

Illustrated catalog of *Homophileurus* species from Colombia (Melolonthidae: Dynastinae: Phileurini)

Catálogo ilustrado de las especies de *Homophileurus* de Colombia (Melolonthidae: Dynastinae: Phileurini)

Julián Clavijo-Bustos^{1*} , Rone A. F. Medeiros² , Juan Sebastián D. Cáceres^{2,3} , Paschoal C. Grossi^{2,3} , Jhon Cesar Neita Moreno⁴ 

- Received: 18/08/2025
- Accepted: 28/05/2026
- Online Publishing: 24/07/2026

Citation: Clavijo-Bustos, J., Medeiros, R., Cáceres, J., Grossi, P. & Neita, J. (2026). Illustrated catalog of *Homophileurus* species from Colombia (Melolonthidae: Dynastinae: Phileurini). *Caldasia*, 48, e122258. <https://doi.org/10.15446/caldasia.v48.122258>

ABSTRACT

Five species of *Homophileurus* are recorded for Colombia, including two new records from the Amazonian and Orinoquian regions: *Homophileurus amazonicus* and *Homophileurus integer*. The five species are diagnosed and illustrated. Additionally, based on their distribution in neighboring countries, two other species are likely to occur in Colombia and are illustrated. An identification key to all seven species is provided.

Keywords: Cis-andean region, neotropical region, scarabs, taxonomy, termitophilous.

RESUMEN

Cinco especies de *Homophileurus* son registradas para Colombia, incluyendo dos nuevos registros provenientes de las regiones Amazónica y Orinoquia: *Homophileurus amazonicus* y *Homophileurus integer*. Las cinco especies son diagnosticadas e ilustradas. Adicionalmente, con base en su distribución en países vecinos, se considera probable que otras dos especies también estén en Colombia, son ilustradas. Se presenta una clave de identificación para las siete especies.

Palabras clave: Escarabajos, región cis-andina, región Neotropical, taxonomía, termitófilo.

¹ Colección de escarabajos coprófagos de Colombia (CECC-ALT), Villa de Leyva, Boyacá, Colombia, 154001. jclavijobent@gmail.com

² Programa de Pós-Graduação em Entomologia, Laboratório de Taxonomia de Insetos, Departamento de Agronomia (DEPA), Universidade Federal Rural de Pernambuco (UFRPE), Recife, PE, Brazil, 52.171-900. roneagroufc@gmail.com; juansebastianduenascaceres@gmail.com; paschoal.grossi@gmail.com

³ Pesquisador do Instituto Nacional de Coleoptera (INCol), INCT (Instituto Nacional de Ciência e Tecnologia) do Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) (408430/2024-9).

⁴ Sección de Entomología, Colecciones Biológicas, Centro Colecciones y Gestión de Especies, Instituto de Investigación Alexander von Humboldt, Villa de Leyva, Boyacá, Colombia, 154001. jneita@humboldt.org.co

* Corresponding author.



INTRODUCTION

The Neotropical genus *Homophileurus* Kolbe, 1910 (Coleoptera: Melolonthidae: Dynastinae: Phileurini) comprises ten species distributed from Mexico to Argentina and Paraguay, including one species endemic to the Antilles (Dupuis, 2013; Dupuis & Perrin, 2020; Endrödi, 1978, 1985; Ratcliffe, 2003; Ratcliffe & Cave, 2006, 2015; Ratcliffe et al., 2020, 2023, 2025). Adult members of the genus can be recognized from other Phileurini by the following combination of characters: clypeus sharply acuminate; outer margin of mandibles evenly rounded; frons with two tubercles on lateral sides; pronotum with a medial longitudinal furrow and without lateral fovea; inner claw of protarsi not dilated; protibia with four teeth on external margin; apex of metatibia with numerous small teeth; and propygidium without stridulatory area (Endrödi, 1985; Ratcliffe & Cave, 2023).

The immature stages of only three *Homophileurus* species have been described, all of which were found associated with abandoned or active termite nests: *Homophileurus integer* (Burmeister, 1847), *Homophileurus luederwaldti* (Ohaus, 1910), and *Homophileurus tricuspis* Prell, 1914 (Costa et al., 1988; Neita & Ratcliffe, 2011; Ratcliffe & Skelley, 2011). Females are usually found together with pupae and larvae within termite nest (Neita *pers. obs.*) (Fig. 1).

The few studies on the tribe Phileurini from Colombia include new species descriptions and the description of the immature stages of *H. tricuspis* (Neita & Ratcliffe, 2010, 2011, 2017). So far, three species of *Homophileurus* have been recorded from Colombia. *Homophileurus quadrituberculatus* (Palisot de Beauvois, 1806) and *H. tricuspis*, both widely distributed from northern Central America to South America; and *Homophileurus waldenfelsi* Endrödi, 1978, which is widely distributed across the Amazon basin (Neita & Ratcliffe, 2011; Ratcliffe, 2003; Ratcliffe & Saltin, 2010). The new records for Colombia of *H. amazonicus* Kolbe, 1910 and *H. integer*, lead us to present a taxonomic catalog. Here, all the species recorded from Colombia are diagnosed and illustrated; these and other two species distributed in neighboring countries that are likely to occur in Colombia are included in an identification key. Additionally, a distribution map of the species recorded from Colombia is presented.

MATERIALS AND METHODS

The examined specimens are from the following collections: **CEUN** Colección Entomológica de la Universidad de Nariño, Pasto, Nariño, Colombia (G. Castillo, M. Rodríguez); **IAvH-E** Sección de Entomología de las Colecciones Biológicas, Centro Colecciones y Gestión de Especies, Instituto de investigación de recursos biológicos Alexander von Humboldt, Villa de Leyva, Boyacá, Colombia (J.C. Neita Moreno); **ICN-ENT** Colección Nacional de Insectos, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá D.C., Colombia (G. Amat); **MENT-UT** Museo Laboratorio de Entomología, Universidad del Tolima, Ibagué, Tolima, Colombia (N.A. Canal Daza); **MHN-UPN** Sección de Entomología del Museo de Historia Natural, Universidad Pedagógica Nacional, Bogotá, D.C., Colombia (M.Y. García; A. Ávila); **MPUJ-ENT** Colección Entomológica, Museo Javeriano de Historia Natural, de la Pontificia Universidad Javeriana in Bogotá D.C., Colombia (G. Fagua); **UPTC-E** Colección Entomológica del Museo de Historia Natural “Luis Gonzalo Andrade”, Universidad Pedagógica y Tecnológica de Colombia, Tunja, Boyacá, Colombia (I. Morales).

