodius flavocinctus*
- *Aphodius fuliginosus*
- *Aphodius gravidus*
- *Aphodius indutilis*
- *Aphodius lansbergei*
- *Aphodius luridiventris*
- *Aphodius mexicanus*
- *Aphodius oleosus*
- *Aphodius puncticeps*
- *Aphodius sallei*
- *Aphodius villosipes*

Adolf Schmidt (1913) placed them in several subgenera, most of which were already in existence, as follows:

Subgenus *Agrilinus* Mulsant & Rey, 1869
- *Aphodius azteca* Harold, 1863
- *Aphodius indutilis* Harold, 1874

Subgenus *Bodilus* Mulsant & Rey, 1869
- *Aphodius lansbergei* Harold, 1874
- *Aphodius sallei* Harold, 1863

Subgenus *Nialus* Mulsant & Rey, 1869
- *Aphodius flavocinctus* Harold, 1860 (junior synonym of *Aphodius innexus* Say, 1835, teste Harold, 1871)

Subgenus *Pharaphodius* Reitter, 1892
- *Aphodius oleosus* Harold, 1871

Subgenus *Platyderides* A. Schmidt, 1916
(*nomen novum* for *Platyderus* A. Schmidt, 1913 nec *Platyderus* J.F. Stephens, 1828, Col. Carabidae *(partim)*)
- *Aphodius fuliginosus* Harold, 1863
- *Aphodius gravidus* Harold, 1863
- *Aphodius luridiventris* Harold, 1862
- *Aphodius mexicanus* Harold, 1862
- *Aphodius puncticeps* Harold, 1862
- *Aphodius villosipes* Harold, 1862

The aim of this paper is to redescribe and illustrate the types, all preserved in the Paris Museum, of Harold's species, using modern character systems including aedeagus and epipharynx.

None of Harold's species were correctly assigned to a genus-group taxon by subsequent authors with the possible exception of *Aphodius oleosus*. For six taxa previously assigned to the *Aphodius* subgenus *Platyderides* a new genus is established, and for the rest appropriate remarks are made concerning their supraspecific systematic positions.

CEPHALOCYCLUS new genus

1913. *Aphodius (Platyderus)* A. Schmidt, Arch. Naturg., 79A (11): 123 (nec *Platyderus* J.F. Stephens, 1828, Col. Carabidae) *(partim)*

1916. *Aphodius (Platyderides)* A. Schmidt, Arch. Naturg., 82A (1): 99 *(nomen novum) (partim)*

----. *Aphodius (Cephalocyclus)* Gordon & Godwin *(in litteris)*

Type species: *Aphodius fuliginosus* Harold, 1863.

Species mediae, modice convexae; opacae, rare nitidae; glabrae vel elytris plus minusve late pubescentibus. Piceae; aut pallide aut obscure testaceae; elytris pallidioribus. Capite epistoma fere plano, punctulato; clypeo fere semicirculari, subtruncato vel leviter medio sinuato, lateribus rotundato, omnino subtiliter marginato; margine medio inflato, lateribus longe ciliato; genis angulatis, ciliatis, valde prominulis; sutura frontali subtiliter impressa, haud tuberculata. Pronoto valde transverso, lateribus explanato et subtiliter marginato; marginibus longe ciliatis; angulis posticis omnino rotundatis; basi bisinuata, haud marginata. Scutello parvo, triangulari, plano. Elytris modice convexis, elongato ovalis, pubescentibus vel fere glabris, saepe opacis; postice plus minusve dilatatis; humeribus haud denticulatis; apicem versus callosis, striis subtilibus, leviter vel haud crenulatis; interstitiis planis, rare convexis, plus minusve distincte punctulatis; epipleuris robustis, longe ciliatis. Metatibiis setis apicalibus longitudine valde inaequalibus.

Description: medium size species (length mm 5-10), moderately convex; dull, rarely shiny; elytra glabrous or more or less diffusely pubescent. Piceous either pale or dark testaceous; elytra paler. Head with epistome nearly flat, punctured; clypeus nearly semicircular, faintly truncate or feebly sinuate at middle, widely rounded at sides, quite thinly bordered, border thickened at middle, elongately bristled at sides; genae strongly developed, abruptly angulate, not deflexed, bristled, much more protruding than eyes; frontal suture finely impressed, not at all tuberculate. Pronotum widely transverse, explanate at sides; lateral margins thinly bordered, elongately bristled; hind angles quite rounded with feeble depression; base bisinuate, not bordered. Scutellum small, triangular, flat, with few superficial punctures on base. Elytra moderately convex, oval-elongate, shoulder not

denticulate, more or less widened posteriorly and more or less strongly callose on preapical declivity, pubescent or nearly glabrous, usually rather dull; striae generally fine and feebly or not at all crenulate; interstices flat, rarely convex, more or less distinctly punctured; epipleura strong, elongately bristled at least at basal two thirds. Protibiae normally tridentate and proximally more or less distinctly denticulate at outer margin. Meso- and metatibiae with strong transverse carinae at outer margin; fimbriate with elongate and irregularly unequal apical spinules. Hind tibiae superior apical spur as long as or longer than first tarsal segment; latter as long as following three combined. Claws strong. Sexual dimorphism variable from species to species: in males head wider and more flat; pronotum relatively more transverse; protibiae, modified or not, with apical spur usually short, stout and abruptly curved downward; middle tibiae with inferior apical spur sometimes aberrant; middle tarsi normally shaped or evidently modified. Aedeagus with paramera rather short, curved and acuminate, or more or less rounded and membranous apically. Epipharynx transverse, strongly rounded at sides; anterior margin nearly straight; epitorma conical, provided on each side with a longitudinal row of stout spines; corypha slightly protruding beyond front margin, usually with apical clump of stout and elongate spines; pedia densely pubescent with several short, stout, scattered chaetae; chaetopariae moderately dense and moderately elongate.

Distribution: Nearctic region (Arizona, New Mexico, Texas, Utah) and Mexican Transition Zone (Guatemala, Mexico).

Etymology: the name is derived from the greek latinized words *κεφαλή* and *κύκλος*, referring to the form of the clypeal margin of the head.

Remarks: this new genus is similar to *Symphodon* from which it is distinguished by the front tibiae normally dentate on the outer margin and by the pronotum widely, distinctly flattened at sides. In addition to the Harold species *(fuliginosus, gravidus, luridiventris, mexicanus, puncticeps* and *villosipes)*, other species that must surely be assigned to *Cephalocyclus* are the Mexican *durangoensis* and *hogei*, described by Bates (1887), and the North American taxa *luteolus* Horn (1887) and *transversus* Robinson (1940). The choice of *fuliginosus* as the type species is made because it is easily identified (the male middle tarsi are peculiarly modified) and because the taxon is present in large series in all collections studied, indicating a commonly collected species. To *Cephalocyclus* is given full generic status to align it with a new evaluation of all genus-group taxa of Aphodiinae that will be accomplished in a paper now in preparation.

Cephalocyclus fuliginosus (Harold, 1863) (Figs. 1-5)

1863. *Aphodius fuliginosus* Harold, Berlin. ent. Zeits., 7: 330
1913. *Aphodius (Platyderus) fuliginosus;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) fuliginosus;* A. Schmidt, Aphodiinae, Tierreich, 45: 47

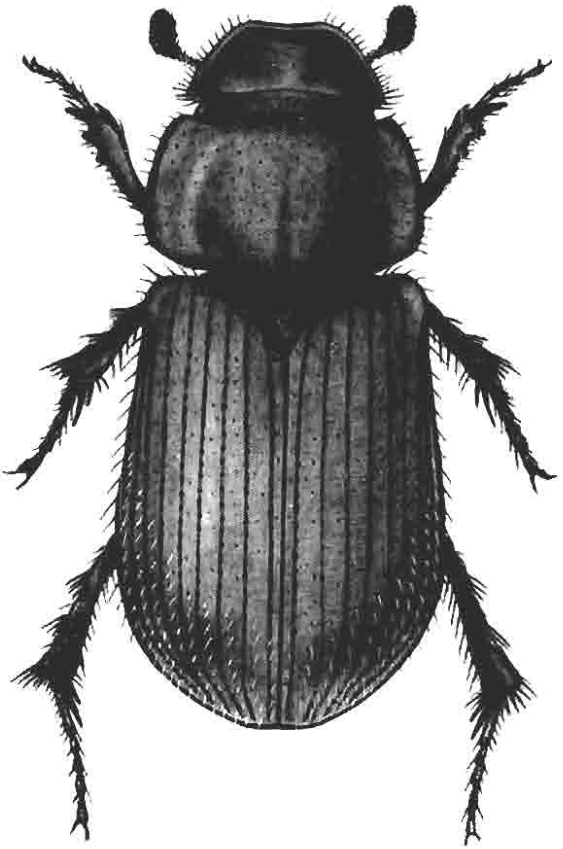


Figure 1
Cephalocyclus fuliginosus (Harold, 1863).
(México, Edo. Durango, Rcho. El Alemán, Res. La Michilía) (length 5-7 mm)

