

Research Article

Southern South American Trogidae (Coleoptera): verification of type specimens and notes on geographic distribution

Trogidae (Coleoptera) del sur de Sudamérica: verificación de los especímenes tipo y notas sobre distribución geográfica

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Abstract. The type specimens of 12 species and junior synonyms of Trogidae (Coleoptera: Scarabaeoidea) from southern South America were examined. Lectotypes are designated for the following names in order to further stabilize the nomenclature of the group: *Trox aeger* Guérin-Méneville, 1830 (now *Polynoncus aeger*); *Trox brevicollis* Eschscholtz, 1822 (now *Polynoncus brevicollis*); *Trox bullatus* Curtis, 1844 (now *Polynoncus bullatus*); *Trox chilensis* Harold, 1872 (now *Polynoncus chilensis*); *Trox ciliatus* Blanchard, 1847 (now *Omorgus ciliatus*); *Trox lacrymosus* Curtis, 1844 (now a junior synonym of *Polynoncus brevicollis*); *Trox pastillarius* Blanchard, 1847 (now *Omorgus pastillarius*); *Trox patagonicus* Blanchard, 1847 (now *Polynoncus patagonicus*); *Trox pilularius* Germar, 1824 (now *Polynoncus pilularius*); and *Trox trisulcatus* Curtis, 1844 (now a junior synonym of *Trox scaber* (Linnaeus, 1767)). The name *Polynoncus gemmiferus* (Blanchard, 1847) is used as a valid name for the species formerly called *Polynoncus guttifer* (Harold, 1868) in order to correct a complicated nomenclatural problem. The geographic distribution is discussed for all species of Trogidae that occur in southern South America. Some new regional and provincial records are added for Chile and Argentina and some erroneous records from previous literature are discussed.

Key words. Argentina, Chile, lectotype, Neotropics, Omorginae.

Resumen. Se examinaron los especímenes tipo de 12 especies y sinónimos menores de Trogidae (Coleoptera: Scarabaeoidea) del sur de Sudamérica. Lectotipos son designados para los siguientes nombres con el fin de estabilizar aún más la nomenclatura del grupo: *Trox aeger* Guérin-Méneville, 1830 (ahora *Polynoncus aeger*); *Trox brevicollis* Eschscholtz, 1822 (ahora *Polynoncus brevicollis*); *Trox bullatus* Curtis, 1844 (ahora *Polynoncus bullatus*); *Trox chilensis* Harold, 1872 (ahora *Polynoncus chilensis*); *Trox ciliatus* Blanchard, 1847 (ahora *Omorgus ciliatus*); *Trox lacrymosus* Curtis, 1844 (ahora sinónimo menor de *Polynoncus brevicollis*); *Trox pastillarius* Blanchard, 1847 (ahora *Omorgus pastillarius*); *Trox patagonicus* Blanchard, 1847 (ahora *Polynoncus patagonicus*); *Trox pilularius* Germar, 1824 (ahora *Polynoncus pilularius*); y *Trox trisulcatus* Curtis, 1844 (ahora sinónimo menor de *Trox scaber* (Linnaeus, 1767)). El nombre *Polynoncus gemmiferus* (Blanchard, 1847) es usado como nombre válido para la especie *Polynoncus guttifer* (Harold, 1868) con el fin de corregir un problema nomenclatural complicado. Se discute la distribución geográfica para todas las especies de Trogidae que habitan en el sur de Sudamérica. Además se agregan nuevos registros regionales y provinciales para Chile y Argentina y se discuten algunos registros erróneos mencionados en la literatura.

Palabras clave. Argentina, Chile, lectotipo, Neotropical, Omorginae.

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Introduction

The Trogidae (Coleoptera: Scarabaeoidea) of southern South America are relatively well known thanks to the publication of three separate taxonomic reviews and identification guides (Vaurie 1962; Scholtz 1990; Diéguez 2008). One gap in the previous publications that needs to be addressed is the examination of 19th-century type series to confirm that they match the modern concepts of the species. The purpose of this paper is to verify that current species concepts are congruent with the type specimens for 12 southern South American Trogidae species and junior synonyms. Lectotypes are designated for 10 names in order to stabilize the nomenclature by selecting a single specimen as the name bearing type. Supplemental distributional data are also given for species of southern South American Trogidae to enhance the information published in Vaurie (1962), Scholtz (1990), and Diéguez (2008).

During the process of studying and verifying these type specimens, it was necessary to piece together collecting details using the scientific literature, specimen labels, and Alcides Dessalines D'Orbigny's original handwritten collection catalog (which is housed in the entomology library at the Muséum National d'Histoire Naturelle, Paris, France). Blanchard (1847) described species collected by D'Orbigny from the area around the mouth of Río Negro in Buenos Aires and Río Negro provinces of Argentina. According to Papavero (1971), D'Orbigny arrived in Carmen de Patagones (Buenos Aires) on 7 January 1829 and departed on 1 September 1829. During this time he went on an excursion to Bahía de San Blas and extensively explored the intervening areas. On 18 February 1829, D'Orbigny crossed to the opposite bank of the Río Negro to the village of Patagones (now known as Viedma, Río Negro) and from there went to the mouth of the Río Negro (Papavero 1971). Based on further details of the itinerary in Papavero (1971), I postulate that the following D'Orbigny localities correspond with the current name and range of collecting dates: "en Patagonie... les dunes près de la mer, en dehors de la baie de San-Blas" (dunes by the sea, Bahía San Blas, Buenos Aires; 14 January-18 February 1829); "village de Patagones en Patagonie" (Viedma, Río Negro; 18 February-3 March 1829); and "en Patagonie... e'était à l'entrée du Rio Negro sur les dunes" (dunes at the mouth of the Río Negro, Río Negro; 3-19 March 1829).

This paper is a contribution to the survey and inventory of the Scarabaeoidea of southern South America (see, for example, Smith and Skelley 2007; Smith and Mondaca 2015). Southern South America includes Regions IV-XII, XIV in Chile and the Argentinean provinces of Neuquén, Río Negro, Chubut, Santa Cruz, and Tierra del Fuego. This area corresponds with the Central Chilean, Patagonian, and Subantarctic biogeographical provinces of Morrone (1996, 2001). The species covered in this work have all been recorded from southern South America, but a few new provincial records are added for the northern regions of Argentina outside the focal area.

Materials and Methods

Specimens. 1073 specimens from southern South America were examined from the following entomology collections (with curators/collections managers in brackets):

AMNH: American Museum of Natural History, New York, New York, United States of America (Lee Herman).

BMNH: The Natural History Museum, London, United Kingdom (Max Barclay).

CASC: California Academy of Sciences, San Francisco, California, United States of America (Norman Penny, Jere Schweikert).

CMNC: Canadian Museum of Nature, Ottawa, Ontario, Canada (François Génier).

CNCI: Canadian National Collection of Insects, Ottawa, Ontario, Canada (Patrice Bouchard, Anthony Davies).

DEBU: Insect Collection, University of Guelph, Guelph, Ontario, Canada (Steve Paiero, Steve Marshall).

EMEC: Essig Museum of Entomology, University of California, Berkeley, California, United States of America (Cheryl Barr, Peter Oboyski).

FMNH: Field Museum of Natural History, Chicago, Illinois, United States of America (Alfred Newton, Margaret Thayer).