Photographs of the following species were retrieved from the repository of the **MNHN** – Muséum National d’Histoire Naturelle, Paris, France (<https://science.mnhn.fr/all/search>): *H. integer* (lectotype), *H. planus* Dupuis, 2013 (holotype), and *H. waldenfelsi* (*Homophileurus neptunus* Dechambre, 1996 syn., holotype). The photograph of the holotype of *H. aequatorius* Kolbe, 1910 was provided by J. Frisch and J. Willers (supplied to us by B. C. Ratcliffe), whose specimen is deposited in **MFNB** – Museum für Naturkunde, Leibniz-Institut für Evolution- und Biodiversitätsforschung, Berlin, Germany. Also, the photograph of the female of *H. waldenfelsi* was provided by J-P. Saltin (Niedernhausen, Germany).

The terminology for diagnosis follows Ratcliffe (2003), Ratcliffe & Cave (2006, 2015, 2023), and Ratcliffe et al. (2020, 2025). Photographs of adults of other species were taken with a Nikon D90 camera with 40 mm macro lens or a Canon EOS 5d Mark III camera with a 50 mm macro lens. Photographs of male genitalia were taken with a Leica DM190HD camera attached to a Leica S8APO stereomicroscope. Images were processed with the software Helicon Focus. A digital caliper was used for measurements.

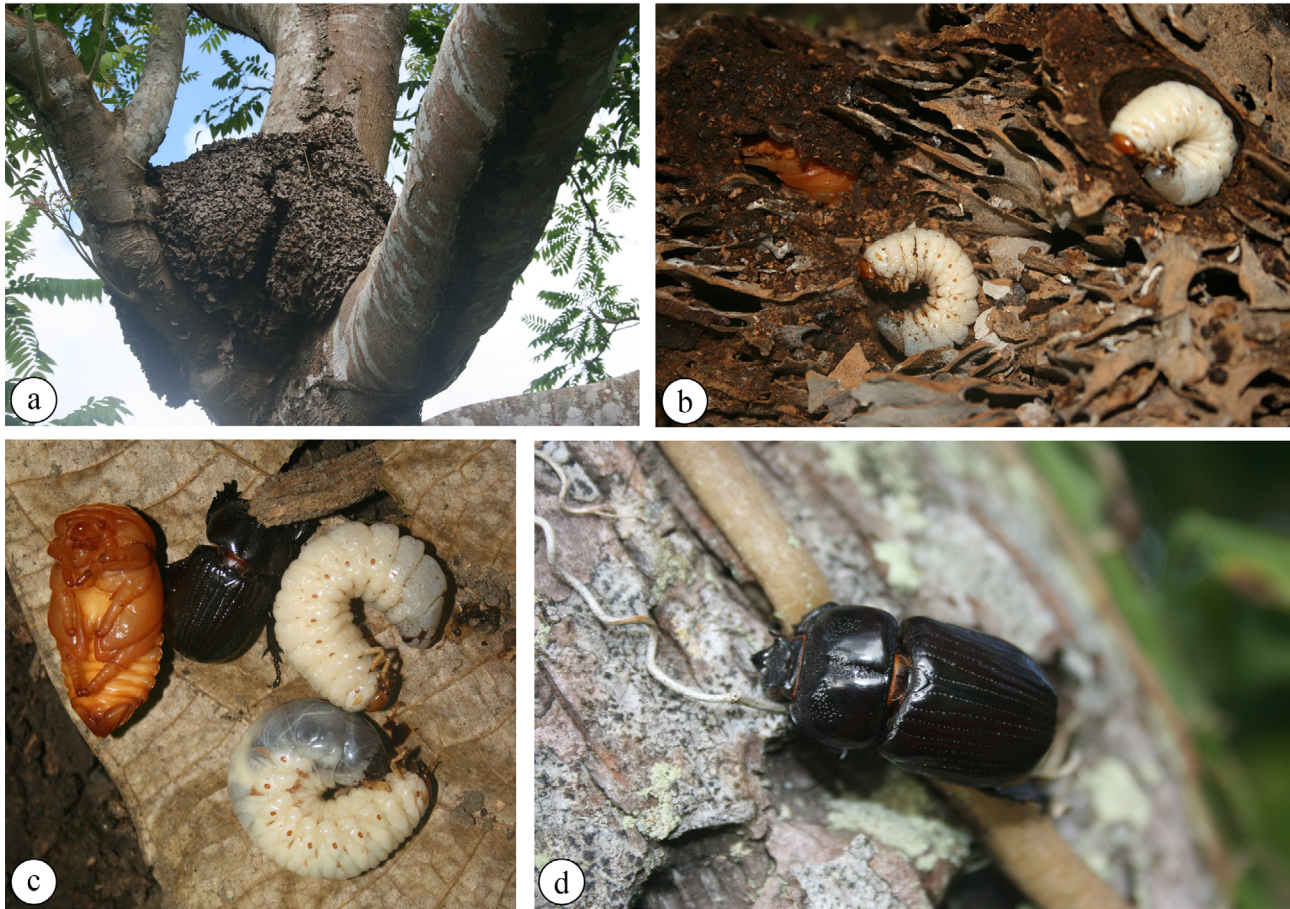


Figure 1. Different aspects of *Homophileurus tricuspidis* Prell, 1914, biology. **a.**, Termite nest where *H. tricuspidis* has been found; **b.**, pupa and larvae inside the termite nest; **c.**, female adult, pupa and larvae found inside a termite nest; **d.**, adult female.

Labels of examined specimens are presented verbatim, with catalog numbers included when available. Country distributions are arranged latitudinally from north to south, and literature records from Colombia are included when available. Finally, a map was made using the online tool SimpleMmappr (Shorthouse, 2010).

RESULTS

Taxonomy

Homophileurus amazonicus Kolbe, 1910

Homophileurus amazonicus Kolbe, 1910: 349 (original combination).

Diagnosis. *Length:* 20.0–25.0 mm. Clypeus with apex rounded and with entire anterior margin directed upwards (Fig. 2a). Frons with a small triangular tubercle located over the base of each ocular canthus (Fig. 2a). Pronotum with a strong declivity on the sixth anterior portion; surface of declivity smooth, not punctuated as medial longitudinal furrow; anteriorly, adjacent to each side of the medial longitudinal furrow, weakly tumescent; pronotal marginal bead interrupted posteriorly over the medial third (Fig. 2a). Elytral striae with big, rounded punctures; punctures in striae 1 and 2 distanced by less than one puncture diameter (Fig. 2a). Parameres short, weakly longer than a half the length of phallobase, apically downward curved, and with a lateral small, medial projection; inner margin of basal third with a weak sinuosity (Fig. 2c-d).