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Elongatus, parum convexus, subnitidus, elytris opacis; lurido-piceus, marginibus fulvo-ciliatus, clava antennali fusco-testacea, pedibus lurido-piceis. Capite epistoma laeviter convexo, subtilissime remote punctulato; clypeo medio subsinuato, lateribus late rotundatis, longe ciliatis; margine clypeali parum reflexo; sutura frontali trigibbosa; genis obtuse rotundatis, ciliatis, valde prominulis. Pronoto valde transverso, subtiliter sparse punctulato, lateribus subplanato, pilosuloso; lateribus et subtiliter marginatis et sparse ciliatis; angulis posticis obtuse rotundatis; basi bisinuata. Elytris subinflatis, subtiliter striatis; striis

superficialiter punctatis, subcrenulatis; interstitiis planiusculis, fortiter microreticulatis, sericeis, sparse irregulariter subtiliter punctatis, apicem versus breviter pubescentibus. Mare: mesotibiarum tarsis articulis 2-4 globosis.

Description: length mm 5-7; feebly convex, subshiny, elytra dull. Dark piceous, sometimes elytra paler. Head with epistome feebly convex, distinctly microreticulate, finely sparsely rather irregularly punctured; clypeus subsinuate at middle, widely rounded at sides, thinly bordered, border feebly upturned and elongately bristled; frontal suture distinct, faintly gibbous at middle and at sides; genae distinct, bristled, more protruding than eyes. Pronotum widely transverse, on disk with trace of longitudinal impression, feebly convex, faintly flattened on sides, distinctly microreticulate, finely very sparsely punctured; sides faintly pubescent; bordered and sparsely bristled; hind angles obtusely rounded; base distinctly bisinuate, not bordered. Scutellum triangularly elongate, flat, distinctly microreticulate, with few superficial punctures on base only. Elytra elongate, oval, feebly widened toward apex, finely striate; striae superficially punctured, subcrenulate; interstices flat, strongly microreticulate, sericeous, sparsely irregularly finely punctured, finely sparsely pubescent toward apex; epipleurae distinct, elongately bristled on basal three quarters; shoulder not denticulate. Metatibiae fimbriate with long spinules of unequal length. First segment of hind tarsi as long as superior apical spur and equal to following three combined. Male: head widely transverse, genae sharply angulated, frontal suture relatively more distinct and raised; front tibiae relatively more slender and elongate, apical spur relatively stout and abruptly bent downward; segments of middle tarsi distinctly broadened, the first as long as following three combined, latter of equal length and apically subdentiform, the fifth plumped (Fig. 4); claws stout, superior one flattened and subdenticulate at base. Female: head relatively less transverse, genae obtusely rounded, frontal suture nearly faint; epistome much feebly gibbous; pronotum relatively narrowed frontward; fore tibiae relatively shorter and stouter; apical spur slender and elongate, regularly straight; segments of middle tarsi and claws not modified.

Material examined

1 ex. ♂ lectotype (here designated); specimen bears the following labels:
- 1. white printed: Oaxaca;
- 2. white printed: Mexico Sallé Coll.;
- 3. white handwritten: *Aphodius fuliginosus* Harold apud Sallé.
- 4. red handwritten: *Aphodius fuliginosus* (Harold, 1863), Lectotypus M. Dellacasa des. 1997.

Cephalocyclus gravidus (Harold, 1863) (Figs. 6-8)

1863. *Aphodius gravidus* Harold, Berlin. ent. Zeits., 7: 330
1913. *Aphodius (Platyderus) gravidus;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) gravidus;* A. Schmidt, Aphodiinae, Tierreich, 45: 50

Type locality: Mexico.

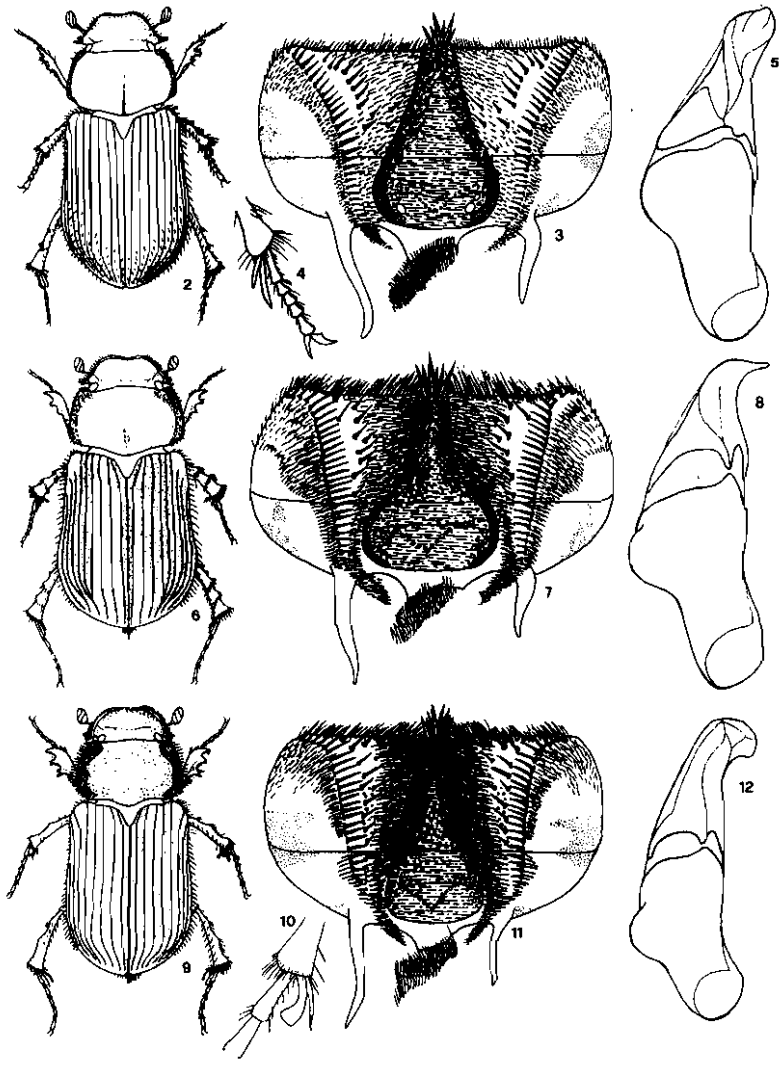
Type depository: Muséum national d'Histoire naturelle. Paris.

Oblongus, subdepressus, subnitidus, rufo-piceus, et capite et pronoti lateribus et elytris pallidioribus; pedes rufescentes, clava antennali testacea. Capite epistoma fere plano, antice subtiliter punctato, postice remote ac subtilissime punctulato; clypeo antice leviter sinuato, lateribus late rotundato et elongate ciliato, omnino valde marginato, margine parum reflexo; genis acutis, longe ciliatis, valde prominulis; sutura frontali subtilissima. Pronoto transverso, modice convexo, lateribus subplanato, subtilissime parum dense punctulato; lateribus parum rotundatis, distincte marginatis, margine longe sparseque ciliato; angulis posticis obtuse rotundatis; basi immarginata, leviter utrinque sinuata. Elytris pone medio subinflatis, distincte subtiliter striatis; striis punctulatis haud crenulatis; interstitiis convexiusculis, laeviter microreticulatis, subtiliter sparse punctatis.