FSCA: Florida State Collection of Arthropods, Gainesville, Florida, United States of America (Paul Skelley).

LEMQ: Lyman Entomological Museum, McGill University, Ste. Anne de Bellevue, Québec, Canada (Stéphanie Boucher).

MNHN: Muséum National d'Histoire Naturelle, Paris, France (Olivier Montreuil).

NMW: Naturhistorisches Museum Wien, Vienna, Austria (Heinrich Schönmann).

ROME: Royal Ontario Museum, Toronto, Ontario, Canada (Doug Currie, Brad Hubley).

UNSM: University of Nebraska State Museum, Lincoln, Nebraska, United States of America (Brett Ratcliffe, M.J. Paulsen).

ZMUM: Zoological Museum, Moscow Lomonosov State University, Moscow, Russia (A.A. Gusakov).

Designation of lectotypes. In order to fix the concepts of these species to a single, name-bearing type, lectotypes are designated for the names *Trox aeger* Guérin-Ménéville, 1830 (now *Polynoncus aeger*); *Trox brevicollis* Eschscholtz, 1822 (now *Polynoncus brevicollis*); *Trox bullatus* Curtis, 1844 (now *Polynoncus bullatus*); *Trox chilensis* Harold, 1872 (now *Polynoncus chilensis*); *Trox ciliatus* Blanchard, 1847 (now *Omorgus ciliatus*); *Trox lachrymosus* Curtis, 1844 (now a junior synonym of *Polynoncus brevicollis*); *Trox pastillarius* Blanchard, 1847 (now *Omorgus pastillarius*); *Trox patagonicus* Blanchard, 1847 (now *Polynoncus patagonicus*); *Trox pilularius* Germar, 1824 (now *Polynoncus pilularius*); and *Trox trisulcatus* Curtis, 1844 (now a junior synonym of *Trox scaber* (Linnaeus, 1767)). In many older descriptions, it is unclear how many specimens comprised the type series and there is a possibility that more than one species may be represented. Unless a lectotype is selected, there can be lingering taxonomic uncertainty.

Label data. The verbatim label data is given for type specimens in quotation marks with slashes to indicate a new line of text on the label. All specimens are in the Scarabs of Southern South America database with appropriate labels stating their unique database number either in the "AS26xxxxx" or "SSSA300xxxx" format. Database labels for specimens with the "SSSA-" prefix also have a data matrix barcode on the label.

Results

Trox scaber (Linnaeus, 1767)

Original combination. *Silpha scabra* Linnaeus, 1767: 573. Type locality: "Europa."

Synonym. *Trox barbosus* von Laicharting, 1781: 31. Type locality: "Tyroler."

Synonym. *Trox arenarius* Fabricius, 1787: 18. Type locality: "Halae Saxonum."

Synonym. *Trox arenosus* Gmelin, 1790: 1586. Type locality: "Halae Saxonum."

Synonym. *Trox hispidus* von Paykull, 1798: 81. Type locality: "Suecica."

Synonym. *Trox trisulcatus* Curtis, 1844: 197. Type series: Lectotype at BMNH (Figs. 1-2) labeled a) "Type" (round label, typeset with red border), b) "Valparaiso / 63. 49" (handwritten), c) "Trox Curt / trisulcatus." (handwritten), d) "trisulcatus / Curt / 69" (handwritten), e) "Trox trisulcatus / Curtis TYPE / Det.Pittino 1984" (handwritten and typeset), f) "Trox scaber / (L.) / Det.Pittino 1984" (handwritten and typeset), g) "TROX / TRISULCATUS / CURTIS, 1844 / LECTOTYPE" (red label, handwritten), g) "TROX / SCABER / (LINNAEUS) /

Det:A.B.T.Smith 2011" (handwritten and typeset), h) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3000489" (typeset with two-dimensional barcode). **Lectotype here designated.** Type locality: "Valparaiso."

Distribution. Nearctic (Vaurie 1955); Palaearctic (Pittino and Bezdek 2016); Australia (Cassis and Weir 1992); Argentina: Corrientes, Buenos Aires (Vaurie 1962; Scholtz 1990).

Comment. Recorded from V-VI Región of Chile by Vaurie (1962) and Scholtz (1990) but not established in Chile according to Diéguez (2008). Ten specimens of this species were examined from Chile (BMHN, FMNH from Juan Fernández Islands, Santiago, and Valparaíso), including the lectotype of *Trox trisulcatus* detailed above. One specimen I examined was collected by Charles Darwin in Valparaíso, Chile during the voyage of the Beagle. The only specimen collected in the 20th century was a specimen labeled "Chile. IX-42 / Valparaiso / Valparaiso" from the FMNH. The label style and handwriting of this specimen is typical for the Ramón Gutiérrez collection (which arrived at the FMNH via the Luis Peña collection). In my observation, there are many specimens from the Gutiérrez with bad label data. Although it appears that some local population of this adventive species were present in Chile in the 1800s, there is no compelling evidence that these populations still exist (as postulated by Diéguez 2008). The status of the northeastern Argentinean populations is unknown.



Figures 1-2. *Trox trisulcatus* Curtis, 1844 lectotype (now a synonym of *Trox scaber*). 1. Oblique habitus. 2. Labels. Photographs by Keita Matsumoto, copyright BMNH.

Omorgus (Omorgus) candezei (Harold, 1872)

Original combination. *Trox candezei* Harold, 1872: 113. Type series: none found, presumably they were originally deposited in MNHN. Type locality: "die Pampas von Südamerika" (Harold 1872).

Distribution. Argentina: Santiago del Estero, Córdoba, San Luis, Río Negro (Vaurie 1962; Scholtz 1990; CMNC). The record from Río Negro, Argentina is a new provincial record based on one specimen from the CMNC with the following details: Río Colorado, October 1963, Bachmann.

Omorgus (Omorgus) ciliatus (Blanchard, 1847)

Original combination. *Trox ciliatus* Blanchard, 1847: 190. Type series: lectotype at MNHN (Figs. 3-6) labeled a) "MUSEUM PARIS / PATAGONIE / (PATAGONES) / D'ORBIGNY 1834" (typeset), b) "6032 / 34." (round, green label, handwritten on white underside), c) "1033." (handwritten), d) "TYPE" (red paper, typeset), e) "ciliatus / Blanchard" (green paper, handwritten), e) "TROX / CILIATUS / BLANCHARD, 1847 / LECTOTYPE / A.B.T. SMITH" (red label, handwritten and typeset), f) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001564" (typeset with two-dimensional barcode), g) "OMORGUS / CILIATUS / (BLANCHARD) / Det:A.B.T.Smith 2016" (handwritten and typeset). One paralectotype at MNHN labeled a) "MUSEUM PARIS / PATAGONIE / (PATAGONES) / D'ORBIGNY 1834" (typeset), b) "6032 / 34." (round, green label, handwritten on white underside), c) "TYPE" (red paper, typeset), d) "Trox (Omorgus) / ciliatus Blanch. / Det.Pittino 1985" (handwritten and typeset), e) "TROX / CILIATUS / BLANCHARD, 1847 / PARALECTOTYPE / A.B.T. SMITH" (yellow label, handwritten and typeset), f) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001565" (typeset with two-dimensional barcode), g) "OMORGUS / CILIATUS / (BLANCHARD) / Det:A.B.T.Smith 2016" (handwritten and typeset). **Lectotype here designated.** Type locality: "village de Patagones en Patagonie" (Viedma, Río Negro, Argentina).