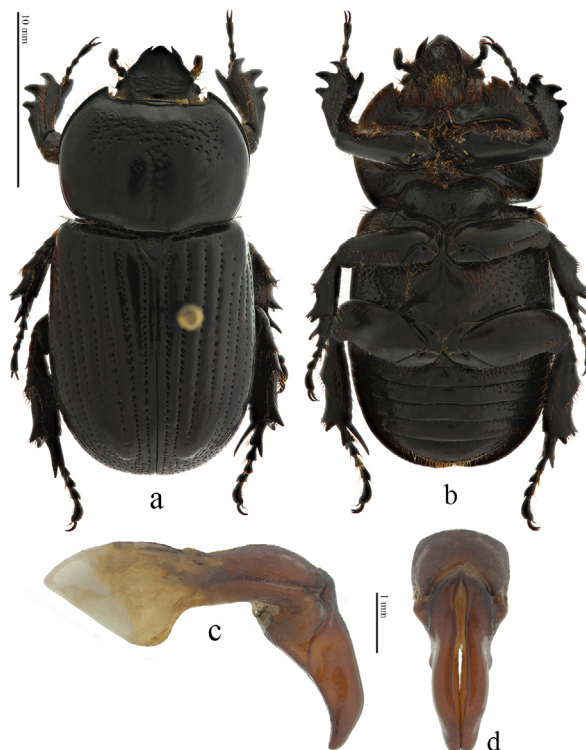


Figure 2. *Homophileurus amazonicus* Kolbe, 1910, adult, male specimen from Colombia. **a.**, dorsal view; **b.**, ventral view; **c.**, aedeagus in lateral view; **d.**, parameres in dorsal view.

Females do not differ significantly from males.

Remarks. Two larvae of *H. amazonicus* found inside a termite nest were reared until adulthood, revealing that this species is also associated with these nests. Unfortunately, no larvae or larval exuviae were preserved, preventing us to describe the immature stages.

Distribution. Guyana, Brazil (Endrödi, 1978, 1985; Dupuis & Perrin 2020), and Colombia (**new country record**).

Examined material. COLOMBIA. Guainía: 1♂, Inírida, Comunidad La Ceiba, bosque, 03°37'58.7"N 67°53'22.1"W, 103 m, 21–25 Mar 1998, G. Amat, A. Gabanzo, C. Martínez, ICN 028941 (ICN-ENT). **Guaviare:** 2♀♀, RNN Nukak Maku, Caño, Camino Cucuy al Puerto R. Inírida, 02°10'41"N 71°11'25"W, 250 m, Feb 1996, F. Fernández, IAvH-E-88597, 88602 (IAvH-E).

Homophileurus integer (Burmeister, 1847)

Phileurus integer Burmeister, 1847: 162 (original combination)

Diagnosis. *Length:* 25.0–27.0 mm. Clypeus with apex rounded and directed upwards. Frons with a triangular tubercle located over the base of each ocular canthus (Fig. 3a, 3e). Pronotum with a weak declivity on the fifth anterior portion; surface of declivity punctuated as medial longitudinal furrow; anteriorly, adjacent to each side of the medial longitudinal furrow, weakly tumescent, almost imperceptible; pronotal margin interrupted posteriorly over the medial third (Fig. 3a, 3e). Elytral striae with big, rounded punctures; punctures in striae 1 and 2 distanced by less than one puncture diameter (Fig. 3a, 3e). Parameres short, weakly longer than a half the length of phallobase, apically downward curved; inner margin of basal third with a weak sinuosity (Fig. 3c-d, 3g-h).

Females do not differ significantly from males.

Remarks. Of the studied specimens, two different shapes of parameres were found, one similar to that of the lectotype (Fig. 3d). The other, slightly differing in the apex of the aedeagus, which is abruptly narrowed in lateral view and does not narrow gradually (Fig. 3c vs Fig. 3g, respectively). Despite a detailed examination of external morphology,