Description: length mm 6-8; convex, moderately shiny, nearly glabrous, piceous, sides of pronotum, elytra and legs paler, antennal club yellowish. Head transverse, with epistome feebly gibbous at middle, superficially microreticulate, sparsely regularly distinctly punctured; clypeus subtruncate, sparsely and elongately bristled at sides, bordered, border cerciniform; frontal suture faint, feebly trigibbous; genae acutely angulated, posteriorly truncate, elongately and sparsely bristled, much more protruding than eyes. Pronotum transverse, moderately convex, distinctly flattened at sides, superficially microreticulated, with trace of longitudinal median impression, sparsely regularly very finely punctured; sides weakly rounded, strongly bordered; rather shortly and sparsely bristled; hind angles broadly rounded; base bisinuate, not bordered. Scutellum regularly triangular, finely microreticulate, irregularly punctured at base. Elytra broadly oval, convex; striae fine, distinctly impressed, superficially punctured, subcrenulate; interstices feebly convex, distinctly microreticulate, very sparsely and finely punctured; laterally and on preapical declivity with short and sparse yellowish hairs; shoulder not denticulate; epipleurae wide, elongately and sparsely bristled on basal three quarters. Metatibiae fimbriate with thin spinules of strongly unequal length. First segment of hind tarsi as long as superior apical spur and equal to the following three combined. Male: head large, relatively less convex; genae strongly protruding outward; pronotum strongly transverse, relatively less convex; fore tibiae with apical spur stout, strong, apically acuminate, outwardly directed and abruptly bent downward. Female: head relatively more narrow, more convex; genae less protruding outward; pronotum subquadrate, relatively more strongly convex; fore tibiae with apical spur apically regularly acuminate, anteriorly directed.

Material examined

1 ex. ♀ lectotype (here designated); specimen bears the following labels:
- 1. white printed: Mexico;
- 2. white handwritten: *A. gravidus* Harold type
- 3. white printed: Ex Musaeo Harold;
- 4. white handwritten: Lectotype *Aphodius gravidus* Harold Gordon 1971 *(in litteris);*
- 5. red handwritten: *Aphodius gravidus* (Harold, 1863), Lectotypus, M. Dellacasa des. 1997.



Figures 2-12

Cephalocyclus fuliginosus (Harold, 1863) (México, Edo. Durango, Res. La Michilía, Rcho. El Alemán): **2.** habitus (length mm 5-7); **3.** epipharynx; **4.** male right mesotarsus (dorsal view); **5.** aedeagus (lateral view). *Cephalocyclus gravidus* (Harold, 1863) (Edo. México, Temascaltepec, Carr. Valle de Bravo): **6.** habitus (length mm 6-8); **7.** epipharynx; **8.** aedeagus (lateral view). *Cephalocyclus luridiventris* (Harold, 1862) (México, Parada; lectotypus): **9.** habitus (length mm 7-8); **10.** male right mesotibial apex (ventral view); **11.** epipharynx; **12.** aedeagus (lateral view).

1 ex. ♂: Temascaltepec, Edo. México, Carr. Valle de Bravo, 4.6.79, M. Zunino (Dellacasa's collection, Genoa).

Cephalocyclus luridiventris (Harold, 1862) (Figs. 9-12)

1862. *Aphodius luridiventris* Harold, Berlin. ent. Zeits., 6: 385
1913. *Aphodius (Platyderus) luridiventris;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) luridiventris;* A. Schmidt, Aphodiinae, Tierreich, 45: 50

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Oblongus, parum convexus, subnitidus; piceus, clava antennali obscure testacea, pedibus rufotestaceis. Capite epistoma leviter gibboso, marginem clypealem versus distincte fortiter punctato, medio fere laevi, lateribus postice et fortiter et irregulariter punctato; clypeo antice fere truncato, lateribus late rotundatis et elongate ciliatis, omnino valde marginato, margine reflexo; genis acutis longe ciliatis, valde prominulis; sutura frontali fere obsoleta. Pronoto transverso, modice convexo, lateribus subplanato, sparse superficialiter irregulariter punctato, toto glabro; lateribus subrotundatis, distincte marginatis, margine longe ciliato; angulis posticis obtuse rotundatis; basi utrinque sinuata. Elytris pone medium inflatis, distincte striatis; striis punctulatis, haud crenulatis; interstitiis planiusculis, fere indistincte microreticulatis, levissime sparse punctulatis. Mare: capite pronotoque parum convexis; calcari mesotibiarum inferiore spatuliformi, extrorsum curvato. Foemina: capite pronotoque convexioribus, densius punctatis; calcari mesotibiarum inferiore regulariter elongato.

Description: length mm 7-8; oblong, feebly convex, moderately shiny. Piceous, antennal club dark testaceous, legs testaceous-reddish. Head with epistome faintly gibbous at middle, distinctly coarsely punctured toward apical margin, nearly smooth at center, posteriorly and laterally coarsely irregularly punctured; clypeus anteriorly nearly truncate, widely rounded and elongately bristled at sides, quite strongly bordered, border upturned; genae acutely angulate, elongately bristled, much more protruding than eyes; frontal suture nearly faint. Pronotum transverse, moderately convex, slightly flattened at sides, sparsely superficially irregularly punctured, glabrous; lateral margins feebly rounded, distinctly bordered, border elongately bristled; hind angles obtusely rounded; base bisinuate, not bordered. Scutellum triangular, indistinctly microreticulate, superficially sparsely punctured. Elytra feebly widened posteriorly, distinctly striate; striae very superficially punctured, not crenulate; interstices almost flat, indistinctly microreticulate, very superficially sparsely punctured; shoulder not denticulate. Metatibiae fimbriate with spinules of unequal length. First segment of hind tarsi slightly shorter than superior apical spur and shorter than following three combined. Claws stout, angulately broadened at base. Male: head and pronotum relatively less convex, less densely and less coarsely punctured; fore tibiae relatively more slender and elongate, apical spur abruptly bent downward; middle tibiae with inferior apical spur spatulate, outward curved (fig. 10). Female: head and pronotum

relatively more convex, much densely and much coarsely punctured; fore tibiae relatively shorter and more robust, apical spur straight; middle tibiae with inferior apical spur shortened, robust, outwardly curved and apically rounded.

Material examined

1 ex. ♂ lectotype (here designated); specimen bears the following labels:
- 1. white printed: Parada
- 2. white printed: Mexico Sallé Coll.
- 3. white handwritten: *Aphodius luridiventris* Harold apud Sallé.
- 4. red handwritten: *Aphodius luridiventris* (Harold, 1863), Lectotypus, M. Dellacasa des. 1997;

1 ex. ♀ paralectotype (here designated); specimen bears the following labels:
- 1. white printed: Parada
- 2. white printed: Mexico Sallé Coll.
- 3. white handwritten: *Aphodius luridiventris* Harold apud Sallé.
- 4. red handwritten: *Aphodius luridiventris* (Harold, 1863), Paralectotypus, M. Dellacasa des. 1997.

Cephalocyclus mexicanus (Harold, 1862) (Figs. 13-15)

1862. *Aphodius mexicanus* Harold, Berlin. ent. Zeits., 6: 380
1913. *Aphodius (Platyderus) mexicanus;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) mexicanus;* A. Schmidt, Aphodiinae, Tierreich, 45: 49

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Subdepressus, oblongus, nitidus, elytris subsericeis. Piceus vel rufopiceus, margine clypeali et pronoti lateribus rufescentibus, antennis pedibusque rufotestaceis. Capite epistoma vix perspicue subtilissime punctulato vel omnino laeve; clypeo truncato, distincte marginato; pronoto nitido, lateribus inaequaliter sat dense punctulato, disco laevi; lateribus subrectis, marginem versus subimpressis; angulis posticis rotundatis; basi medio sublobato et utrinque sinuato. Elytris pone medium subincrassatis, parum profunde striatis; interstitiis convexis, subtilissime punctulatis.

Description: length mm 5-6; moderately convex, shiny, glabrous. Piceous; clypeal margin, pronotal sides and legs testaceous. Head with epistome regularly convex, finely irregularly microreticulate, very finely and sparsely punctured; clypeus subtruncate, broadly rounded at sides and sparsely elongately bristled, bordered, border anteriorly cerciniform; genae acutely angulate, posteriorly truncate, elongately sparsely bristled, distinctly more protruding than eyes; frontal suture not tuberculate. Pronotum transverse, indistinctly flattened at sides, moderately convex, finely sparsely punctured - punctation denser and stronger anteriorly and laterally -, very superficially microreticulate rather shiny, with trace of

longitudinal median impression; sides strongly bordered, sparsely elongately bristled, feebly rounded, subsinuate before hind angles, latter obtusely rounded; base bisinuate, not bordered. Scutellum regularly triangular, very superficially microreticulate, feebly convex at middle with some punctures irregularly scattered on sides. Elytra moderately convex, feebly widened at middle; striae fine, strongly impressed, indistinctly punctured; interstices moderately convex, near striae faintly microreticulate, almost smooth at middle so rather shiny, finely sparsely distinctly punctured; epipleurae strongly broadened, elongately sparsely bristled on basal two thirds; shoulder not denticulate. Metatibiae fimbriate with very long and thin spinules of unequal length. First segment of hind tarsi slightly shorter than superior apical spur and subequal to following three combined. Male: head relatively more transverse, less convex, very superficially microreticulated and sparsely punctured; frontal suture nearly obsolete; genae relatively more angulate and more protruding; pronotum relatively strongly, distinctly transverse and less convex, sides with double punctation, disk simply and superficially sparsely punctured; fore tibiae apical spur short, stout, apically acuminate, outward directed and abruptly bent downward. Female: head relatively narrower, more strongly convex, more distinctly microreticulate and punctured; frontal suture fine but distinct; genae less angulate and less protruding; pronotum narrowed frontward, more distinctly convex, with irregularly scattered double punctation; fore tibiae with apical spur slender, elongate, apically regularly acuminate, anteriorly directed.