Distribution. Argentina: Salta, Catamarca, Santiago del Estero, San Juan, Córdoba, Mendoza, Buenos Aires, Neuquén, Río Negro (Vaurie 1962; Scholtz 1990; CMNC, MNHN). The record from San Luis, Argentina is a new provincial record based on one specimen from the CMNC with the following details: San Gerónimo, January 1983.



Figures 3-6. *Trox ciliatus* Blanchard, 1847 lectotype (now *Omorgus ciliatus*). 3. Dorsal habitus. 4. Oblique habitus. 5. Head and pronotum. 6. Labels.

Comment. The type series was collected in dunes near Viedma, Río Negro from 18 February - 3 March 1829. According to D'Orbigny (see below), this species buries itself deep in the sand during the day and ventures above the surface of the sand at night. He also observed that they feign death when disturbed. The label on the lectotype with the number 1033 corresponds to a data entry in D'Orbigny's collection catalog:

"1033. _____. *Cette espèce habite les mêmes lieux que la précédente* [i.e., in dry sand near Viedma, Río Negro], *mais est bien plus nocturne : avant jour, elle se cache et ne paraît qu'à la nuit close, le jour elle s'enfonce beaucoup plus avant dans le sable, et est plus rare que 1032. Elle imite le mort, comme les autres espèces, au moment où on la touche. Nous la vîmes également à la baie de St Blas, sur les coteaux élevés. Elle est fort peu agile.*"

This species occurs in the Chaco, Pampa, and Monte ecoregions of Argentina and only spills over slightly along the northeastern edge of the southern South American biogeographic realm. Vaurie (1962) recorded this species from Bolivia based on a single specimen with no further data. This record should be viewed as dubious until more specimens are found to verify.

Omorgus (Omorgus) nocheles Scholtz, 1990

Original combination. *Omorgus (Omorgus) nocheles* Scholtz, 1990: 1412. Type series: holotype not examined, reportedly deposited in the Natural History Museum of Los Angeles County, Los Angeles, California, United States of America (Scholtz 1990). Type locality: "Argentina: El Bolsón, Río Negro."

Distribution. Argentina: Río Negro (Scholtz 1990).

Comment. This species is rarely collected; I have never seen a specimen and am not aware of any other known specimens outside the two from the type series.

Omorgus (Omorgus) pastillarius (Blanchard, 1847)

Original combination. *Trox pastillarius* Blanchard, 1847: 187. Type series: lectotype at MNHN (Figs. 7-10) labeled a) "MUSEUM PARIS / PATAGONIE / (PATAGONES) / D'ORBIGNY 1834" (typeset), b) "6030 / 34." (round, green label, handwritten on white underside), c) "pastillarius / OH." (green paper, handwritten), d) "TYPE" (red paper, typeset), e) "TROX / PASTILLARIUS / BLANCHARD, 1847 / LECTOTYPE / A.B.T. SMITH" (red label, handwritten and typeset), f) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001566" (typeset with two-dimensional barcode), g) "OMORGUS / PASTILLARIUS / (BLANCHARD) / Det:A.B.T.Smith 2016" (handwritten and typeset). **Lectotype here designated.** Type locality: "en Patagonie, seulement dans les dunes près de la mer, en dehors de la baie de San-Blas."

Distribution. Argentina: Salta, Tucumán, Catamarca, Santiago del Estero, La Rioja, Entre Ríos, Córdoba, San Luis, Mendoza, Buenos Aires, Neuquén, Río Negro, Chubut (Blanchard 1847; Vaurie 1962; Scholtz 1990; AMNH, BMNH, FMNH, MNHN).

Comment. This species occurs in the Chaco, Pampa, and Monte ecoregions of Argentina and along the northeastern edge of the southern South American biogeographic realm. The country records for Bolivia and Chile in Vaurie (1962) are dubious. Further study is needed before these countries can be added to the distributional range of this species.

I discovered three specimens of this species in the BMNH that were collected by Charles Darwin during the voyage of the Beagle. One specimen in the series bore a distinctive Darwin label "698", which corresponds to Darwin's catalogue notebook for specimens collected in Bahía Blanca (Buenos Aires, Argentina) in September 1832 (Smith 1987).



Figures 7-10. *Trox pastillarius* Blanchard, 1847 lectotype (now *Omorgus pastillarius*). 7. Dorsal habitus. 8. Oblique habitus. 9. Head and pronotum. 10. Labels.

Omorgus (Omorgus) persuberosus (Vaurie, 1962)

Original combination. *Trox persuberosus* Vaurie, 1962: 145. Type series: holotype not examined, reportedly deposited in the collection of the Departamento de Zoologia, Secretaria da Agricultura, São Paulo, Brazil (Vaurie 1962). Type locality: "Ypiranga, São Paulo, Brazil."

Distribution. Perú; Bolivia; Brazil; Paraguay; Uruguay; Argentina: Chaco, Tucumán, Santiago del Estero, Mendoza, Buenos Aires, Neuquén (Vaurie 1962; Scholtz 1990). This species has a broad distribution south of the Amazon from east to west. There is only a single record from the southern South American biogeographical realm from Neuquén (Argentina) with no further data (Scholtz 1990).

Omorgus (Omorgus) suberosus (Fabricius, 1775)

Original combination. *Trox suberosus* Fabricius, 1775: 31. Type series: not examined, reportedly deposited in the BMNH Type locality: "Brasilia."

Synonym. *Trox crenatus* Olivier, 1789: 7. Type locality: "Cayenne."

Synonym. *Trox gibbus* Olivier, 1789: 13. Type locality: "Saint-Domingue."

Synonym. *Trox ovatus* Palisot de Beauvois, 1818: 175. Type locality: "Saint-Domingue."

Synonym. *Trox denticulatus* Palisot de Beauvois, 1818: 176. Type locality: "États-Unis d'Amérique; Pensylvanie."

Synonym. *Trox alternatus* Say, 1835: 179. Type locality: "Pennsylvania... Arkansaw... New Orleans."

Synonym. *Trox nobilis* Wollaston, 1867: 93. Type locality: "Porto da Luz, in Fogo" (Cape Verde Archipelago).

Synonym. *Trox tricolor* Blackburn, 1904: 295. Type locality: "New South Wales."

Synonym. *Trox manilensis* Schultze, 1916: 295. Type locality: "Luzon, Manila."

Synonym. *Trox torressalae* Báguena, 1959: 212. Type locality: "España... Alicante, Denia."

Synonym. *Trox novaecaledoniae* Balthasar, 1966: 184. Type locality: "Neu-Kaledonien, Beach bei La Foa."

Synonym. *Omorgus triestinae* Pittino, 1987: 378. Type locality: "Brésil Minas-Geraes."

Distribution. North America, Central America, and the West Indies (Vaurie 1955); Palaearctic and Africa (Pittino and Bezdek 2016); Australia (Cassis and Weir 1992); Venezuela; Guiana, French Guiana, Colombia; Ecuador; Perú; Bolivia; Brazil; Paraguay; Uruguay; Argentina: Jujuy, Salta, Tucumán, Chaco, Catamarca, Santiago del Estero, La Rioja, Córdoba, Entre Ríos, San Luis, Buenos Aires, Río Negro, Chubut, Santa Cruz (Vaurie 1962; Scholtz 1990; NMW).