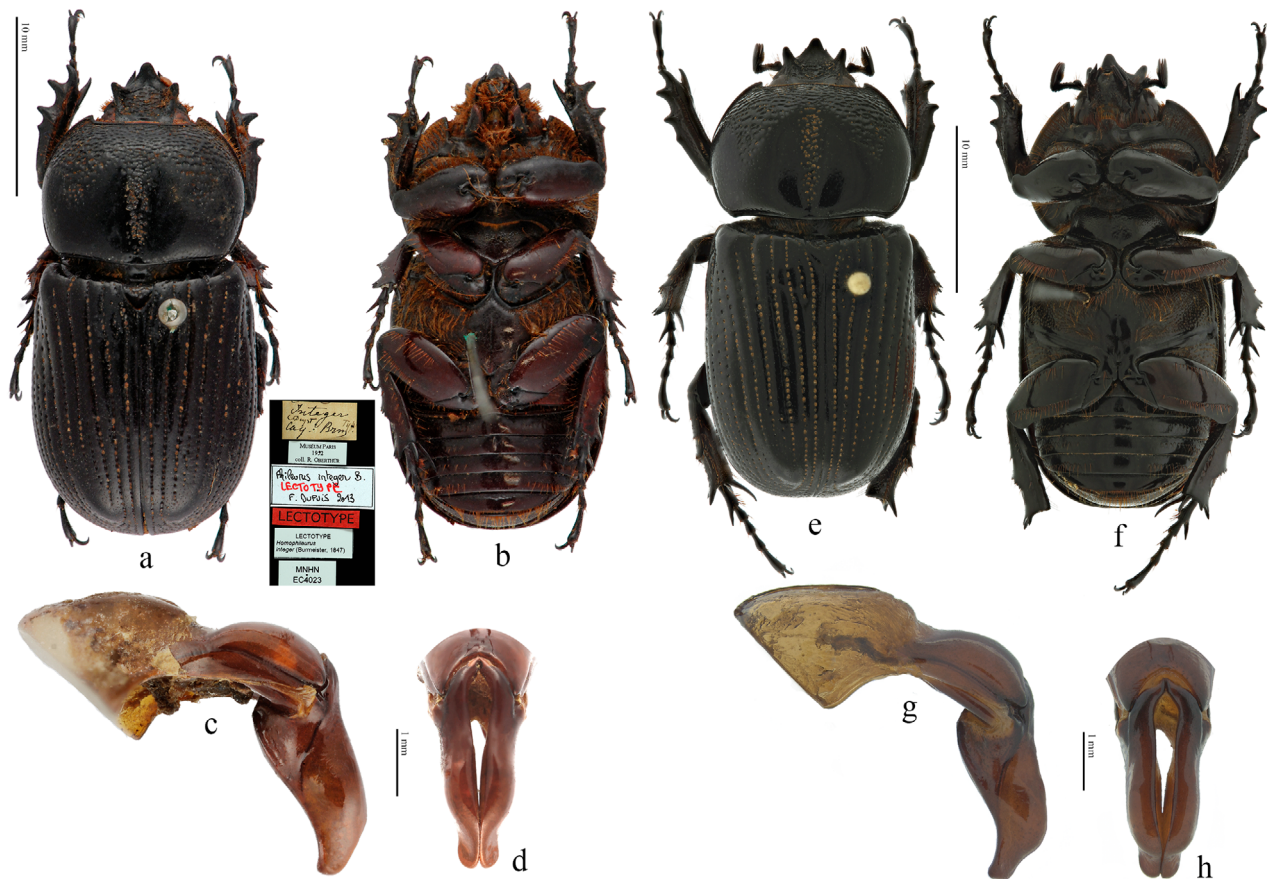


Figure 3. *Homophileurus integer* (Burmeister, 1847). Male lectotype from French Guiana, **a.**, dorsal view; **b.**, ventral view; **c.**, aedeagus in lateral view; **d.**, Parameres in dorsal view (photos a–d by MNHN – Antoine Mantilleri); **e–h.**, male specimen from Colombia, **e.**, dorsal view; **f.**, ventral view; **g.**, aedeagus in lateral view; **h.**, parameres in dorsal view.

no other consistent differences were found between these forms. We consider these differences as intraspecific variation; however, further analyses of specimens across the entire distribution range, including morphometric or molecular approaches, are necessary to clear their status.

Distribution. Panama [dubious record], Trinidad, Surinam, French Guiana, Brazil, Peru, Paraguay (Endrödi, 1978; Ratcliffe, 2003; Dupuis & Perrin, 2020; Ratcliffe et al., 2020, 2023, 2025), and Colombia (new country record).

Examined material. **COLOMBIA.** **Guainía:** 1♂, Inírida, Comunidad La Ceiba, bosque, 03°37'58.7"N 67°53'22.1"W, 103 m, 19 Mar 1998, G. Amat, A. Gabanzo, C. Martínez, ICN 028940 (ICN-ENT). **Vichada:** 1♂, Puerto Carreño, cgto. La Venturosa, área de plantaciones de Forest First, campamento San Cristóbal, plantación

de pino, 06°9'1.99"N 68°50'13.38"W, WGS84, 81 m, cap. manual diurna, 17 Sep 2022, N. Moreno-Niño, G. Toro, J. Clavijo-Bustos, IAvH-E-251606 (IAvH-E).

***Homophileurus quadrituberculatus* (Palisot de Beauvois, 1806)**

Scarabaeus quadrituberculatus Palisot de Beauvois, 1806: 42 (original combination)

Scarabaeus bajulus Perty, 1830: 44 (synonym)

Phileurus cephalotes Laporte de Castelnau, 1840: 116 (synonym)

Homophileurus muticus Prell, 1914: 221 (synonym)

Diagnosis. *Length:* 26.0–38.0 mm. Clypeus with apex rounded and directed upwards (Fig. 4a). Frons with a triangular tubercle located over the base of each ocular canthus (Fig. 4a). Pronotum with a strong declivity on the fourth anterior portion; surface of declivity similarly

punctuated as medial longitudinal furrow; anteriorly, adjacent to each side of the medial longitudinal furrow, with two tubercles; pronotal margin interrupted posteriorly over the middle (Fig. 4a). Elytral striae with big, rounded punctures; punctures in striae 1 and 2 distanced by one to less than one puncture diameter (Fig. 4a). Parameres short, weakly longer than a half the length of phallobase, apically slightly downward curved, and apical third with a weak, lateral small projection; inner margin nearly straight (Fig. 4c-d).

Females do not differ significantly from males.

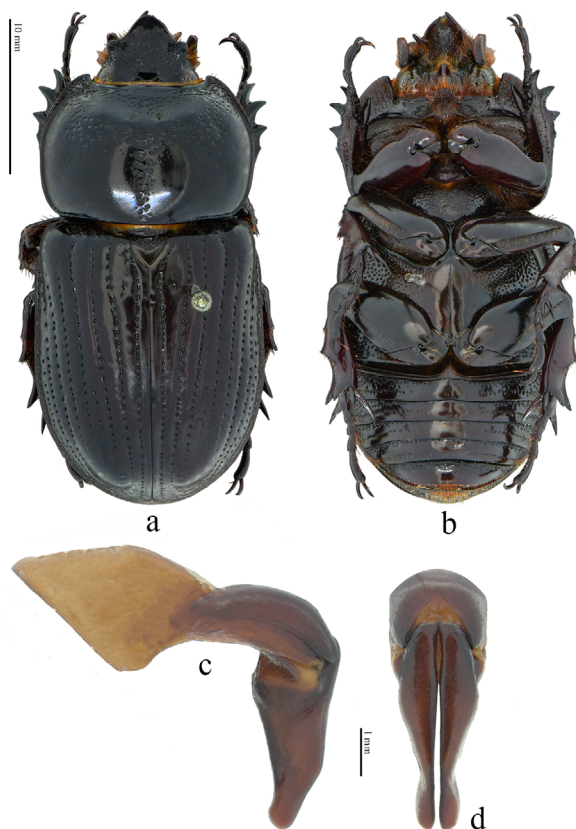


Figure 4. *Homophileurus quadrituberculatus* (Palisot de Beauvois, 1806), adult, male specimen from Colombia. **a.** dorsal view; **b.** ventral view; **c.** aedeagus in lateral view; **d.** parameres in dorsal view.

Distribution. Mexico, Guatemala, Belize, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Guyana, Surinam, French Guiana, Ecuador, Peru, Brazil, Bolivia and Paraguay (Endrödi, 1978, 1985; Ratcliffe, 2003; Ratcliffe & Cave, 2006; Ratcliffe et al., 2020, 2023, 2025).

Examined material. COLOMBIA. Meta: 1♂, Río Duda, PNN Tinigua, CIEM, 02°40'N 74°10'W, 350 m, May 1998, M. Álvarez, IAvH-E-88580 (IAvH-E).

Records in literature from Colombia. Valle del Cauca, Anchicayá dam, 70 km E. Buenaventura (Endrödi, 1978).

Homophileurus tricuspis Prell, 1914

Homophileurus tricuspis Prell, 1914: 220 (original combination)

Diagnosis. *Length:* 26.0–40.2 mm. Clypeus with apex rounded and directed upwards (Fig. 5a). Frons with a triangular tubercle located over the base of each ocular canthus. Pronotum with a strong declivity on the fourth anterior portion; surface of declivity similarly punctuated as medial longitudinal furrow; anteriorly, adjacent to each side of the medial longitudinal furrow, with two tubercles; pronotal margin interrupted posteriorly over the middle (Fig. 5a). Elytral striae with big, rounded punctures; punctures in striae 1 and 2 distanced by one to less than one puncture diameter (Fig. 5a). Parameres short, weakly longer than a half the length of phallobase, apex weakly downward curved, almost imperceptible; inner margin of basal fourth with a weak sinuosity, and apical fourth with a strong indentation (Fig. 5c-d).