Material examined

1 ex. ♂; lectotype (here designated); specimen bears the following labels:
- 1. white printed: Parada;
- 2. white printed: Mexico;
- 3. white handwritten: *Aphodius mexicanus* Harold apud Sallé;
- 4. red handwritten: *Aphodius mexicanus* (Harold, 1862), Lectotypus, M. Dellacasa des. 1997.

Cephalocyclus puncticeps (Harold, 1862) (Figs. 16-18)

1862. *Aphodius puncticeps* Harold, Berlin. ent. Zeits., 6: 380
1913. *Aphodius (Platyderus) puncticeps;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) puncticeps;* A. Schmidt, Aphodiinae, Tierreich, 45: 47

Type locality: Chalchicomula (Mexico).
Type depository: Muséum national d'Histoire naturelle. Paris.

Oblongus, subdepressus, nitidus, capite pronotoque nigrescentibus, hoc lateribus obscure rufescentibus, elytris piceis vel luridopiceis; clava antennali testacea, pedibus piceis. Capite epistoma fere plano, aequaliter sat dense punctato; clypeo antice subtruncato, lateribus late rotundatis, longe ciliatis, omnino subtiliter marginato; genis acutis, longe ciliatis, valde prominulis; sutura frontali fere obsoleta. Pronoto transverso, modice convexo, lateribus subplanato, aequaliter sparse punctato; lateribus parum rotundatis, distincte marginatis,

sparse longe subtiliter ciliatis; angulis posticis rotundatis; basi bisinuata. Elytris pone medium inflatis, fortiter striatis; striis distincte punctatis, crenulatis; interstitiis convexis, microreticulatis, subseriatim distincte punctatis, apicem versus pilosulosis.

Description: length mm 5-6; oblong, moderately convex, very shiny. Head and pronotum blackish, latter obscurely reddish at sides; elytra piceous or obscurely testaceous, antennal club testaceous, legs piceous. Head with epistome nearly flat, regularly and rather densely punctured particularly at sides; clypeus subtruncate, largely rounded and elongately bristled at sides, quite thinly bordered; genae acutely angulate, elongately bristled, much more protruding than eyes; frontal suture faint. Pronotum transverse, moderately convex, flattened at sides, irregularly rather sparsely punctured; lateral margins feebly rounded, distinctly bordered, sparsely elongately thinly bristled; hind angles rounded; base bisinuate, not bordered. Scutellum triangular with some superficial punctures irregularly scattered. Elytra feebly widened posteriorly, strongly striate; striae distinctly punctured, crenulate; interstices distinctly convex on disk, nearly flat on preapical declivity, microreticulate, distinctly punctured, punctures almost regularly aligned along striae, shortly sparsely pubescent toward apex; epipleurae wide, elongately bristled on basal two thirds; shoulder not denticulate. Metatibiae fimbriate with elongate spinules of unequal length. First segment of hind tarsi slightly shorter than superior apical spur and shorter than following three combined. Claws stout, angulately broadened at base. Male: fore tibiae slender and elongate, apical spur stout and abruptly bent downward. Female: unknown.

Material examined

1 ex. ♂, lectotype (here designated); specimen bears the following labels:
- 1. white printed: Mexico;
- 2. white handwritten: puncticeps type Harold;
- 3. white printed: ex Musaeo E. Harold;
- 4. red handwritten: *Aphodius puncticeps* (Harold, 1862), Lectotypus, M. Dellacasa des. 1997.

1 ex. ♂, paralectotype (here designated); specimen bears the following labels:
- 1. white printed: Ex Musaeo Harold;
- 2. red handwritten: *Aphodius puncticeps* (Harold, 1862), Paralectotypus, M. Dellacasa des. 1997.

Cephalocyclus villosipes (Harold, 1862) (Figs. 19-21)

1862. *Aphodius villosipes* Harold, Berlin. ent. Zeits., 6: 384
1913. *Aphodius (Platyderus) villosipes;* A. Schmidt, Arch. Naturg., 79A (11): 123
1922. *Aphodius (Platyderides) villosipes;* A. Schmidt, Aphodiinae, Tierreich, 45: 50

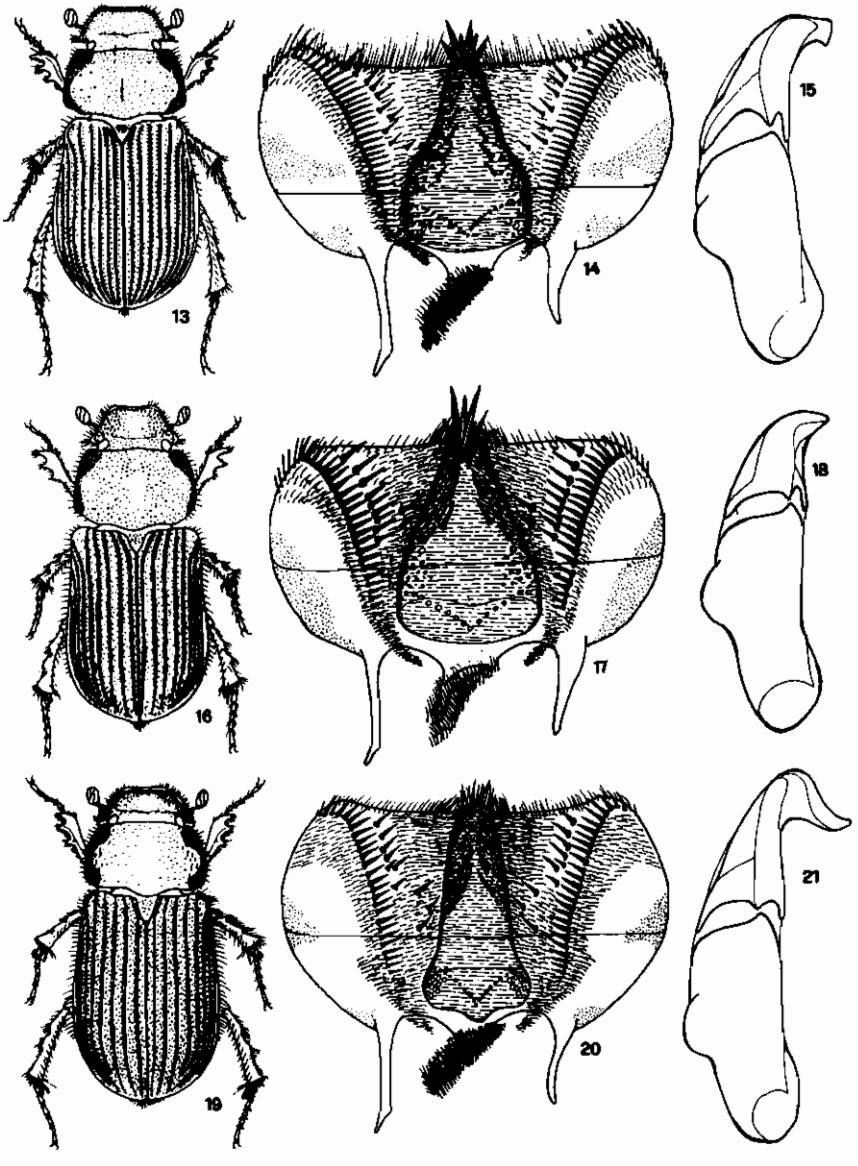
Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Subdepressus, elongatus, modice nitidus; piceo-rufus, lateribus flavociliatis, clava antennali pedibusque flavotestaceis. Capite epistoma leviter gibboso, marginem clypealem versus subrugose punctato; clypeo antice subtruncato, lateribus late rotundatis et longe ciliatis, omnino distincte marginato, margine reflexo; genis acutis, longe ciliatis, valde prominulis; sutura frontali subtiliter impressa. Pronoto parum convexo, modice transverso, lateribus subplanato, parum dense inaequaliter punctato, punctis lateribus sparse elongate pubescentibus; lateribus subrotundatis, valde marginatis, margine longe ciliato; angulis posticis rotundatis; basi medio lobata utrinque distincte sinuata. Elytris pone medium subinflatis, distincte striatis; striis leviter punctatis, haud crenulatis; interstitiis convexiusculis, distincte et microreticulatis et sparse punctatis. Mare calcari mesotibiarum inferiore spatuliformi, extrorsum curvato.