Comment. Recorded from Chile by Vaurie (1962), Scholtz (1990) but these records were refuted by Diéguez (2008). Widespread across South America but only recorded in the southern South American biogeographical realm with very few specimens in southeastern Argentina.

Polynoncus aeger (Guérin-Ménéville, 1830)

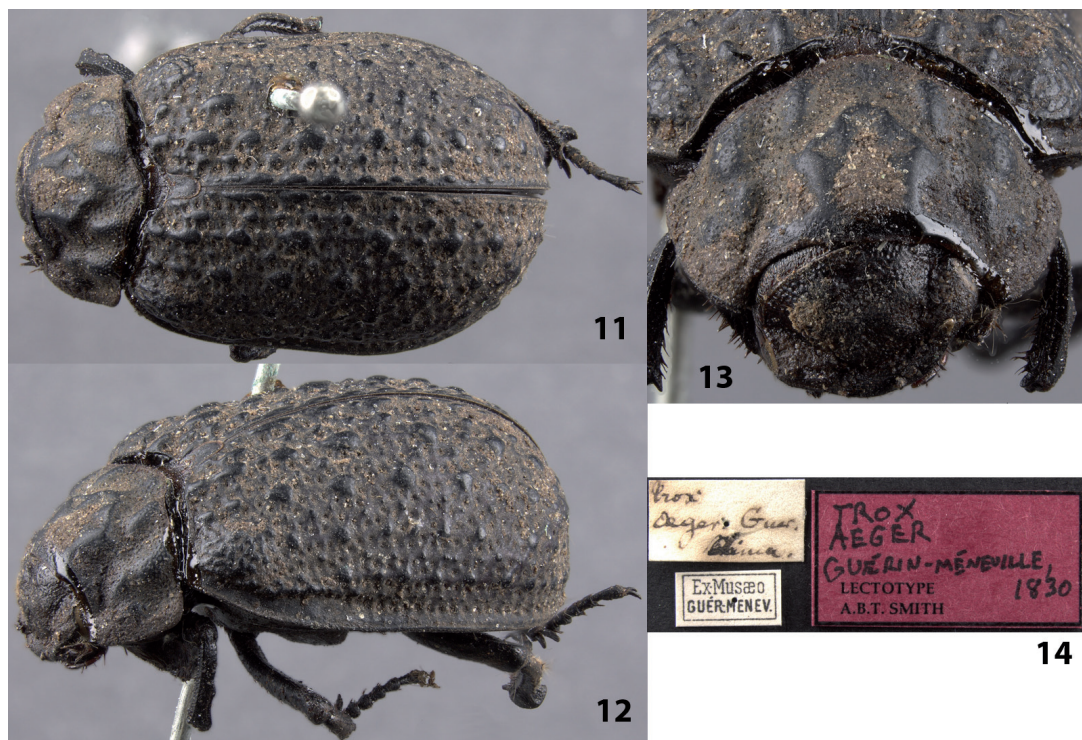
Original combination. *Trox aeger* Guérin-Ménéville, 1830: plate 22. Type series: lectotype at MNHN (Figs. 11-14) labeled a) "*Trox / aeger* Guer. / Lima [somewhat illegible]" (handwritten), b) "Ex.Musæo / GUÉR-MENEV." (white paper with black border, typeset), c) "TROX / AEGER / GUÉRIN-MÉNEVILLE, 1830 / LECTOTYPE / A.B.T. SMITH" (red label, handwritten and typeset), d) "POLYNONCUS / AEGER / (GUÉRIN-MÉNEVILLE) / Det:A.B.T.Smith 2016" (handwritten and typeset). **Lectotype here designated.** Type locality: "Pérou" (probably erroneous).

Synonym. *Trox leprosus* Blanchard, 1847: 188. Type series: none found, presumably they were originally deposited in MNHN. Type locality: "Maldonado et à Montevideo."

Distribution. Brazil; Uruguay; Argentina: Jujuy, Catamarca, Corrientes, Entre Ríos, San Luis, Buenos Aires, Neuquén, Río Negro (Vaurie 1962; Scholtz 1990). The record from San Luis, Argentina is a new provincial record based on six specimens from the CMNC with the following details: Villa Elena, March 1976, M.J. Viana.

Comment. This species was originally cited from Peru (Guérin-Ménéville 1844) and soon after from Chile (Blanchard 1847), but does not seem to occur in either country. Guérin-Ménéville (1830, 1844) provided no further clues as to origin of the type material so there is little evidence to assess where the lectotype was actually collected. Compounding this problem are the records from Chile with no further data by Vaurie (1962) and from Chile: VI-VIII Región by Scholtz (1990), but Diéguez (2008) refuted these records and provided evidence that they were based on misidentified specimens.

I examined one specimen labeled “Chile. I-50 / El Canelo / Santiago” from the FMNH. The label style and handwriting of this specimen is typical for the Ramón Gutiérrez collection. In my observation, there are many specimens from the Gutiérrez with bad label data. Therefore, I agree Diéguez (2008) that there is no compelling evidence that this species occurs in Chile.



Figures 11-14. *Trox aeger* Guérin-Ménéville, 1830 lectotype (now *Polynoncus aeger*). 11. Dorsal habitus. 12. Oblique habitus. 13. Head and pronotum. 14. Labels.

Polynoncus brevicollis (Eschscholtz, 1822)

Original combination. *Trox brevicollis* Eschscholtz, 1822: 12. Type series: lectotype at ZMUM (Figs. 15-18) labeled a) “brevicollis / Esch. / Chili.” (handwritten), b) “TROX / BREVICOLLIS / ESCHSCHOLTZ, 1822 / LECTOTYPE / A.B.T. SMITH” (red label, handwritten and typeset), c) “Southern Neotropical Scarabs / database # AS2608385 / *Polynoncus brevicollis* / (Eschscholtz, 1822 / DET: A.B.T.SMITH 2006” (typeset). **Lectotype here designated.** Type locality: “Chili, Conception.”

Synonym. *Trox lachrymosus* Curtis, 1844: 197. Type series: lectotype at BMNH (Figs. 19-20) labeled a) “Type” (round label with red border), b) “Valparaiso / 63. 49” (handwritten), c) “lacrymosus / 68 Curt” (handwritten), d) “Trox / brevicollis / Esch. / Vaurie ‘61” (handwritten), e) “TROX / LACHRYMOSUS / CURTIS, 1844 / LECTOTYPE” (red label, handwritten), f) “POLYNONCUS / BREVICOLLIS / (ESCHSCHOLTZ) / Det:A.B.T.Smith 2011 ♀” (handwritten and typeset), g) “SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3000435” (typeset with two-dimensional barcode). One paralectotype at BMNH labeled a) “SYN- / TYPE” (round label, typeset with light blue border), b) “Trox Curt. / lachrymosus” (handwritten), c) “Valparaiso / 63. 49” (handwritten), d) “TROX / LACHRYMOSUS / CURTIS, 1844 / PARALECTOTYPE” (yellow label, handwritten), e) “POLYNONCUS / BREVICOLLIS / (ESCHSCHOLTZ) / Det:A.B.T.Smith 2011 ♀” (handwritten and typeset),

f) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3000436" (typeset with two-dimensional barcode). **Lectotype here designated.** Type locality: "Valparaíso."

