



The genus *Pseudomeloe* in Peru: Solving taxonomic status of *Pseudomeloe homonyma* Blackwelder, 1945 and redescription of *Pseudomeloe cockerelli* Escomel, 1926 (Coleoptera: Meloidae: Meloinae)

El género *Pseudomeloe* en Perú: Resolviendo el estatus taxonómico de *Pseudomeloe homonyma* Blackwelder, 1945 y redescipción de *Pseudomeloe cockerelli* Escomel, 1926 (Coleoptera: Meloidae: Meloinae)

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<https://zoobank.org/References/48494BD7-DB1F-42D9-8BB2-64172D7D59B7>

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Abstract.- The neotropical genus *Pseudomeloe* Fairmaire & Germain, 1863 comprises 44 species, of which 19 have been recorded in Peru until now. *Pseudomeloe homonyma* Blackwelder, 1945 proposed as a replacement name for *Pseudomeloe andensis* Escomel, 1916, is herein considered a *nomen nudum*, as Escomel's publications contained no explicit description associated with that name. *Pseudomeloe cockerelli* Escomel, 1926 is redescribed, and a neotype is designated to ensure nomenclatural stability.

Key words. Blister beetles. neotropical region. neotype designation. pyrotini. taxonomy.

Resumen.- El género neotropical *Pseudomeloe* Fairmaire & Germain, 1863, comprende 44 especies, de las cuales 19 han sido registradas en Perú hasta la fecha. *Pseudomeloe homonyma* Blackwelder, 1945, propuesta como nombre de reemplazo para *Pseudomeloe andensis* Escomel, 1916, es considerada aquí como *nomen nudum*, ya que las publicaciones de Escomel no contenían ninguna descripción explícita asociada a este nombre. *Pseudomeloe cockerelli* Escomel, 1926 es redescrita y se designa como neotipo para garantizar la estabilidad nomenclatural.

Palabras clave: Designación neotipo. escarabajos vesicantes. pyrotini. región Neotropical. taxonomía.

The genus *Pseudomeloe* Fairmaire & Germain, 1863 (Meloidae: Pyrotini) is endemic to South America and is primarily distributed in Argentina, Bolivia, Chile, Ecuador and Peru, although it has also been recorded from Brazil, Colombia and Uruguay (Pinto & Bologna, 1999; Safenraiter *et al.*, 2019; Campos-Soldini *et al.*, 2026). The genus currently comprises 44 species taking into account the most recent review (Safenraiter *et al.*, 2019), and subsequent studies on Chilean representatives that resulted in revalidation of *Pseudomeloe picipes* (Fairmaire & Germain, 1860) (Cid-Arcos & Ramírez-Cuadros, 2021), as well as the descriptions of *Pseudomeloe flavotibialis* Cid & Ramírez, 2022 and *Pseudomeloe maculivertex* Ramírez, Cid & Bologna, 2025.

Despite its diversity, *Pseudomeloe* remains in need of a comprehensive taxonomic revision.

Several species remains undescribed, immature stages are largely unknown, and the life cycles are poorly documented (Pinto & Bologna, 1999; Campos-Soldini *et al.*, 2026).

In Peru, the systematics, bionomics and potential medical applications of *Pseudomeloe* species were first investigated in the pioneering works of Denier (1911), Escomel (1916, 1917, 1919, 1923, 1926) and Escomel & Maldonado (1921). Indeed, Edmundo Escomel was the most prolific researcher of the genus during the first half of the twentieth century. However, his species descriptions were generally brief and lacked information on the numbers and deposition of type specimens.

Subsequently, in the second half of the twentieth century, studies on Peruvian Meloidae by Borchmann (1952) and Kaszab (1960) included



the description of *Pseudomeloe titschacki* Borchmann, 1952 as well as distribution records for five previously known *Pseudomeloe* species. The checklist by Pinto & Bologna (2016) recorded 16 species of *Pseudomeloe* from Peru whereas Safenraiter *et al.* (2019) added three additional species based on specimens examined in Argentinean and Chilean collections. Consequently, a total of 19 species of *Pseudomeloe* have been recorded from Peru, eight of which are currently regarded as endemic.