Description: length mm 8-9; subdepressed, elongate, moderately shiny. Piceous-reddish, antennal club and legs pale. Head with epistome feebly gibbous, superficially microreticulate, subrugosely punctured toward clypeal margin, superficially sparsely rather irregularly punctured at middle; clypeus anteriorly subtruncate, widely rounded and elongately bristled at sides, quite strongly bordered, border upturned; genae acute, elongately densely bristled, much more protruding than eyes; frontal suture finely impressed. Pronotum feebly convex, moderately transverse, weakly flattened on sides, slightly densely irregularly punctured, at sides punctures provided with elongate setae curved posteriorly; lateral margins feebly rounded, strongly bordered, bristled; hind angles widely rounded; base lobate at middle and distinctly bisinuate. Scutellum triangularly elongate, faintly depressed at middle, microreticulate, coarsely irregularly punctured. Elytra elongate, feebly widened in apical half, distinctly striate; striae superficially punctured, not crenulate; interstices feebly convex, microreticulate, distinctly irregularly sparsely punctured, very strongly microreticulate toward apex so rather dull, very confusedly and relatively less coarsely and densely punctured; epipleurae rather narrow, elongately sparsely bristled on basal two thirds; shoulder not denticulate. Male: fore tibiae relatively more slender and elongate, apical spur rather elongate and curved downward; inferior apical spur of middle tibiae spatulate, outwardly curved; first segment of hind tarsi shorter than superior apical spur and distinctly shorter than following three combined; inferior apical spur of hind tibiae elongate, cylindrical and apically rounded. Claws stout, angulately broadened at base. Female: head less transverse, more convex and very strongly punctured; pronotum less transverse, very strongly punctured; first segment of hind tarsi as long as superior apical spur; inferior apical spur of middle tibiae shortened, stout, outward curved and obtusely rounded apically. Fore tibiae relatively more short and more stout, apical spur straight and more slender.

Material examined

1 ex. ♂, lectotype (here designated); specimen bears the following labels:
- 1. white printed: Mexico;
- 2. white handwritten: *A. villosipes* type Harold;
- 3. white handwritten: Lectotype *Aphodius villosipes* Harold Gordon 1971 *(in litteris)*.



Figures 13-21

Cephalocyclus mexicanus (Harold, 1862) (México, Parada; lectotypus): **13**. habitus (length mm 5-6); **14**. epipharynx; **15**. aedeagus (lateral view). *Cephalocyclus puncticeps* (Harold, 1862) (México; lectotypus): **16**. habitus (length mm 5-6); **17**. epipharynx; **18**. aedeagus (lateral view). *Cephalocyclus villosipes* (Harold, 1862) (México; lectotypus): **19**. habitus (length mm 8-9); **20**. epipharynx; **21**. aedeagus (lateral view).

- 4. red handwritten: *Aphodius villosipes* (Harold, 1862), Lectotypus, M. Dellacasa des. 1997.

1 ex. ♀: Zacualtipan, Hidalgo, Höge (Dellacasa's collection, Genoa).

Aphodius azteca Harold, 1863 (Figs. 22-24b)

1863. *Aphodius azteca* Harold, Berlin. ent. Zeits., 7: 381
1913. *Aphodius (Agrilinus) azteca;* A. Schmidt, Arch. Naturg., 79A (11): 164

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Obovalis, modice convexus, postice subdilatatus, nitidus, fere glaber. Piceus, pronoti angulis posticis elytrisque obscure testaceis, his disco basique infuscatis vel flavo-testaceis maculis piceis indeterminatis adspersis, clava antennali picea, pedibus rufo-piceis. Capite epistoma leviter gibboso, distincte regulariter punctato; clypeo medio leviter sinuato, omnino subtiliter marginato, lateribus subacute anguloso; genis obtuse rotundatis, parum prominulis; sutura frontali vix perspicue tumidula. Pronoto transverso, sat dense inaequaliter punctato; lateribus fere rectis, distincte marginatis; angulis posticis obtuse rotundatis; basi distincte marginata, utrinque subsinuata. Elytris regulariter ovatis, distincte striatis; striis punctatis, leviter crenulatis; interstitiis planis, subtiliter sat dense, lateribus fortius, punctatis; humeribus denticulatis.

Description: length mm 4-5; oval, moderately convex, shiny, nearly glabrous. Piceous, front angles of pronotum testaceous, or elytra yellow-testaceous with several blackish spots irregularly scattered; antennal club blackish; legs piceous-reddish. Head with epistome feebly gibbous, distinctly regularly punctured; clypeus sinuate at middle, subangulate at sides, thinly bordered, border feebly upturned near front angles; genae obtusely rounded, sparsely shortly bristled, more protruding than eyes; frontal suture feebly trigibbous. Pronotum transverse, enough densely irregularly punctured, with narrow unpunctate longitudinal area on disk; sides nearly straight, distinctly bordered; hind angles obtusely rounded; base distinctly bordered, faintly bisinuate. Scutellum triangular, distinctly punctured. Elytra regularly oval, distinctly striate; striae punctured, feebly crenulate; interstices flat, feebly densely punctured on disk, much strongly punctured at sides, provided by extremely short and sparse hairs toward apex; shoulder denticulate. Metatibiae fimbriate with short spinules of equal length. First segment of hind tarsi longer than superior apical spur of tibiae and subequal to following three combined. Male: head and pronotum relatively more transverse, less convex and less densely punctured; frontal suture very distinctly trigibbous. Female: head and pronotum relatively less transverse, very strongly convex and very densely punctured; frontal suture with gibbosities nearly obsolete.

Material examined

1 ex. ♂, lectotype (here designated); specimen bears the following labels:

1. white printed: ex Musaeo Harold;
2. white handwritten: Lectotype *Aphodius azteca* Harold, Gordon 1971 *(in litteris);*
3. red handwritten: *Aphodius azteca* Harold, 1863, Lectotypus, M. Dellacasa des. 1997.

1 ex. ♂, México, Cruz Blanca, 24.02.1993 (Dellacasa's collection, Genoa).

Remarks: this species, previously assigned to *Aphodius* subgenus *Agrilinus*, resembles the genus-group taxon *Planolinus* but neither aedeagical or epipharyngeal characters agree with those of *Planolinus*.

Aphodius indutilis Harold, 1874 (Fig. 25-28)

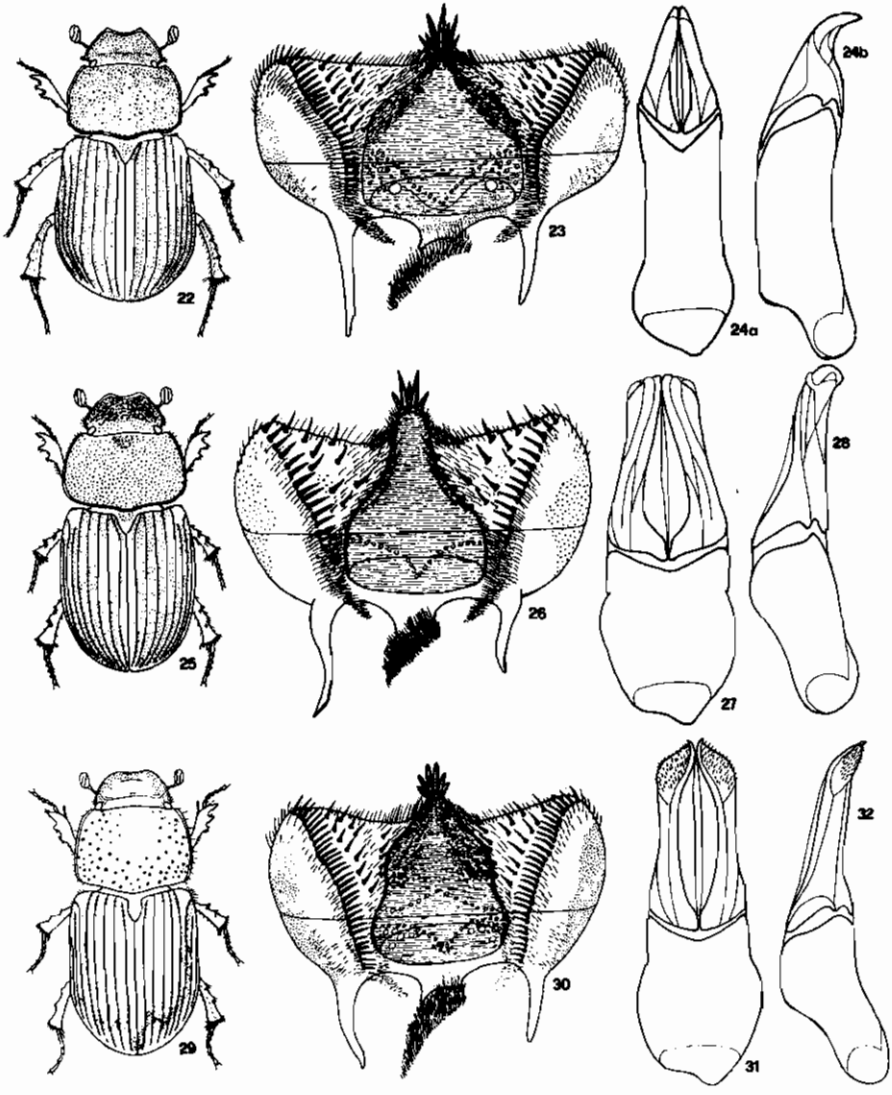
1874. *Aphodius indutilis* Harold, Berlin. ent. Zeits., 18: 178
1913. *Aphodius (Agrilinus) indutilis;* A. Schmidt, Arch. Naturg., 79A (11): 164