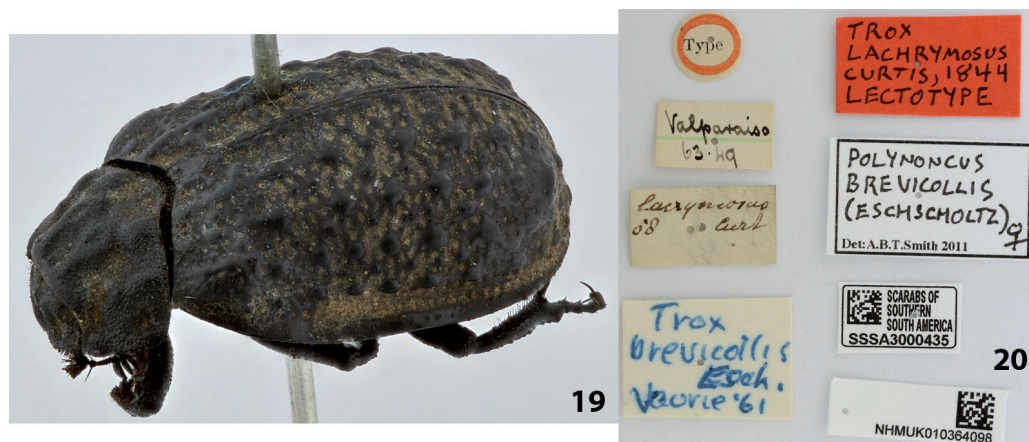
Distribution. Argentina: Buenos Aires, Neuquén, Río Negro, Chubut; Chile: Región Metropolitana, IV-X, XIV (Diéguez 2008; AMNH, BMNH, CASC, CMNC, CNCI, EMEC, FMNH, FSCA, NMW, UNSM, ZMUM).

Comment. Eschscholtz collected the lectotype during a stop in Concepción, Chile from 11 February - 8 March 1816 (von Kotzebue 1821; Papavero 1971). Philip Parker King collected the lectotype of *Trox lachrymosus* in or around Valparaíso, Chile from 22 June - 10 August 1829 (Fitz-Roy 1839).

I suspect that this species is largely endemic to the southern South American biogeographical realm despite the records in the literature from other areas. The locality records from Brazil and Peru from Vaurie (1962) and Colombia, Paraguay, and Peru from Scholtz (1990) are all dubious and should be removed from the known distribution of this species pending further data. The provincial record from Buenos Aires is based on a BMNH specimen from Bahía Blanca collected by Charles Darwin during the voyage of the Beagle and on a specimen in the CMNC from Departamento de Puán, February 1945, Felipe Sola. These two records are far removed from the rest of the known distribution for these species and should be viewed with skepticism until corroborated with additional species (I have observed that a few Darwin specimens have erroneous locality labels). All of the Argentinean localities that I have verified for this species are in the Andes Mountains less than 50 km from the Chilean border: Neuquén (Isla Victoria, San Martín de los Andes and environs), Río Negro (Bariloche, El Bolsón, Parque Nacional Nahuel Huapi, Río Turbio), and Chubut (Golondrinas). Diéguez (2008) thoroughly covered the Chilean distribution of this species.



Figures 15-18. *Trox brevicollis* Eschscholtz, 1822 lectotype (now *Polynoncus brevicollis*). 15. Dorsal habitus. 16. Oblique habitus. 17. Head and pronotum. 18. Labels.



Figures 19-20. *Trox lachrymosus* Curtis, 1844 lectotype (now a synonym of *Polynoncus brevicollis*). 19. Oblique habitus. 20. Labels. Photographs by Keita Matsumoto, copyright BMNH.

Polynoncus bullatus (Curtis, 1844)

Original combination. *Trox bullatus* Curtis, 1844: 197. Type series: lectotype at BMNH (Figs. 21-22) labeled a) "Type" (round label, typeset with red border), b) "Valparaiso / 63. 49" (handwritten), c) "Valp" (handwritten), d) "Trox / bullatus Curt." (handwritten), e) "Trox / bullatus / Curt / Vaurie '61" (handwritten), f) "TROX / BULLATUS / CURTIS, 1844 / LECTOTYPE" (red label, handwritten), g) "POLYNONCUS / BULLATUS / (CURTIS) / Det:A.B.T.Smith2011" (handwritten and typeset), h) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3000437" (typeset with two-dimensional barcode). **Lectotype here designated.** Type locality: "Valparaiso."

Distribution. Argentina: Neuquén; Chile: Región Metropolitana, III-IX (Scholtz 1990; Diéguez 2008; AMNH, BMNH, CASC, CMNC, CNCI, FMNH, FSCA, LEMQ, ROME).

Comment. Philip Parker King collected the lectotype of *Polynoncus bullatus* in or around Valparaíso, Chile from 22 June - 10 August 1829 (Fitz-Roy 1839). Charles Darwin collected four specimens (BMNH) of this species in Coquimbo and Valparaíso, Chile during the voyage of the Beagle.



Figures 21-22. *Trox bullatus* Curtis, 1844 lectotype (now *Polynoncus bullatus*). 21. Oblique habitus. 22. Labels. Photographs by Keita Matsumoto, copyright BMNH.

This species is endemic to southern South America from Regions III-IX in Chile and neighbouring localities in the Argentinean Andes. There are individual records from Buenos Aires (Argentina), Bolivia, Peru, and Uruguay in Vaurie (1962) and Isla Chiloé (Chile) and Chubut (Argentina) in Scholtz (1990) but these records should be considered erroneous unless additional specimens are found with reliable label data.

Polynoncus chilensis (Harold, 1872)

Original combination. *Trox chilensis* Harold, 1872: 137. Type series: lectotype male at MNHN (Figs. 23-27) labeled a) "Chile" (handwritten), b) "chilensis / 25 Harold" (handwritten), c) "Ex.Musæo / E.Harold" (white paper with black border, typeset), d) "TYPE / Vaurie '61" (red paper, typeset and handwritten), e) "TROX / CHILENSIS / HAROLD, 1872 / LECTOTYPE / A.B.T. SMITH" (red label, handwritten and typeset), f) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001567" (typeset with two-dimensional barcode), g) "POLYNONCUS / CHILENSIS / (HAROLD) ♂ / Det:A.B.T.Smith 2016" (handwritten and typeset). **Lectotype here designated.** Type locality: "Chili" and "San Jago."

Distribution. Argentina: Río Negro; Chile: Regions VII-X, XIV (Scholtz 1990; Diéguez 2008; CASC, CMNC, FMNH, LEMQ, MNHN).

Comment. Harold (1872) described this species based on specimens from "Chili (Bibra!)" and "San Jago (Leybold!)" (= Santiago?). Ferdinand Leybold was a collector who was based in Valparaíso and Santiago but may have got some of his material from elsewhere in Chile. The lectotype seems to be a specimen originating from Ernst von Bobra, who travelled to Chile in the 1850s. The genitalia was dissected from the lectotype (Fig. 27) and confirmed to match the *Polynoncus chilensis* male genitalia figures in Vaurie (1962) and Scholtz (1990).