The present study contributes to the knowledge of the genus *Pseudomeloe* in Peru by assessing the taxonomic status of *Pseudomeloe homonyma* Blackwelder, 1945, and providing the redescription of *Pseudomeloe cockerelli* Escomel, 1926.

Material and methods

The taxonomic placement of the specimens was determined based on the original description (Escomel, 1926). Because Edmundo Escomel maintained a scientific collaboration with E. L. Bouvier and M. Denier (Escomel, 1916, 1923, 1926), both of whom were working at the MNHN at that time, it was considered possible that he had deposited some of his type specimens in that institution. But this possibility was discarded in request to current curator (A. Mantilleri personal communication on March 29, 2023).

Edmundo Escomel also maintained a natural history collection at the Universidad Nacional de San Agustín de Arequipa, but it deteriorated severely in the years following his death. According to the current curator of the MUSA collection, none of Escomel's type specimens are currently housed there and they must therefore be regarded as lost (J. Cerdeña personal communication on January 6, 2026).

The redescription of *P. cockerelli* included the characters reported in the original description and incorporates additional diagnostic features used in recent species descriptions (Cid-Arcos & Ramírez-Cuadros, 2022; Ramírez-Cuadros

et al., 2025). Because the type specimens of *P. cockerelli* are considered lost, the neotype is designated herein to ensure nomenclatural stability. The neotype was labeled with red card. Specimens were photographed with a Canon EOS Rebel T5i DSLR camera fitted with macro lens. Photographs were processed using Combine ZP (Hadley, 2006) and further editing with graphic design software. The distribution map was generated using Simple Mappr (Shorthouse, 2010).

Abbreviations for specimen depositories:

MEKRB: Museo de Entomología Klaus Raven Büller, Universidad Nacional Agraria La Molina, Lima, Perú (Clorinda Vergara).

MNHN: Muséum national d'Histoire naturelle, Paris, France (Antoine Mantilleri).

MUSA: Museo de Historia Natural, Universidad Nacional de San Agustín de Arequipa, Arequipa, Perú (José Cerdeña).

MUSM: Museo de Historia Natural Javier Prado, Universidad Nacional Mayor de San Marcos, Lima, Perú (Mabel Alvarado).

Results, discussion and conclusions

Pseudomeloe homonyma Blackwelder, 1945

= *Pseudomeloe andensis*: Escomel, 1916:4 (nec *Meloe andensis* Guérin-Méneville, 1842); Blackwelder, 1945:488 (Cat); Pinto & Bologna, 2016:206; Safenraiter, *et al.* 2019:106; Campos-Soldini *et al.*, 2026: 50.

= *Pseudomeloe homonyma*: Blackwelder, 1945:488 (Cat.); Pinto & Bologna, 2016:206; Safenraiter, *et al.* 2019:106, 112; Campos-Soldini *et al.*, 2026: 50.

Type locality: Andes (Escomel, 1916), transla-

tion to Spanish from the phrase in French “Hab. le sommet des Andes” (Guérin-Méneville, 1842).

Explanation note: The replacement name *P. homonyma* was proposed by Blackwelder to resolve an alleged homonymy between *Pseudomeloe andensis* (Guérin-Méneville, 1842) and *Pseudomeloe andensis* Escomel, 1916. Examination of Escomel’s work, however, reveals that no such homonymy exists. In Escomel (1916), the name *P. andensis* is mentioned three times: the author citation is omitted in the first two occurrences (pp. 3, 4), whereas Guérin-Méneville

is explicitly credited in the third (p. 6). Escomel did not provide a description of a new species with name “andensis”, but merely reproduced Guérin-Méneville original description verbatim. In Escomel & Maldonado (1921), the name *P. andensis* was mentioned twice (pp. 171-172) without author citation and accompanied by a question mark. The name was subsequently cited again by Escomel (1925, 1926) and correctly attributed to Guérin-Méneville on pages 616 and 198, respectively. Thus, although Escomel referred to *P. andensis* on several occasions and sometimes omitted the author citation, he con-

Table 1. Updated list of species of the genus *Pseudomeloe* present in Peru and their South American distribution.