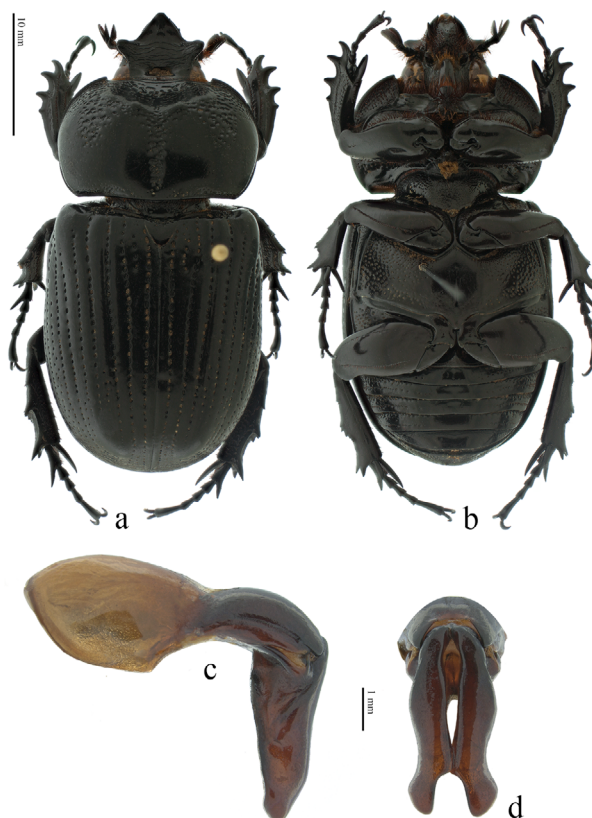


Figure 5. *Homophileurus tricuspis* Prell, 1914, adult, male specimen from Colombia. **a.** dorsal view; **b.** ventral view; **c.** aedeagus in lateral view; **d.** parameres in dorsal view.

Females do not differ significantly from males.

Distribution. Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, and Brazil (Endrödi, 1978; Ratcliffe, 2003; Ratcliffe & Cave, 2006; Neita & Ratcliffe, 2011; Ratcliffe et al., 2020).

Examined material. COLOMBIA. Chocó: 2♂♂, Nuquí, Estación El Amargal, 30 m, 22 Aug 1996, C.C. Ramírez (IAvH-E). **Nariño:** 1♂, Tumaco, cap. al vuelo, 10 Jan 1994, L.E. Guerrero, CEUN 6699 (CEUN). **Risaralda:** 1♂, Pueblo Rico, cgto. Santa Cecilia, área Amurrapá, ~1.1 km SWS de Santa Cecilia, 05.33783°N 76.15532°W, 402 m, borde de bosque húmedo, colecta manual, 19–23 Feb 2018, C. Ramírez, MPUJ_ENT 59559 (MPUJ_ENT); *idem*, 1♂, Bosque húmedo tropical, colecta manual hojarasca, A. Ariza, MPUJ_ENT 61049 (MPUJ_ENT). **Santander:** 1♂, Puerto Wilches, vda. Cayumba, camino arcilloso, 07°18'05.2"N 73°42'28.0"W, WGS84, 105 m, ANH_392, captura manual, 21 Jul 2021, R. Cobos, IAvH-E-231604 (IAvH-E); *idem*, 1♀, Finca Villazan, 07°18'04.6"N 73°42'27.3"W, WGS84, 108 m, ANH, Trampa de luz UV-Negra, 20 Jul 2021, D. Silva, R. Cobos, D. Vanegas, IAvH-E-231604 (IAvH-E). **Tolima:** 1♂, Ibagué, 1830 m, 20 Apr 2006, H. (MENT-UT).

Records in literature from Colombia. Chocó, Unguía, Potrero, Rivera del Río Tigre (Neita & Ratcliffe, 2011).

Homophileurus waldenfelsi Endrödi, 1978

Homophileurus waldenfelsi Endrödi, 1978: 77 (original combination)

Homophileurus neptunus Dechambre, 1996: 91 (synonym)

Diagnosis. *Length:* 44.0–50.0 mm. Clypeus with apex strongly acuminate and directed upwards (Fig. 6a). Frons with a large and robust frontal tubercle located over the base of each ocular canthus (Fig. 6a). Pronotum with strong declivity on the fourth anterior portion; surface of declivity punctuated as medial longitudinal furrow; anteriorly, adjacent to each side of the medial longitudinal furrow, with an acute small tubercle; pronotal margin complete posteriorly (Fig. 6a). Elytral striae with small, rounded punctures; punctures in striae 1 and 2 distanced by two to three times one puncture diameter (Fig. 6a). Parameres long, subequal to the length of phallobase, weakly downward curved and strongly narrowing in the apical third; inner margin of basal fourth with a weak sinuosity (Fig. 6c–d).

Female differs from male in: head with frontal tubercles smaller; pronotum with a wider medial longitudinal furrow and lacking small tubercles anteriorly adjacent to each side of the longitudinal furrow, but with a medial strong transverse tubercle anteriorly (Fig. 6e).

Distribution. Colombia, Ecuador, Brazil, and Peru (Ratcliffe & Saltin, 2010; Ratcliffe et al., 2020, 2025).

Records in literature from Colombia. Putumayo Valley (Endrödi, 1978; Ratcliffe & Saltin, 2010).