A few of the localities listed in Scholtz (1990) were based on misidentified *Polynoncus mirabilis* specimens and vice versa (based on my observations of specimens with Scholtz determination labels). Diéguez (2008) should be used for more accurate locality data for this species in Chile. This species is endemic to southern South America.

Polynoncus diffluens (Vaurie, 1962)

Original combination. *Trox diffluens* Vaurie, 1962: 138. Type series: holotype not examined, reportedly deposited in the California Academy of Sciences, San Francisco, California, United States of America (Vaurie 1962). Type locality: "Leyda, Santiago, Chile."

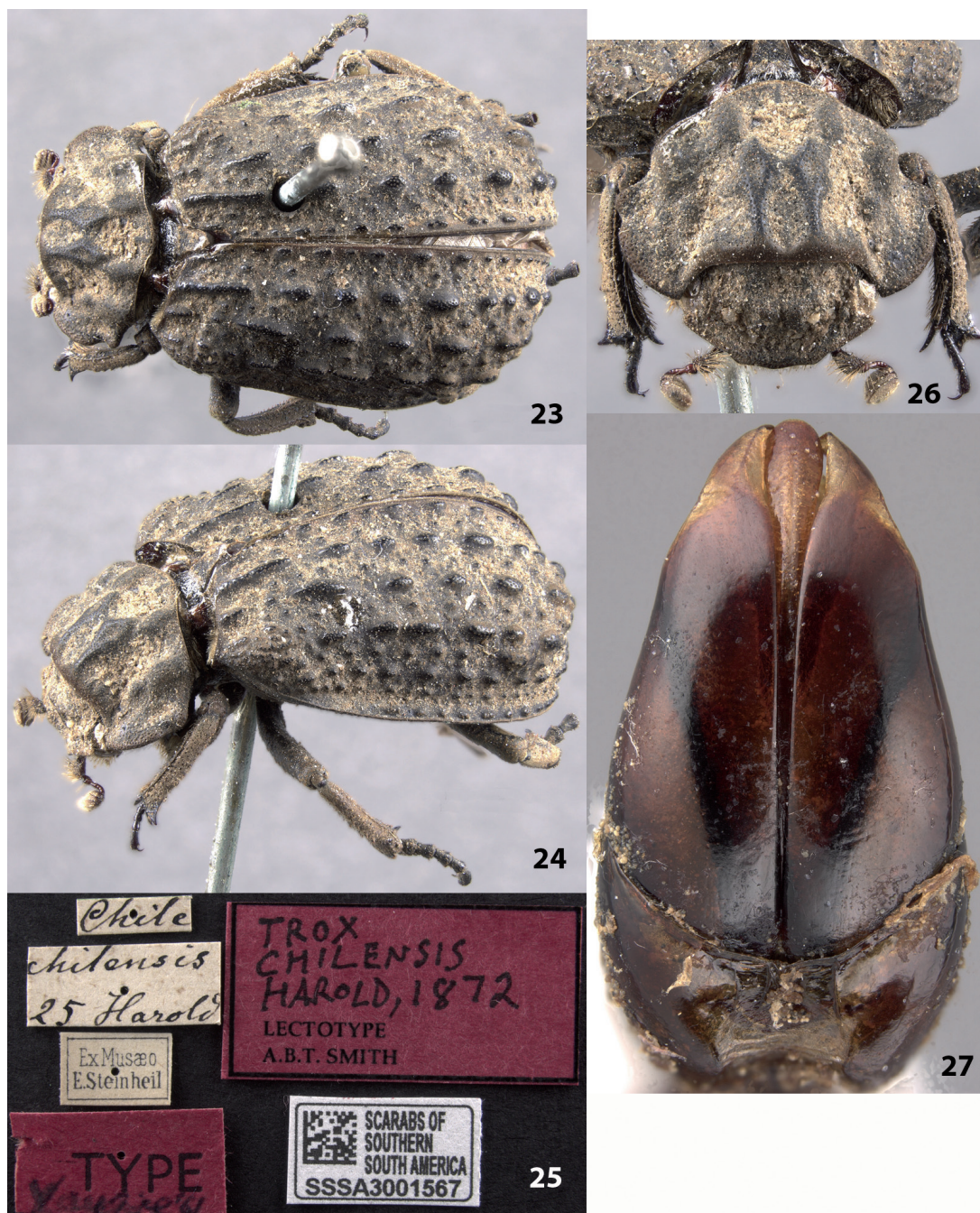
Distribution. Chile: Región Metropolitana, VI-XI, XIV (Diéguez 2008; CASC, FMNH).

Comment. This rarely collected but widespread species is endemic to Chile but may also occur in neighboring areas of the Argentinean Andes.

Polynoncus gemmifer (Blanchard, 1847)

Original combination. *Trox gemmifer* Blanchard, 1847: 187 (emended from *Trox gemmiferus*, see comments below). Type series: none found, presumably they were originally deposited in MNHN. Type locality: "Patagonie" (Blanchard 1847).

Synonym. *Trox argentinus* Harold, 1872: 143. Type series: none found. Harold (1872) based the description on specimens from the collection of von Bruck and two specimens in his own collection. The two Harold collection syntypes were presumably deposited in MNHN with his other types from Harold (1872). Vaurie (1962) examined a syntype from MNHN but the current location of this specimen is unknown. Type locality: "Cordova im argentinischen Freistaat..., Buenos Aires."



Figures 23-27. *Trox chilensis* Harold, 1872 lectotype (now *Polynoncus chilensis*). 23. Dorsal habitus. 24. Oblique habitus. 25. Labels. 26. Head and pronotum. 27. Parameres.

Distribution. Uruguay; Argentina: Salta, Catamarca, Santiago del Estero, Tucumán, La Rioja, Córdoba, San Luis, Mendoza, La Pampa, Buenos Aires, Neuquén, Río Negro (Scholtz 1990; AMNH, MNHN, NMW).

Comment. The original spelling of this species name was *Trox gemmiferus* Blanchard, 1847: 187, and due to an unfortunate oversight the exact same name, *Trox gemmiferus* Blanchard,

1847: 188 (now *Polynoncus gemmiferus*), was used on the next page to describe a different species. The former name from page 187 was changed to *Trox gemmifer* Blanchard, 1847 as an incorrect subsequent spelling by Harold (1868, 1869), and used by all subsequent authors. Since the incorrect subsequent spelling (*Trox gemmifer* and the current combination *Polynoncus gemmifer*) has been in prevailing usage for 150 years, it must be considered the correct original spelling under Article 33.3.1 (International Commission on Zoological Nomenclature 1999).

Blanchard (1847) was vague about the exact collecting locality of the type series but states that D'Orbigny was the collector so I assume that it was collected near the mouth of the Río Negro in early 1829. Blanchard (1847) added D'Orbigny's observations that this species was found in sandy habitats near the ocean and was active at night. This species primarily occurs in the Chaco, Pampa, and Monte ecoregions of Argentina with a few distributional records along the northeastern edge of the southern South American biogeographic realm in Neuquén and Río Negro.

Four specimens were observed from the MNHN labeled "Dr. LENDL ADOLF / NEUQUEN 1907." with red labels dated 1987 indicating that they are paratypes of "*Polynoncus haroldi* Pittino". This species was never described so these specimens are not types.