	Species	Synonymy – distribution records
1	<i>Pseudomeloe andensis</i> (Guérin-Méneville, 1842)	Argentina, Bolivia, Chile, Peru (Moquegua, Puno)
2	<i>Pseudomeloe baeri</i> Fairmaire, 1903	Argentina, Bolivia, Peru (Lima)
3	<i>Pseudomeloe cockerelli</i> Escomel, 1926	Peru (Arequipa) ENDEMIC
4	<i>Pseudomeloe collegialis</i> (Audouin, 1835)	= <i>Meloe sexguttatus</i> Sharp, 1891 Ecuador, Peru (Cajamarca)
5	<i>Pseudomeloe denieri</i> Escomel, 1923	Peru ENDEMIC
6	<i>Pseudomeloe escomeli</i> Denier, 1911	Peru (Arequipa) ENDEMIC
7	<i>Pseudomeloe espostoi</i> Escomel, 1917	Bolivia, Peru (Arequipa, Cusco, Junin)
8	<i>Pseudomeloe haemopterus</i> (Philippi & Philippi, 1864)	Argentina, Chile, Peru (Cusco)
9	<i>Pseudomeloe humeralis</i> (Guérin-Méneville, 1842)	Peru (Arequipa, Cusco) ENDEMIC
10	<i>Pseudomeloe hunteri</i> Escomel, 1916	Peru (Arequipa, Ica) ENDEMIC
11	<i>Pseudomeloe larroussei</i> Denier, 1921	Argentina, Bolivia, Peru (Puno)
12	<i>Pseudomeloe mineaceomaculatus</i> (Blanchard, 1843)	= <i>Pseudomeloe sublaevis</i> Fairmaire, 1903 Argentina, Bolivia, Peru (Pasco)
13	<i>Pseudomeloe pustulatus</i> (Erichson, 1847)	= <i>Pseudomeloe maldonadoi</i> Escomel, 1923 Argentina, Bolivia, Brasil, Peru (Lima)
14	<i>Pseudomeloe rotundicollis</i> Denier, 1934	Argentina, Bolivia, Peru (Arequipa)
15	<i>Pseudomeloe roubaudi</i> Escomel, 1923	Peru (Arequipa) ENDEMIC
16	<i>Pseudomeloe stenopterus</i> (Erichson, 1847)	= <i>Pseudomeloe sulcifrons</i> Fairmaire, 1903 = <i>Pseudomeloe perrieri</i> Escomel, 1923 Argentina, Bolivia, Peru (Ayacucho, La Libertad, Puno)
17	<i>Pseudomeloe titschacki</i> Borchmann, 1952	Peru (Ayacucho) ENDEMIC
18	<i>Pseudomeloe unicolor</i> Borchmann, 1930	Argentina, Bolivia, Peru (Pasco)

sistently treated it as a previously described species. Furthermore, Denier (1935) in his review of synonymies among New World Meloidae, did not mention any homonymy involving the genus *Pseudomeloe*. Cid-Arcos & Ramírez-Cuadros (2018) suggested that Escomel (1923) misidentified *P. andensis*, attributing to it characters inconsistent with its original description. However, this hypothesis cannot be tested because the specimens examined by Escomel are presumed lost. In any event, Escomel never proposed *andensis* as a distinct new species. Accordingly, *P. homonyma* is here regarded as a *nomen nudum* and should be excluded from future studies of genus *Pseudomeloe* (Table 1).

***Pseudomeloe cockerelli* Escomel, 1926**

(figs. 1-5)

= *Pseudomeloe cockerelli* Escomel, 1926:199; Denier, 1935:173 (Cat.); Blackwelder, 1945:488 (Cat); Pinto & Bologna, 2016:206 (Cat.); Safenraiter, *et al.*, 2019: 104, 112 (Cat.); Campos-Soldini *et al.*, 2026: 50.