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle, Paris.

Modice elongatus, convexus, nitidus, glaber. Nigro-piceus, margine clypeali rufescente, pedibus piceis, clava antennali fusca. Capite epistoma ruga transversa, fere omnino subrugose punctato; clypeo medio sinuato, lateribus obtuse angulato; genis prominulis; sutura frontali tuberculata. Pronoto subaequaliter sat dense punctulato; basi subtiliter marginata. Elytris distincte striatis; striis leviter crenulatis; interstitiis planis irregulariter sparse distincte punctatis.

Description: length mm 4-5; moderately elongate, convex, shiny, glabrous. Piceous, clypeal margin reddish, legs piceous, antennal club blackish. Head with epistome with feeble transverse carina, subrugosely punctured; clypeus sinuate at middle, obtusely angulate at sides, entirely thinly bordered, border feebly upturned near front angles; genae obtusely rounded, elongately sparsely bristled, distinctly more protruding than eyes; frontal suture tuberculate. Pronotum transverse, convex, distinctly regularly rather finely punctured, with feeble trace of median impression at front margin; sides rounded, thinly bordered, bristled near front angles; hind angles obtusely rounded; base feebly bisinuate, finely distinctly bordered. Scutellum regularly triangular, feebly convex, sparsely superficially punctured on basal half, smooth toward apex. Elytra elongate, distinctly striate; striae distinctly punctured, feebly crenulate; interstices flat, sparsely irregularly distinctly punctured; shoulder not denticulate. Metatibiae fimbriate with stout, short spinules of equal length. First segment of hind tarsi as long as superior apical spur and nearly of same length as following three combined. Male: frontal suture with tubercles relatively more distinct, central tubercle stout and obtusely raised, apically bifid; pronotum relatively more transverse, less coarsely punctured. Female: tubercles of frontal suture relatively more feeble; pronotum narrowed frontward, more coarsely and densely punctured.

Material examined
1 ex. ♂, lectotype (here designated); specimen bears the following labels:



Figures 22-32

Aphodius azteca Harold, 1863 (México, Cruz Blanca): **22.** habitus (length mm 4-5); **23.** epipharynx; **24a-24b.** aedeagus (dorsal and lateral view). *Aphodius indutilis* Harold, 1874 (México; lectotypus): **25.** habitus (length mm 4-5); **26.** epipharynx; **27-28.** aedeagus (dorsal and lateral view). *Aphodius innexus* Say, 1835 (México, Edo. México, Lago Zumpango, nr. San Juan Zitlaltepec): **29.** habitus (length mm 5-6); **30.** epipharynx; **31-32.** aedeagus (dorsal and lateral view).

- 1. white printed: Mexico;
- 2. white handwritten: *A. indutilis* Harold typ.;
- 3. white printed: ex Musaeo Harold;
- 4. red handwritten: *Aphodius indutilis* Harold, 1874, Lectotypus, M. Dellacasa des. 1997.

Remarks: this species, previously assigned to *Aphodius* subgenus *Agrilinus*, will be assigned to a new genus-group taxon being described by one of us (R. Gordon) in a paper in preparation.

Aphodius innexus Say, 1835 (Figs. 29-32)

1835. *Aphodius innexus* Say, Boston Jour. nat Hist., 1: 177
1860. *Aphodius flavocinctus* Harold, Ann. Soc. ent. France, (3) 8: 614
1871. *Aphodius innexus;* Harold, Berlin. ent. Zeits., 15: 270
1913. *Aphodius (Nialus) innexus;* A. Schmidt, Arch. Naturg., 79A (11): 168

Type locality: Mexico.
Type depository of *innexus* Say unknown to authors, type probably lost; of *flavocinctus* Harold: probably in Muséum national d'Histoire naturelle. Paris.

Subelongatus, parallelus, convexus, nitidus, glaber. Piceus; pronoto angulis anticis flavescentibus; elytrorum et humeris et lateribus et apice luteis. Capite epistoma gibboso, antice medio transversim carinulato, fere laevi, ad marginem anticum tantum fortiter punctato; clypeo medio sinuato utrinque rotundato, omnino subtiliter marginato, margine leviter reflexo, haud ciliato; genis late rotundatis, longe ciliatis, haud prominulis; sutura frontali obsolete trituberculata. Pronoto transverso, sparse dupliciter punctato, disco fere laevi; lateribus subtiliter marginatis, sparse distincte ciliatis; basi leviter bisinuata, haud marginata. Scutello parvo, amygdaliformi, laevi. Elytris subparallelis, distincte striatis; striis valde crenulatis; interstitiis planis, fere laevibus. Metatarsis articulo primo parum longiore quam calcari apicali superiore et sequentibus tribus simul sumptis aequilongo. Metatibiis setis apicalibus longitudine aequalibus.

Description: length mm 5-6; subelongate, parallel, convex, shiny glabrous. Piceous; front angles of pronotum, shoulder, sides and apex of elytra yellowish. Head with epistome gibbous, with transverse feeble carina at middle, anteriorly, nearly smooth at centre, coarsely punctured only toward clypeal margin; clypeus sinuate at middle, rounded at sides, quite finely bordered, border slightly upturned, not bristled; genae broadly rounded, elongately bristled, no more protruding than eyes; frontal suture faintly tuberculate. Pronotum transverse, sparsely doubly punctured, nearly smooth on disk; lateral margins thinly bordered, border elongately bristled; base feebly bisinuate, not bordered. Scutellum small, amygdaliform, smooth. Elytra subparallel sided, distinctly striate; striae strongly crenulate; interstices flat, nearly impunctate. Metatibiae with superior apical spur slightly shorter than first tarsal segment; latter nearly as long as following three combined; apically

fimbriate with spinules of equal length. Male: epistomal anterior carina relatively more strongly raised; pronotum with parallel sides, widened toward front angles. Female: epistomal anterior carina relatively weaker; pronotum feebly narrowed frontward, anterior angles less evident.

Distribution: Mexico, U.S.A.: California.

Material examined
1 ex. ♂; México, Edo. Guerrero, Chilpancingo, Höge; 1 ex. ♂; México, Distrito Federal, 15.09.1970; 2 ex. ♂, ♀; México, Edo. México, Lago Zumpango, nr. San Juan, Zitlaltepec, ca 7500', 28.12.1965, G.E. Ball & D.R. Whitehead (all specimens preserved in Dellacasa's collection, Genoa).

Remarks: this species, previously assigned to *Aphodius* subgenus *Nialus* Mulsant & Rey, 1869, could be considered at least near *Liothorax* Motschulsky, 1859 (sensu G. Dellacasa, 1983) but it probably has to be placed in a new genus-group taxon.

The synonymy of *Aphodius flavocinctus* Harold, 1860 versus *Aphodius innexus* Say, 1835 was established, as far as we know, by Harold himself in 1871.

Aphodius oleosus Harold, 1871 (Figs. 33-36)

1871. *Aphodius oleosus* Harold, Berlin. ent. Zeits., 15: 260
1913. *Aphodius (Pharaphodius) oleosus;* A. Schmidt, Arch. Naturg., 79A (11): 123

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle. Paris.