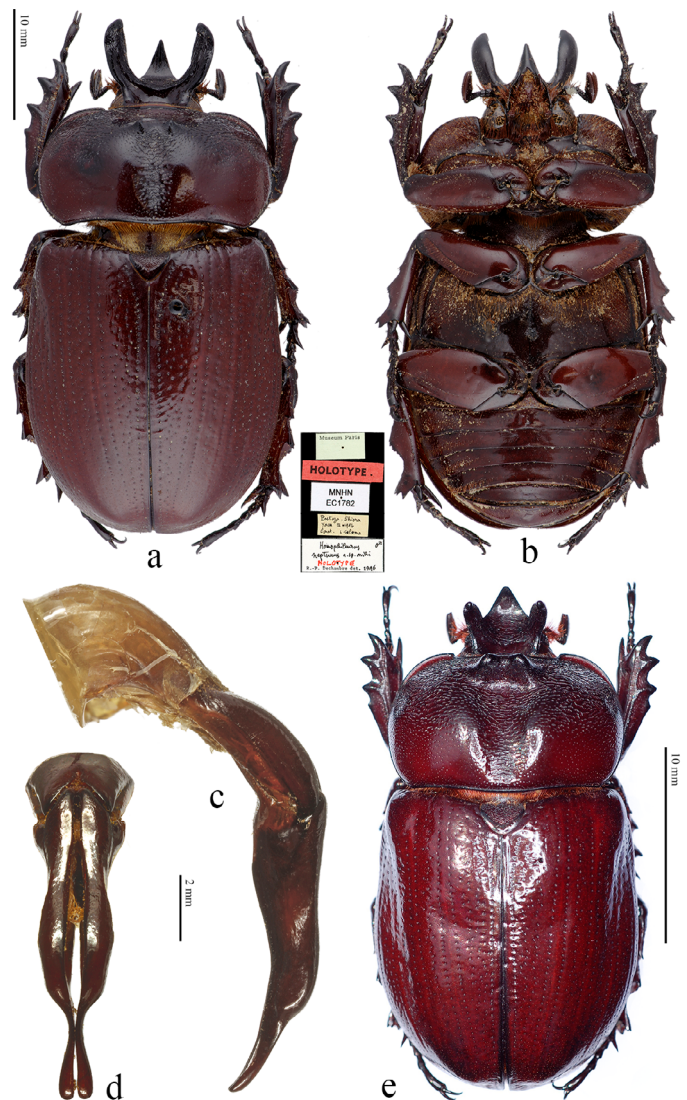


Figure 6. *Homophileurus waldenfelsi* Endrödi, 1978, adult. Male holotype of *Homophileurus neptunus* Dechambre, 1996 (junior synonym of *H. waldenfelsi*) from Ecuador, **a.**, dorsal view; **b.**, ventral view; **c.**, aedeagus in lateral view; **d.**, parameres in dorsal view (photos a–d by MNHN); **e.**, female specimen from Peru, dorsal view (photo by J-P. Saltin).

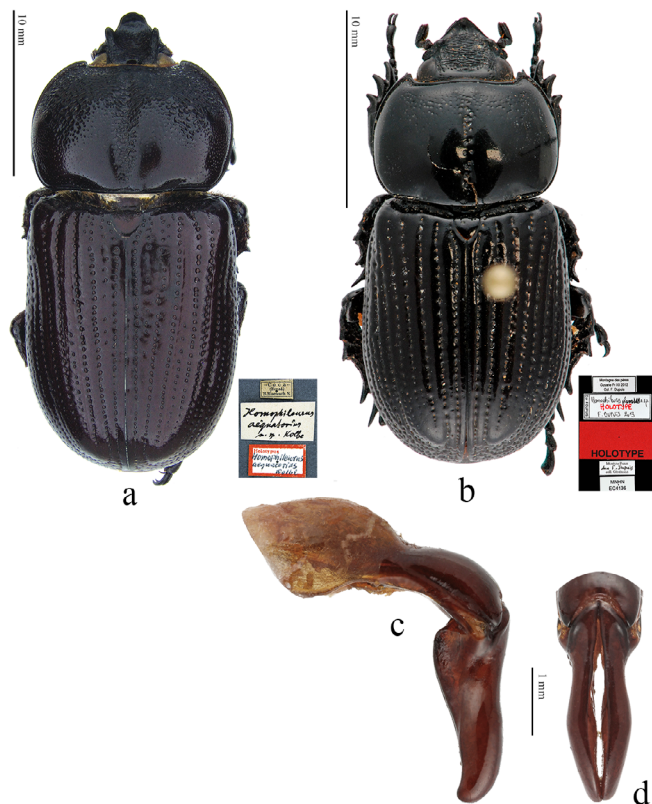


Figure 7. *Homophileurus* species possibly distributed in Colombia. **a.**, *H. aequatorius* Kolbe, 1910, female holotype from Ecuador, dorsal view (photo by MFNB – J. Frisch and J. Willers); **b-d.**, *H. planus* Dupuis, 2013, male holotype from French Guiana, **b.**, dorsal view; **c.**, aedeagus in lateral view; **d.**, parameres in dorsal view (photos by MNHN – Antoine Mantilleri).

Unassociated females or not sexed nor dissected specimens of *H. quadrituberculatus* / *H. tricuspis*

Remarks. Endrödi (1978, 1985) mentioned that specimens of *H. quadrituberculatus* and *H. tricuspis* can be distinguished externally by the size of tubercles located anteriorly at both sides of the longitudinal furrow of pronotum and the distance between them. However, he also mentioned that in small specimens, these differences are imperceptible; a condition we have also observed. A detailed study of the external morphology of these two species is needed to establish their differences, if any, but we were unable to find any. We could only confidently distinguish *H. quadrituberculatus* and *H. tricuspis* based on the shape of parameres, and thus, identify females only when associated with males.

Examined material. COLOMBIA. Bolívar: 1♀, Cantagallo, Centro Recreacional Isla 11, 07°21'44"N 73°55'20"W WGS84, 65 m, captura manual en termitero, 26 Sep 2021,

D. García-Cobos, E. Barona-Cortés (IAvH-E). **Casanare:** 1 unsexed, Yopal, P. Central, 15–17 Nov 1997, J. González (MHN-UPN). **Chocó:** 1♀, Quibdó, Cgto Pacutira, Cacerío, BpT, Bosque entresacado, 05°41'01.61"N 76°35'45.40"W WGS84, 35 m, Trampa de luz UV, 15–21 Jan 2019, J.C. Neita, D. Zuñiga (IAvH-E). **Cundinamarca:** 1♀, Medina, Vda. Periquito, Fca. La Esperanza, Campamento1, Bh-T, 04°30'43.5"N 73°25'12.9"W, WGS84, 648 m, cap. manual, 13–17 Mar 2018, S. Sierra, IAvH-E-204774 (IAvH-E). **Magdalena:** 1♀, PNN Tayrona, Palangana, 11°20'N 74°2'W, 30 m, Malaise, 5–20 Apr 2001, R. Henriquez, IAvH-E-203361 (IAvH-E); 1♀, Santa Marta, Reserva Biológica Caoba, cgto. Bonda, vda. Theran, Bosque intervenido alternohigrico tropical, 11°11'33.4"N 74°03'24.4"W, WGS84, 347 m, Trampa de luz negra, Manual, 4 Jun 2019, J.C. Neita Moreno (IAvH-E). **Meta:** 1 unsexed, Villavicencio, alrededores barrio Catama, 07 Apr 1998, Bosque de Abajam, V.Y. García (MHN-UPN); 1 unsexed, Villavicencio, W Acacias, Estambul Balneario, km 15, 20 Sep 2009, D. Mesa (MHN-UPN). **Santander:** 1♀, Cimitarra, Vda. El Águila, Sect. Caño Dorada, Hda. Lusitania, BhT, cerca a potrero, 06°26'6.55"N 74°7'50.93"W WGS84, 262 m, cap. manual, 07–10 Jul 2018, J.C. Neita, E. Torres, M.I. Castro, IAvH-E-205469 (IAvH-E). **Putumayo:** 1♀, Mochoa, La Reserva, Cap. en pasto, 9 Apr 2014, L. Realpe, E. Bustamante (CEUN).