Type locality: Yura - Arequipa - Peru.

Type material: 1♂ [PERU. Arequipa, Caylloma/Majes, Huacán, desierto/ 16°05'38"S 72°17'38"W/1520 m J. Ugarte III-2019] [NEOTYPUS ♂/*Pseudomeloe cockerelli*/Escomel, 1926/Det. A. Giraldo 2026] (MEKRB).

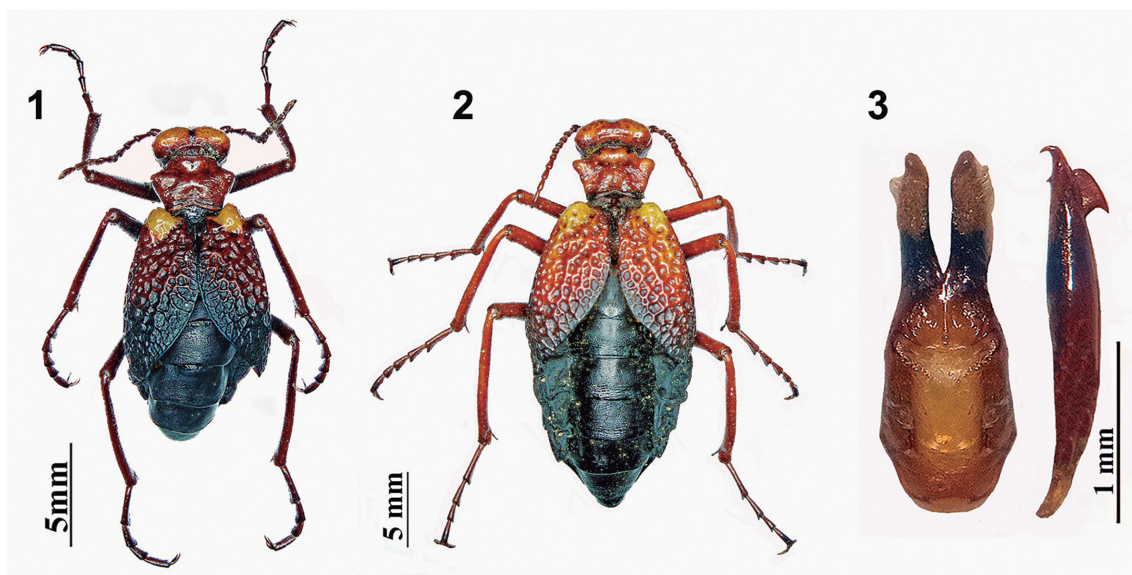
Material examined: PERÚ: Arequipa, Arequipa, 06-VIII-1999, R. Bedregal/ 1 (MEKRB), Tiabaya, Quebradita, 16°28'53"S 71°36'02"W, 2500 m, 22-III-2017, C. Bravo / 1 (MUSM), Yarabamba, 16°28'53.12"S 71°37'42.79"W, 2318 m, matorral, pitfall traps, 08-V-2015, J. Ugarte / 1 (MEKRB), 6 (MUSM), 15-VI-2015, J. Ugarte / 1 (MEKRB), 13 (MUSM), Yarabamba, Siete Vueltas, 16°32'31"S 71°32'13"W, 2503 m, 30-III-2017, C. Bravo / 2 (MUSM), Yura, 16°14'52.8"S 71°40'37.2"W, 2635 m, 27-II-2022, A. Giraldo / 1 (MEKRB), Caylloma, Lluta, 16°02'02.68"S 72°13'48.47"W, 2960 m, matorral-cardonal, pitfall traps, 13-IV-2015, J. Ugarte / 1 (MEKRB), 8 (MUSM), Majes,

Huacán, desierto, 16°05'38"S 72°17'38"W, 1520 m, III-2019, J. Ugarte / 4 (MEKRB).