Polynoncus gemmiferus (Blanchard, 1847)

Original combination. *Trox gemmiferus* Blanchard, 1847: 188 (formerly a junior homonym of *Trox gemmiferus* Blanchard, 1847: 187). Type series: none found, presumably they were originally deposited in MNHN. Type locality: "Patagonie, dans les endroits élevés, secs et sablonneux, près le village de Patagones."

Synonym. *Trox guttifer* Harold, 1868: 86 (replacement name for *Trox gemmiferus* Blanchard, 1847: 188, when it was a junior homonym of *Trox gemmiferus* Blanchard, 1847: 187). Type series: none found, presumably they were originally deposited in MNHN. Type locality: "Patagonie, dans les endroits élevés, secs et sablonneux, près le village de Patagones" (Blanchard 1847).

Distribution. Paraguay; Argentina: Mendoza, Buenos Aires, Neuquén, Río Negro, Chubut, Santa Cruz (Scholtz 1990; AMNH, CMNC, CNCI, FMNH, NMW).

Comment. The original spelling of the senior synonym was *Trox gemmiferus* Blanchard, 1847: 188, and due to an unfortunate oversight the exact same name, *Trox gemmiferus* Blanchard, 1847: 187 (now *Polynoncus gemmifer* Blanchard, 1847), was used on the previous page to describe a different species. The replacement name *Trox guttifer* Harold, 1868 was proposed explicitly to replace the name *Trox gemmiferus* from page 188 of Blanchard (1847) and has been used as the valid name until now.

As discussed in the comments for *Polynoncus gemmifer*, the incorrect subsequent spelling *Trox gemmifer* was first used by Harold (1868) and has been in prevailing usage since for the species now known as *Polynoncus gemmifer*. Therefore, *Trox gemmifer* Blanchard, 1847: 187 must be considered the correct original spelling under Article 33.3.1 (International Commission on Zoological Nomenclature 1999).

The emendation of the correct original spelling of *Trox gemmifer* Blanchard, 1847: 187 has effectively removed the status of the name as a primary senior homonym with regards to the name *Trox gemmiferus* Blanchard, 1847: 188. Even though the incorrect subsequent spelling "*Trox gemmifer*" has been used for *Trox gemmiferus* Blanchard, 1847: 188 (see Harold 1868, 1869), it is not in prevailing usage for this name and should not be considered the correct original spelling under Article 33.3.1 (International Commission on Zoological Nomenclature 1999).

With the homonymy removed, *Trox gemmiferus* Blanchard, 1847: 188 has nomenclatural priority over the unnecessary replacement name *Trox guttifer* Harold, 1868. Since the former name has not been used as valid in 150 years, it is desirable to preserve the prevailing usage of the younger name using Article 23.9.2 (International Commission on Zoological Nomenclature 1999). Unfortunately, *Polynoncus guttifer* (Harold, 1868) has only been used as a valid name in the following seven publications in the immediately preceding 50 years (since 1967): Scholtz 1982, 1986, 1990; Diéguez and Gómez 2004; Domínguez *et al.* 2006; Philips 2009; Zidek 2013. This falls well short of the 25 publications by at least 10 different authors required by the International Commission on Zoological Nomenclature (1999) under Article 23.9.2 - therefore, the older name should be used as the valid name under the principle of priority.

Polynoncus gibberosus Scholtz, 1990

Original combination. *Polynoncus gibberosus* Scholtz 1990: 1428. Type series: holotype not examined, reportedly deposited in the United States National Museum, Washington, District of Columbia, United States of America (Scholtz 1990). Type locality: "Chile: Concepcion."

Distribution. Chile: Regions VIII-X, XIV (Diéguez 2008; CNCI).

Comment. This species is endemic to four regions in southern Chile but is not often collected.

Polynoncus haafi (Vaurie, 1962)

Original combination. *Trox haafi* Vaurie, 1962: 122. Type series: holotype male at MNHN (Figs. 28-32) labeled a) "MUSEUM PARIS / PATAGONIE / GOLFE ST-GEORGES / COLI-HUAPI / A. TOURNOÛER 1903" (faded green paper, typeset), b) "TYPE / Trox / haafi / Vaurie" (red paper, typeset and handwritten), c) "TROX / HAAFI / VAURIE / HOLOTYPE ♂" (red paper, handwritten and typeset), d) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001568" (typeset with two-dimensional barcode), e) "POLYNONCUS / HAAFI / (VAURIE) ♂ / Det:A.B.T.Smith 2016" (handwritten and typeset). Type locality: "Golfo St. Georges, Coli-Huapi [Comodoro Rivadavia, Argentina]."

Distribution. Argentina: Mendoza, Neuquén, Río Negro, Chubut, Santa Cruz (Vaurie 1962; Scholtz 1990; CMNC, LEMQ, MNHN, NMW).

Comment. This species is rarely collected but seems to be widespread in southern Argentina. The provincial records for Neuquén and Río Negro originated from Vaurie (1962) and for Santa Cruz from Scholtz (1990), but no additional records have been seen or mentioned in the literature for these provinces. The record from Mendoza, Argentina is a new provincial record based on two specimens from the CMNC with the following details: Ruta Provincial 180, 111 km S of El Nihuil, 35.686°S, 68.696°W, 1821 m, 6 January 2003, F.C. Ocampo and A.B.T. Smith.

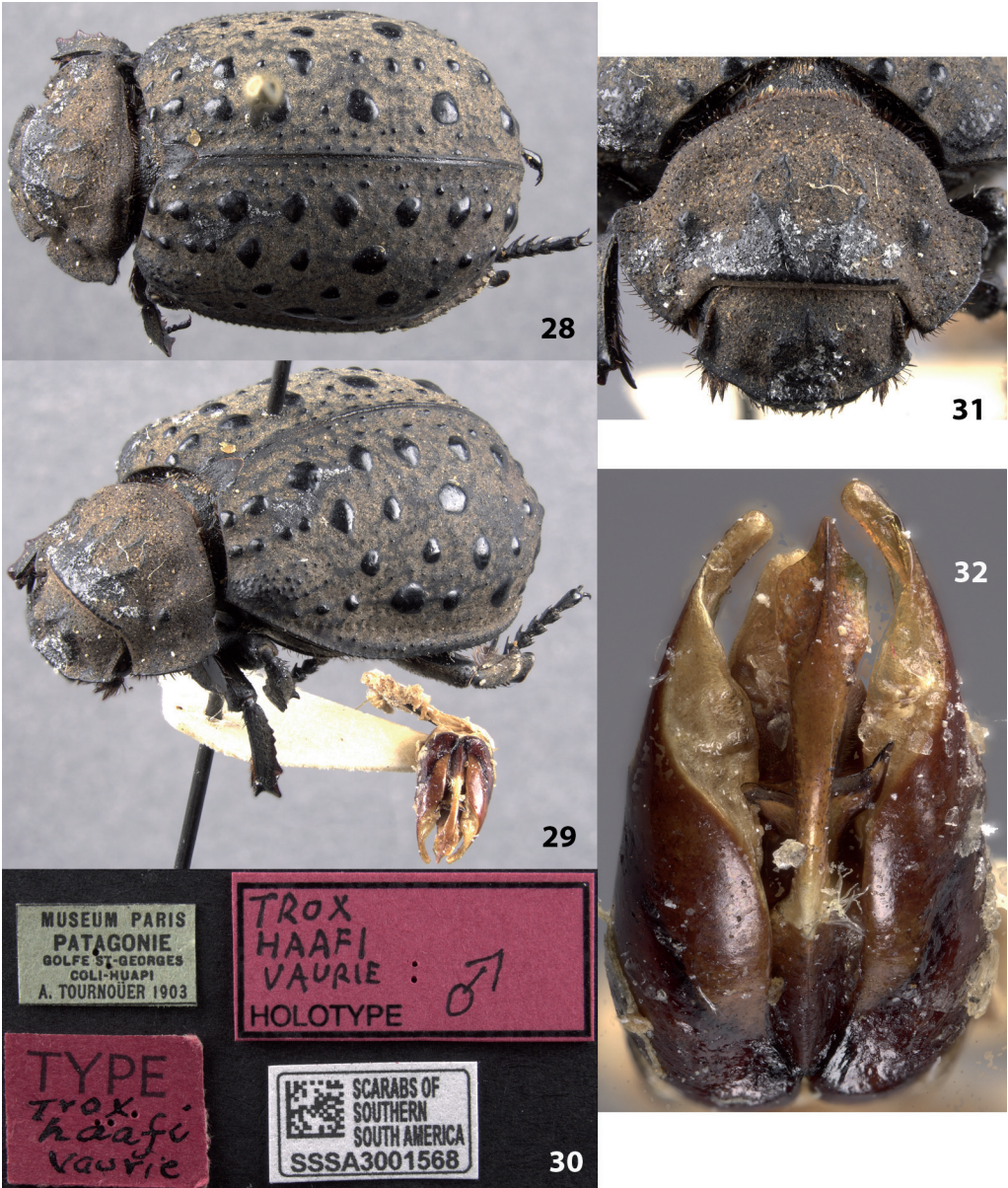
Polynoncus hemisphaericus (Burmeister, 1876)