Homophileurus species with potential distribution in Colombia

Homophileurus aequatorius Kolbe, 1910

Homophileurus aequatorius Kolbe, 1910: 349 (original combination)

Distribution. Ecuador (Ratcliffe et al., 2020).

Remarks. The species is known from just a couple of records in the Ecuadorian Amazonia (Ratcliffe et al., 2020), one locality is especially close to the Colombian department of Caquetá; therefore, its presence in Colombia is plausible.

Homophileurus planus Dupuis, 2013

Homophileurus planus Dupuis, 2013: 82 (original combination)

Distribution. Ecuador, Peru, and French Guiana (Dupuis & Perrin, 2020; Ratcliffe et al., 2020, 2025).

Remarks. The species was described from French Guiana (Dupuis, 2013), and was recently recorded in the Ecuadorian Amazonia (Ratcliffe et al., 2020); therefore, its presence in Colombia is also feasible.

Key to the species of *Homophileurus* known from and likely to occur in Colombia

1. Clypeus with apex rounded (Figs. 2a, 3a, e, 4a, 5a, 7a, b). Pronotal marginal bead incomplete posteriorly in the middle (Figs. 2a, 3a, e, 4a, 5a, 7a, b). Female not evidently different from male 2
 - 1'. Clypeus with apex strongly acuminate and long (Fig. 6a). Pronotal marginal bead complete posteriorly (Fig. 6a). Female differing from male, particularly by the presence of a strong medial transverse tubercle on the anterior pronotum (Fig. 6e) *H. waldenfelsi*
2. Frons with the triangular tubercle located over the base of each ocular canthus small, barely evident (Figs. 2a, 7b). Pronotum with the surface of the anterior declivity smooth (Figs. 2a, 7b) 3
 - 2'. Frons with the triangular tubercle located over the base of each ocular canthus relatively long and evident (Figs. 3a, e, 4a, 5a). Pronotum with the surface of the anterior declivity similarly punctuated as medial longitudinal furrow (Figs. 3a, e, 4a, 5a) 4
3. Clypeus with the entire anterior margin directed upwards (Fig. 2a). Pronotum with a strong declivity anteriorly (Fig. 2a) *H. amazonicus*
 - 3'. Clypeus only with the apex directed upwards (Fig. 7b). Pronotum nearly evenly convex, with an almost imperceptible declivity anteriorly (Fig. 7b) ... *H. planus*
4. Pronotum anteriorly with two tubercles on each side of the medial longitudinal furrow (Figs. 4a, 5a) 5
 - 4'. Pronotum anteriorly weakly tumescent on each side of the medial longitudinal furrow (Figs. 3a, e, 7a) 6
5. Each paramere with the inner margin straight (Fig. 4d) *H. quadrituberculatus*
 - 5'. Each paramere with the inner margin strongly indented at the apical fourth (Fig. 5d) *H. tricuspis*

6. Apex of clypeus wide, around three times the width of one frontal tubercle (Fig. 7a) *H. aequatorius*
- 6'. Apex of clypeus narrow, similarly of the same width of one frontal tubercle (Fig. 3a, e) *H. integer*

DISCUSSION

Homophileurus has relatively few species compared with other Phileurini genera, and its distribution is restricted to Central and South America. In Colombia, the five recorded species occur in the Cis-Andean region, specifically in Amazonia and Orinoquia (Fig. 8), as well as two additional species that likely also occur in the country and are currently known from the Ecuadorian Amazonia. In this context, only *H. quadrituberculatus* and *H. tricuspis* are also known from the Trans-Andean region of Colombia (Fig. 8).

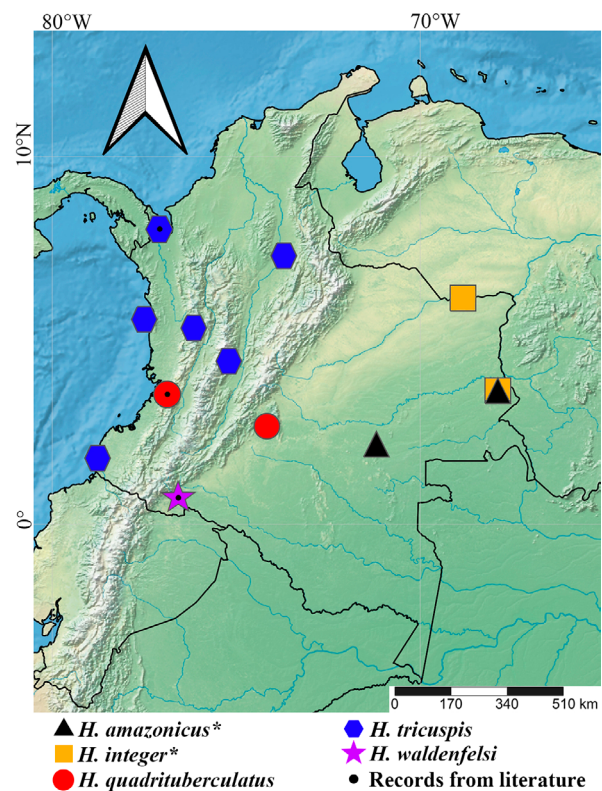


Figure 8. Distribution map of *Homophileurus* species from Colombia. Black dots within symbols indicate that these were obtained from literature. New country records are marked by an asterisk.

Most records from Colombia come from forests, but also from contiguous plantations and grasslands. Low elevation appears to be the most notable pattern in the distribu-

tion of the genus in the country, with all species recorded below 500 masl (Fig. 8).

Finally, the study of the type material, specimens from Colombian collections, and the available literature indicates that taxonomic issues involving *H. integer*, *H. quadrituberculatus* and *H. tricusps* remain unresolved. Further studies are required to clarify species and generic limits and to establish clear diagnostic characters.

AUTHORS CONTRIBUTION

JCB: Conception and design, identification, material and data curation, photographs, and writing; RAFM: Design, material and data curation, photographs, and writing; JSDC: Conception, material and data curation, and writing; PCG: Data curation, and writing review; JCNM: Conception and design, data curation, and writing review.