Redescription (figs. 1-2): Length: 11.5-15.0 mm, mean = 13.8 mm (males), 16.0-25.0 mm, mean = 18.1 mm (females). Coloration red on clypeus, vertex, temples, pronotum, basal half of elytra, apical third of femora, tibiae, tarsi and claws; black on labrum, palpi, ocular and interocular spots, post occiput, scutellum, apical half of elytra, abdominal tergites, venter and basal two thirds of femora; yellow on humeri; grey on abdominal pleura.

Head. Trapezoidal, flattened, with rounded angles. Labrum transverse and sub-cordiform, setigerous punctures moderately dense and middle sized, setae short and black; anterior border emarginated with dense, short brown setae; labro-clypeal suture well distinct. Clypeus sub-rectangular, sides rounded with short black setae; fronto-clypeal suture well visible. Frons almost bilobed, with a longitudinal depression from the interocular area to the vertex; interocular area rugose. Vertex with wide, deep and moderately dense punctures. Temples widely rounded posteriorly. Eyes anteriorly emarginated. Antennae just reaching the humeri; antennomeres with short setae, progressively denser on distal antennomeres; antennomere I longer than wide, tapered at basal third and widened on the distal two-thirds, rounded at apex; II wider than long, sub-annular, the shortest; III-X sub-cylindrical, wider apically, slightly decreasing in length; XI subconical, about as long as I. Maxillary and labial palpi robust and compressed, with apical palpomere truncated and drop-shaped; mandibles robust and pointed. Post occiput width subequal to half the width of the basal margin of head, punctures finer and denser than on vertex, setae on lateral sides short and brown.

Pronotum. Hexagonal, transverse, one and a half times as wide as long (width/length = 1.5), maximum width on middle third, with protuberant lateral angles; dorsal surface convex, with a middle longitudinal furrow slightly visible; apical third with a transversal deep furrow, middle



Figures 1-3. *Pseudomeloe cockerelli* Escomel, 1926. **1-2)** Dorsal habitus. **1)** Male (MEKRB neotype). **2)** Female (MEKRB specimen). **3)** Male genitalia, tegmen and aedeagus in ventral and lateral view respectively.

third with fovea at both sides, basal third with a transversal shallow furrow; anterior, posterior and basal two thirds of lateral borders margined, apical third of lateral borders unmargined; punctures scarce and sparse, more evident adjacent to anterior border. Prosternum transverse, distinctly wider than long, convex, with sparse setigerous punctures, short black setae; prosternal extension, blade shaped, laterally compressed, slightly projecting to procoxae. Mesonotum visible, smooth on apical and middle areas, with dense punctures on lateral and basal areas; scutellum not visible, covered by elytra.

Legs. Coxae visible, longer than wide, setigerous punctures scarce, apical margin distinctly emarginate, apico-lateral margins distinctly projecting; trochanters with dense setigerous punctures, black setae; femora with dense setigerous punctures, short and spiniform setae; tibiae with scarce setigerous punctures, short and robust spiniform setae; metatibial spurs pointed, internal longer than external, brown, lighter apically; protarsomeres I and V longer than others, subequal in length, II-IV decreasing in length, IV shortest; mesotarsomere I longest, almost as long as II-IV together, IV shortest, V

as long as II; metatarsomere I longest, II similar in size to IV, III shortest. Claws with two smooth blades, brown, ventral blade shorter and finer than dorsal one.

Elytra. Elongate, reaching middle length of elytra at level of third abdominal tergite; external margin sinuate; internal margin straight in the basal half, oblique dehiscent in the apical half; humeri rounded, bulging; surface rugose, with a net of anastomosed veins forming wide and deep marked alveoli.

Abdomen with sclerotized tergites, coriaceous; four basal tergites sub-rectangular, rounded on margins; two apical tergites sub-trapezoidal; pleura surrounding the tergites laterally.