Valde convexus, ovatus, subopacus, glaber. Fusco-piceus et margine clypeali et angulis anticis pronoti et pedibus rufescentibus; clava antennali flavo-testacea. Capite epistoma subtiliter punctulato, fronte obtuse trituberculata, tuberculo medio cum gibbositate epistomali connexo; clypeo medio sinuato, lateribus obtuse angulato, subtiliter marginato, margine subreflexo; genis obtuse rotundatis prominulis. Pronoto dupliciter punctato; basi immarginata. Scutello triangulari elongato. Elytris distincte convexis, postice dilatatis; striis distinctis laeviter crenulatis; interstitiis planis, alutaceis, sparse subtilissime punctulatis, apice antem angustatis, convexis, nitidis.

Description: length mm 6-8; convex, oval elongate, sericeous, glabrous. Dark piceous, clypeal margin, front angles of pronotum, and legs reddish, antennal club pale testaceous. Head with epistome gibbous, superficially indistinctly microreticulate, sparsely subregularly finely punctured; clypeus sinuate at middle, obtusely angulate at sides, thinly bordered, border upturned; genae obtusely rounded, shortly sparsely bristled, more protruding than eyes; frontal suture obsolete; front trituberculate, median tubercle connected with epistomal gibbosity. Pronotum transverse, strongly convex, finely superficially microreticulate so rather

shiny, with trace of median longitudinal impression, doubly punctured, larger punctures nearly lacking on disk; sides regularly rounded, thinly bordered, border shortly sparsely bristled near front angles; hind angles obtusely rounded, base bisinuate, not bordered. Scutellum triangularly elongate, alutaceous, flat, with some fine punctures at middle of basal half. Elytra faintly widened posteriorly, strongly convex; striae deeply impressed, distinctly punctured, feebly crenulate, larger and deeper toward apex; interstices flat on disk, moderately convex and strongly shiny on preapical declivity, finely distinctly microreticulate so sericeous, very finely sparsely and irregularly punctured; epipleural carina distinct at shoulder. Metatibiae: fimbriate with very short and stout spinules of equal length. First segment of hind tarsi subequal to superior apical spur and as long as following three combined. Male: frontal tubercles relatively more distinct, median tubercle widely conical; pronotum transverse. Female: frontal tubercles very feeble; pronotum distinctly narrowed frontward.

Material examined

1 ex. ♀, lectotype (here designated); specimen bears the following labels:
- 1. white printed: Mexico Kliw;
- 2. white printed: Mexico
- 3. white handwritten: *oleosus* Harold typ.;
- 4. white handwritten: Lectotype *Aphodius oleosus* Harold Gordon 1971 *(in litteris);*
- 5. red handwritten: *Aphodius oleosus* Harold, 1871, Lectotypus, M. Dellacasa des. 1997.

1 ex. ♂; México, Edo. Michoacán, S. Pedro Jacuare, 26.8.1985, M. Zunino (Dellacasa's collection, Genoa).

Remarks: this is the only Mexican species described by Harold that probably belongs in an established genus-group, *Pharaphodius, sensu lato.*

The following two sibling species previously placed in the *Aphodius* subgenus *Bodilus* belong to a new genus-group taxon that one of us (R. Gordon) is describing in a paper in preparation.

Aphodius lansbergei Harold, 1874 (Figs. 37-40)

1874. *Aphodius lansbergei* Harold, Berlin. ent. Zeits., 18: 179
1913. *Aphodius (Bodilus) lansbergei;* A. Schmidt, Arch. Naturg., 79A (11): 123

Type locality: Mexico.
Type depository: Muséum national d'Histoire naturelle, Paris.

Brevis, convexus, nitidus, glaber. Castaneus, clava antennali pedibusque piceo-rufis. Capite epistoma gibboso, sat dense antice subrugose punctato; clypeo medio leviter sinuato, lateribus obtuse rotundato, omnino subtilissime marginato; genis obtuse rotundatis, parum prominulis; sutura frontali distincte trituberculata. Pronoto valde convexo, inaequaliter sat

dense punctato; lateribus rotundatis, distincte marginatis; angulis posticis rotundatis; basi distincte marginata. Elytris sat leviter striatis; striis distincte punctatis, subcrenulatis; interstitiis planis fere laevibus.

Description: length mm 4-5; short, convex, shiny, glabrous. Chestnut-brown, antennal club and legs reddish. Head with epistome gibbous with feeble transverse carina, densely, anteriorly subrugosely punctured; clypeus feebly sinuate at middle, obtusely rounded at sides, quite very finely bordered; genae obtusely rounded, sparsely bristled, feebly more protruding than eyes; frontal suture distinctly trituberculate. Pronotum strongly convex, irregularly rather densely punctured; sides rounded, distinctly bordered; hind angles widely rounded; base distinctly bordered. Scutellum triangular, feebly convex, with few superficial sparse punctures. Elytra subparallel sided, rather superficially striate; striae distinctly punctured, feebly crenulate; interstices flat, sparsely, very finely punctured; shoulder not denticulate. Metatibiae fimbriate with short spinules of equal length. First segment of hind tarsi as long as superior apical spur and shorter than following three combined. Male: frontal suture trituberculate, median tubercle rather transverse, apically bifid, lateral tubercles transverse but distinct; pronotum transverse with trace of median impression at front margin. Female: unknown.

Distribution: Mexico.

Material examined

1 ex. ♂, Lectotype (here designated); specimen bears the following labels:
- 1. white printed: Mexico;
  2. white printed: Ex Musaeo Harold;
- 3. white handwritten: *A. lansbergei* Harold type
- 4. red handwritten: *Aphodius lansbergei* Harold, 1874; Lectotypus, M. Dellacasa des. 1997.

Aphodius sallei Harold, 1863 (Figs. 41-44)

1863. *Aphodius sallei* Harold, Berlin. ent. Zeits., 7: 336
1913. *Aphodius (Bodilus) sallei;* A. Schmidt, Arch. Naturg., 79A (11): 123

Type locality: Cordova, Mexico.
Type depository: Muséum national d'Histoire naturelle, Paris.

Brevis, valde convexus, nitidus, glaber; rufo-piceus, margine clypeali pronoti lateribus elytrisque castaneis, his apicem versus dilutioribus. Capite epistoma antice subrugoso, postice distincte crebre punctato; clypeo medio subsinuato, lateribus obtuse rotundato; sutura frontali trituberculata; genis subprominulis. Pronoto dupliciter, sat dense punctato; angulis posticis rotundatis; basi bisinuata, subtiliter distincte marginata. Scutello cordiformi, lateribus subimpresso, medio elevato. Elytris valde convexis, lateribus subparallelis; striis profundis, crenatis; interstitiis modice convexis, subtilissime vixque perspicue punctulatis.

Description: length mm 5-5,5; short, strongly convex, shiny, glabrous. Piceous-reddish, clypeal margin, pronotal sides and elytra brown-reddish, latter paler toward apex. Head with epistome gibbous with feeble transverse carina, strongly subregularly punctured, punctation subrugose anteriorly; clypeus sinuate at middle, obtusely rounded at sides, thinly bordered, border distinctly upturned; frontal suture trituberculate; genae rounded, bristled, feebly more protruding than eyes. Pronotum subquadrate, strongly convex, doubly punctured, punctures rather dense and regularly scattered; sides rounded, bordered, shortly sparsely bristled; hind angles broadly rounded; base bisinuate, shortly distinctly bordered. Scutellum triangular with curved sides, laterally subimpressed, feebly raised at middle, nearly impunctate. Elytra strongly convex, regularly oval, distinctly striate; striae deep, distinctly punctured, crenulate; interstices convex, smooth at middle and finely distinctly punctured laterally; epipleural carina rather distinctly raised at shoulder. Metatibiae fimbriate with very short spinules of equal length. First segment of hind tarsi longer than superior apical spur and as long as following three combined. Male: frontal suture trituberculate, median tubercle conical, apically acuminate, the lateral tubercles transverse but distinct; pronotum transverse with feeble trace of median impression at front margin. Female: frontal suture with tubercles feeble and transverse; pronotum narrowed frontward.