ACKNOWLEDGMENTS

We are in debt to Antoine Mantilleri (MNHN), J. Frisch and J. Willers (MFNB) for taking the photos of the type specimens used in this publication, as well as to J-P. Saltin for providing the pictures of the female of *H. waldenfelsi*. JCB thanks the Centro de colecciones y gestión de especies, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (Colombia), for granting access to the entomological collection and allowing the use of photographic equipment. RAFM thanks CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - process number CAPES/Proex 88887.333488/2019-00) for financial support. PCG thanks CNPq, process number 312917/2022-8 and FACEPE, process number APQ-2076-2.04/24. JCNM was partially supported by the Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. PCG, RAFM and JSDC thank the Instituto Nacional de Coleoptera (INCol) an INCT (National Institute of Science and Technology) by Brazil's National Council for Scientific and Technological Development (CNPq) (408430/2024-9).

REFERENCES

- Burmeister, H. C. C. (1847). *Handbuch der Entomologie*. (Coleoptera, Lamellicornia Xylophila et Pectinicornia), (Vol. 5).
- Castelnau, F., & Brullé, P. (1840). *Histoire Naturelle des Insectes, coléoptères* (Vol. 1). Société Bibliophile.
- Costa, C., Vanin, A. S., & Casari-Chen, S. A. (1988). *Larvas de Coleoptera do Brasil*. Museu de Zoologia, Universidade de São Paulo.
- Dechambre, R-P. (1996). Deux nouvelles espèces de Phileurinae Sud-Américaines (Coleoptera, Dynastidae). *Revue Française d'Entomologie*, 18(3), 91-93.
- Dupuis, F. (2013). Une nouvelle espèce de *Homophileurus* Kolbe, 1910. *Coléoptères*, 19(9), 81-87.
- Dupuis, F., & Perrin, R. (2020). *Les Coléoptères Dynastidae de Guyane*. *Coleoptera, Scarabaeoidea* (Vol. 81). Publications scientifiques du Muséum national d'Histoire naturelle.
- Endrödi, S. (1978). Monographie der Dynastinae 8. Tribus: Phileurini, amerikanische Arten I. (Coleoptera). *Folia Entomologica Hungarica*, 301, 7-45.
- Endrödi, S. (1985). *The Dynastinae of the World*. Dr. W. Junk Publisher.
- Kolbe, H. (1910). Ueber die Phileurinen Amerikas. *Annales de la Société entomologique de Belgique*, 54, 330-354.
- Neita Moreno, J. C., & Ratcliffe, B. C. (2010). A new species of *Hemiphileurus* Kolbe (Coleoptera: Scarabaeidae: Dynastinae: Phileurini) from Colombia, with description of its larva and pupa. *The Coleopterists Bulletin*, 64(4), 347-355. <https://doi.org/10.1649/0010-065X-64.4.347>
- Neita Moreno, J. C., & Ratcliffe, B. C. (2011). Immature stages of *Homophileurus tricusps* Prell (Coleoptera: Scarabaeidae: Dynastinae: Phileurini) with notes on natural history and distribution in Colombia. *Zootaxa*, 2915(1), 20-28. <https://doi.org/10.11646/zootaxa.2915.1.2>
- Neita Moreno, J. C., & Ratcliffe, B. C. (2017). A new South American species of *Palaeophileurus* Kolbe (Coleoptera: Scarabaeidae: Dynastinae: Phileurini). *Zootaxa*, 4286(4), 515-524. <https://doi.org/10.11646/zootaxa.4286.4.4>
- Ohaus, F. (1910). Neue südamerikanische Dynastiden (Col.). *Deutsche Entomologische Zeitschrift*, 1910,(6), 671-690.
- Palisot de Beauvois, A. M. F. J. (1806). *Insectes recueillis en Afrique et en Amérique. Dans les royaumes d'Oware et de Benin, à Saint-Dominique et dans les Etats-Unis, pendant les années 1786-1797*. Imprimerie de Fain et Compagnie.
- Perty, M. (1830). *Delectus animalium articulorum. Quae in itinere per Brasilian annis MDCCCXVII-MDCCCXX jussu et auspiciis Maximiliani Josephi I. Bavariae Regis Augustissimi*. Impensis Editoris.
- Prell, H. (1914). Beiträge zur Kenntnis der Dynastinen X (Col.). *Entomologische Mitteilungen*, 3, 197-226. <https://doi.org/10.5962/bhl.part.5084>
- Ratcliffe, B. C. (2003). *The dynastine scarab beetles of Costa Rica and Panama* (Coleoptera: Scarabaeidae: Dynastinae) (Vol. 16). University of Nebraska State Museum.
- Ratcliffe, B. C., & Cave, R. D. (2006). *The dynastine scarab beetles of Honduras, Nicaragua, and El Salvador* (Vol. 21). University of Nebraska State Museum.

- Ratcliffe, B. C., & Cave, R. D. (2015). *The dynastine scarab beetles of the West Indies* (Vol. 28). University of Nebraska State Museum.
- Ratcliffe, B. C., & Cave, R. D. (2023). A synopsis of the New World genera of Phileurini (Coleoptera: Scarabaeidae: Dynastinae), with English and Spanish keys to the genera. *Caldasia*, 45(3), 491-509. <https://doi.org/10.15446/caldasia.v45n3.104105>
- Ratcliffe, B. C., Cave, R. D., Giraldo Mendoza, A. E., Figueroa, L., & López-García, M. M. (2025). *The Dynastinae Scarab Beetles of Peru* (Vol. 35). University of Nebraska State Museum.
- Ratcliffe, B. C., Cave, R. D., & Paucar-Cabrera, A. (2020). *The Dynastine Scarab beetles of Ecuador* (Vol. 32). University of Nebraska State Museum.
- Ratcliffe, B. C., Cave, R. D., & LeTirant, S. (2023). *The Dynastine Scarab beetles of Argentina, Paraguay, and Uruguay* (Vol. 34). University of Nebraska State Museum.
- Ratcliffe, B. C., & Saltin, J.-P. (2010). *Homophileurus neptunus* Dechambre, a new junior synonym of *H. waldenfelsi* Endrödi (Coleoptera: Scarabaeidae: Dynastinae: Phileurini). *Insecta Mundi*, 146, 1–5.
- Ratcliffe, B. C., & Skelley, P. E. (2011). Description of the larva of *Homophileurus integer* (Burmeister, 1847) (Coleoptera: Scarabaeidae: Dynastinae: Phileurini), with notes on biology and a key to the known larvae of the New World Phileurini. *The Coleopterists Bulletin*, 65(3), 297–304. <https://doi.org/10.1649/072.065.0311>
- Shorthouse, D. P. (2010). SimpleMappr [Software]. <http://www.simplemappr.net>