Male genitalia in ventral view with gonocoxal plate as long as wide, basally rectangular; membrane between gonocoxal plate and gonoforceps subtriangular, distinctly wider than long; gonoforceps narrower and longer than gonocoxal plate, with apex rounded and separated by a middle longitudinal v-shaped notch subparallel in the basal two thirds, slightly diverging in the apical third. Each gonoforceps with a wide, oval, shallow depression on the apical third, with fine

whitish micro-setae. Aedeagus in lateral view narrow and curved at base, maximal width on the middle third; two distal hooks, the distal one longer and slightly curved, the proximal one very short and acutely pointed; one great endophallic hook, triangular, pointed at apex, distinctly longer than wide, laterally convex and basally concave (fig. 3).

Variation: Coloration varies among the examined specimens, without recognizable patterns of geographical distribution. Black markings on the head and pronotum differ in number and extent; in some individuals, the antennae, most of femora, and tarsi are yellow, whereas in other the abdominal pleura are black. Approximately one-third of specimens exhibit elytra extending beyond the middle of the abdomen, reaching the level of tergite IV. In these specimens, the inner margin of the left elytron

is curved and overlaps the basal half of the right elytron (fig. 4).

Comparative diagnosis: The body coloration pattern of *P. cockerelli* readily distinguishes it from other Peruvian *Pseudomeloe* species, which are predominantly black and bear conspicuous orange, red or yellow colors confined to pronotum, elytra or abdomen, as seen in *P. escomeli* Denier, 1911, *P. espostoi* Escomel, 1917, *P. rotundicollis* Denier, 1934 and *P. roubaudi* Escomel, 1923 previously recorded in Arequipa. Two other species also recorded in Arequipa, *P. humeralis* (Guérin-Ménéville, 1842) and *P. hunteri* Escomel, 1916, have predominantly yellow dorsal coloration.

Male genitalia are unknown for most species of *Pseudomeloe* and have been described only for the Chilean species *P. flavotibialis* and *P. maculivertex* (Cid-Arcos & Ramírez-Cuadros,



Figure 4. *Pseudomeloe cockerelli* Escomel, 1926. Male and female specimens illustrating intraspecific variation.

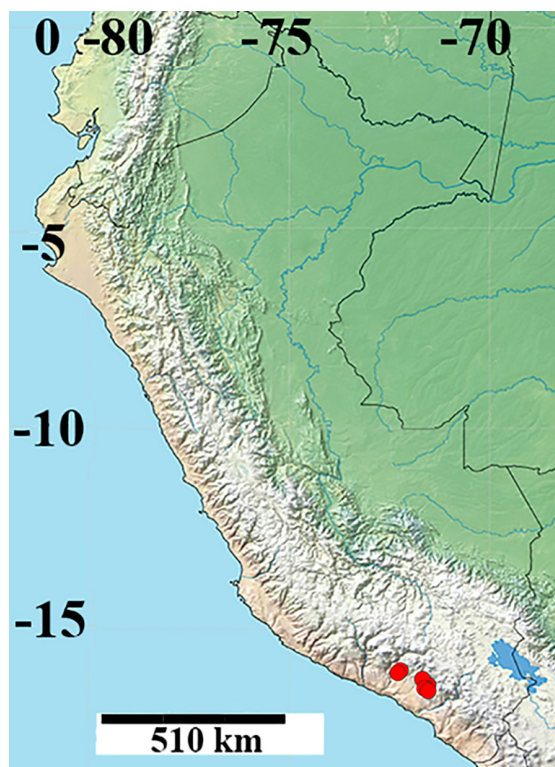


Figure 5. *Pseudomeloe cockerelli* Escomel, 1926. Distribution map.

2022, figs. 9-11; Ramírez-Cuadros *et al.*, 2025, figs. 10-12). In this regard, morphology of overall aedeagus, two distal hooks and endophallic hook observed in *P. cockerelli* are very different from curved aedeagus, single distal hook and endophallic hook laterally straight observed in those species.

Distribution: Arequipa, Arequipa and Caylloma provinces, from 2300 to 2900 m (fig. 5). The species inhabits cactus-scrub mixed vegetation in western Andean range of southern Peru.

Biology: The first known specimens were collected on leaves of *Coldenia parviflora* Phil. (Escomel, 1926). No further host-plant record are available from the label data of the examined specimens.

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