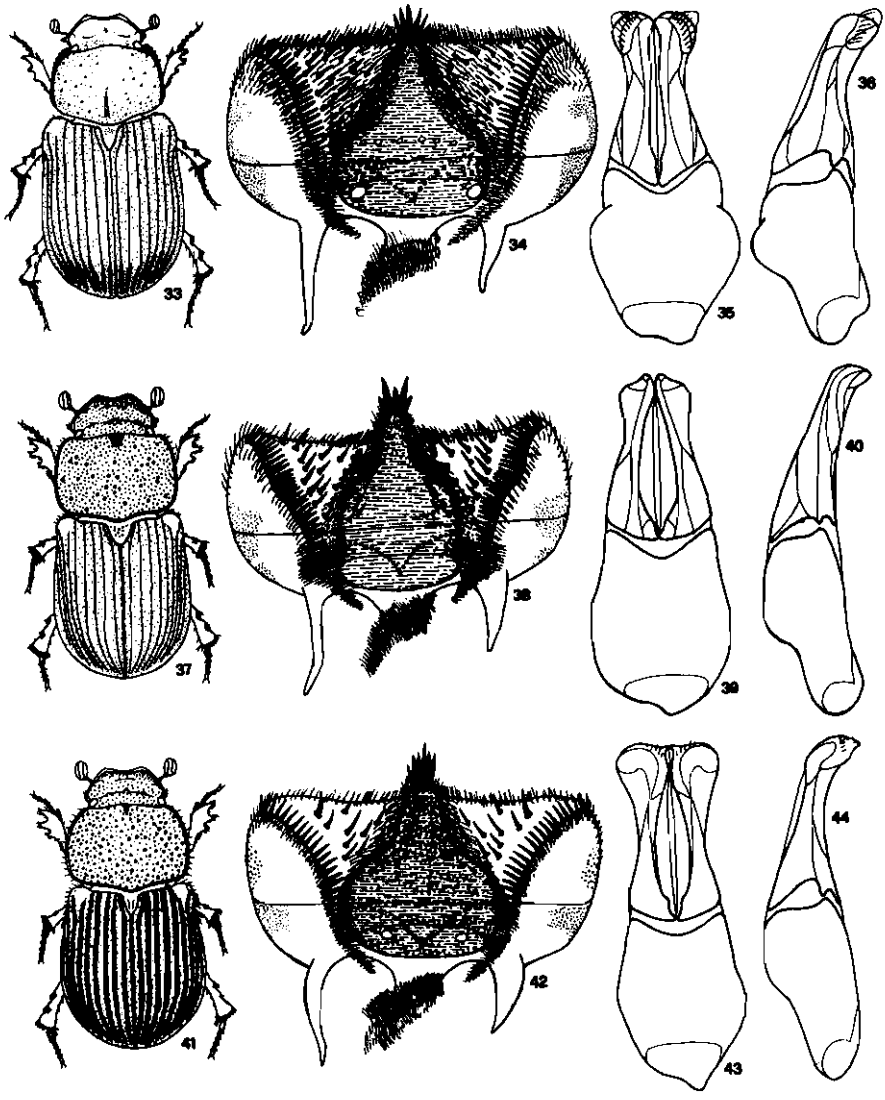
Distribution: U.S.A.: Texas; Mexico; Guatemala.

Material examined

1 ex ♂, Lectotype (here designated); specimen bears the following labels:
- 1. white printed: Cordova;
- 2. white printed: Mexico Sallé Coll.;
- 3. white handwritten: *Aphodius sallei* Harold type apud Sallé;
- 4. white printed: Museum Paris - Coll. H.W. Bates 1952;
- 5. white printed: Museum Paris ex Coll. L. Oberthür 1952;
- 6. red printed: LECTOTYPE;
- 7. white handwritten: *Aphodius sallei* Harold, Des. F. Chalumeau '83 *(in litteris)*;
- 8. white handwritten: Lectotype *Aphodius sallei* Harold, Gordon 1988 *(in litteris)*;
- 9. red handwritten: *Aphodius sallei* Harold, 1863; Lectotypus, M. Dellacasa des. 1997.

AKNOWLEDGEMENTS

Our grateful thanks are due to G. Halffter, who stimulate one of us (M. Dellacasa) to undertake the study of Mexican *Aphodiinae*; to P. Bordat (Paris) and to Y. Cambefort (Muséum National d'Histoire naturelle, Paris) for support and loan of type material; to G. Ball and M. Zunino for supplying interesting specimens.



Figures 33-44

Aphodius oleosus Harold, 1871 (México, S. Pedro Jacuare): **33.** habitus (length mm 6-8); **34.** epipharynx; **35-36.** aedeagus (dorsal and lateral view). *Aphodius lansbergei* Harold, 1874 (México; lectotypus): **37.** habitus (length mm 4-5); **38.** epipharynx; **39-40.** aedeagus (dorsal and lateral view). *Aphodius sallei* Harold, 1863 (México, Cordova; lectotypus): **41.** habitus (length mm 5-5,5); **42.** epipharynx; **43-44.** aedeagus (dorsal and lateral view).

LITERATURE CITED

Bates H.W. 1887. Biologia Centrali-Americana. Insecta. Col.: Lam. (Copridae, Aphodiidae, Orphnidae, Hybosoridae, Geotrupidae, Trogidae, Aclopidae, Chasmatopteridae, Melolonthidae). 2: 25-160.

Dellacasa G. 1983. Sistematica e nomenclatura degli Aphodiini italiani. *Mon. Mus. reg. Sci. nat.* 1: 1-464.

Harold E. 1860. Diagnoses de nouvelles especes d'*Aphodius*. *Ann. Soc. ent. France* 8: 614-616.

---------. 1862. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Viertes Stuck). *Berl. ent. Zeits.* 6: 379-403.

----------. 1863. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Funftes Stuck). *Berl. ent. Zeits.* 7: 327-389.

----------. 1871. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Siebentes Stuck). *Berl. ent. Zeits.* 15: 249-287.

----------. 1874. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Achtes Stuck). *Berl. ent. Zeits.* 18: 177-208.

Horn G.H. 1887. A monograph of the Aphodiini inhabiting the United States. *Trans. am. ent. Soc.* 14: 1-110.

Robinson M. 1940. Studies in the Scarabaeidae. II. *Trans. am. ent. Soc.* 66: 141-159.

Say T. 1835. Descriptions of new North America coleopterous insects, and observation on some already described. *Boston Journ. nat. Hist.* 1: 151-203.

Schmidt A. 1913. Erster Versuch einer Einteilung der exotischen Aphodien in Subgenera und als Anhang einige Neubeschreibungen. *Arch. Naturg., Abt. A* 79: 117-178.

----------. 1916. Namenanderungen und Beschreibung neuer Aphodiinen. *Arch. Naturg., Abt. A* 82: 95-116.

----------. 1922. Coleoptera Aphodiinae. *(Das Tierreich)* 45: 1-614.

Recibido: 4 de noviembre 1997
Aceptado: 2 de febrero 1998

LITERATURE CITED

Bates H.W. 1887. Biologia Centrali-Americana. Insecta. Col.: Lam. (Copridae, Aphodiidae, Orphnidae, Hybosoridae, Geotrupidae, Trogidae, Aclopidae, Chasmatopteridae, Melolonthidae). 2: 25-160.

Dellacasa G. 1983. Sistematica e nomenclatura degli Aphodiini italiani. *Mon. Mus. reg. Sci. nat.* 1: 1-464.

Harold E. 1860. Diagnoses de nouvelles especes d'*Aphodius*. *Ann. Soc. ent. France* 8: 614-616.

---------. 1862. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Viertes Stuck). *Berl. ent. Zeits.* 6: 379-403.

----------. 1863. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Funftes Stuck). *Berl. ent. Zeits.* 7: 327-389.

----------. 1871. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Siebentes Stuck). *Berl. ent. Zeits.* 15: 249-287.

----------. 1874. Beitrage zur Kenntniss einiger coprophagen Lamellicornien. (Achtes Stuck). *Berl. ent. Zeits.* 18: 177-208.

Horn G.H. 1887. A monograph of the Aphodiini inhabiting the United States. *Trans. am. ent. Soc.* 14: 1-110.

Robinson M. 1940. Studies in the Scarabaeidae. II. *Trans. am. ent. Soc.* 66: 141-159.

Say T. 1835. Descriptions of new North America coleopterous insects, and observation on some already described. *Boston Journ. nat. Hist.* 1: 151-203.

Schmidt A. 1913. Erster Versuch einer Einteilung der exotischen Aphodien in Subgenera und als Anhang einige Neubeschreibungen. *Arch. Naturg., Abt. A* 79: 117-178.

----------. 1916. Namenanderungen und Beschreibung neuer Aphodiinen. *Arch. Naturg., Abt. A* 82: 95-116.

----------. 1922. Coleoptera Aphodiinae. *(Das Tierreich)* 45: 1-614.

Recibido. 4 de noviembre 1997
Aceptado· 2 de febrero 1998