Original combination. *Trox hemisphaericus* Burmeister, 1876: 253. Type series: none examined. Burmeister (1876) stated that the type series was discovered by Dr. Berg. The syntypes were deposited in the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina. Vaurie (1962) listed nine syntypes from this collection. Type locality: "Rio Sa Cruz im südlichen Patagonien."

Synonym. *Trox globulatus* Fairmaire, 1884: 490. Type series: none found, presumably they were originally deposited in the Fairmaire collection, which is now in the MNHN. Type locality: "Punta-Arena."

Distribution. Argentina: Chubut, Santa Cruz; Chile: XII Región de Magallanes (Vaurie 1962; Scholtz 1990; Diéguez 2008; AMNH, CMNC, CNCI).

Comment. This species occurs in southernmost areas of continental South America and on Tierra del Fuego. The provincial records from Buenos Aires and Neuquén (Vaurie 1962) and Río Negro (Scholtz 1990) are doubtful and need to be verified with additional specimens.



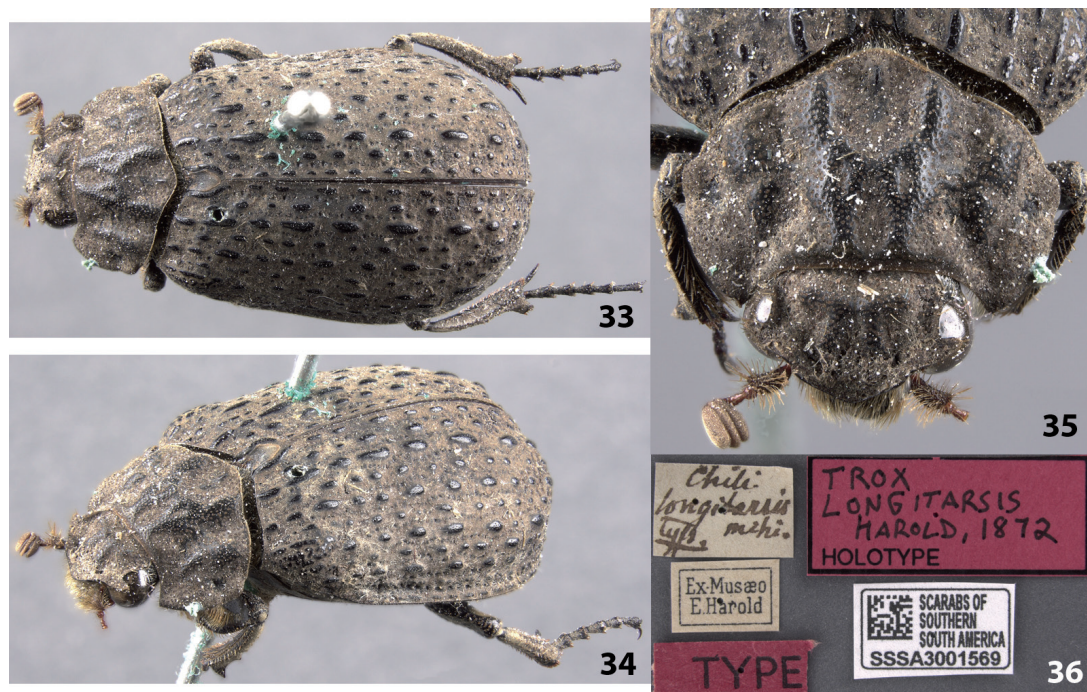
Figures 28-32. *Trox haafi* Vaurie, 1962 holotype (now *Polynoncus haafi*). 28. Dorsal habitus. 29. Oblique habitus. 30. Labels. 31. Head and pronotum. 32. Parameres.

Polynoncus longitarsis (Harold, 1872)

Original combination. *Trox longitarsis* Harold, 1872: 136. Type series: holotype at MNHN (Figs. 33-36) labeled a) "Chili / longitarsis / type. mihi." (handwritten), b) "Ex.Musæo / E.Harold" (white paper with black border, typeset), c) "TYPE" (red paper, typeset), d) "TROX / LONGITARSIS / HAROLD, 1872 / HOLOTYPE" (red label, handwritten and typeset), e) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001569" (typeset with two-dimensional barcode), f) "POLYNONCUS / LONGITARSIS / (HAROLD) / Det:A.B.T.Smith 2016" (handwritten and typeset). Type locality: "Chili."

Distribution. Argentina: Neuquén, Río Negro, Chubut; Chile: VIII-XI Región, XIV Región de Los Ríos (Scholtz 1990; Diéguez 2008; AMNH, CASC, CMNC, CNCI, DEBU, EMEC, FMNH, LEMQ, MNHN, UNSM).

Comment. The holotype was designated by monotypy based on Harold's (1872) explicit statement that he examined a single specimen. No information was given about the origin of the holotype other than the vague locality "Chili". Long series of this species were caught in carrion traps in a number of different localities.



Figures 33-36. *Trox longitarsis* Harold, 1872 holotype (now *Polynoncus longitarsis*). 33. Dorsal habitus. 34. Oblique habitus. 35. Head and pronotum. 36. Labels.

Polynoncus mirabilis Pittino, 1987

Original combination. *Polynoncus mirabilis* Pittino, 1987: 391. Type series: holotype not examined, reportedly deposited in the R. Pittino Collection (Pittino 1987). Type locality: "Santiago Peron."

Distribution. Argentina: Neuquén, Río Negro, Chubut; Chile: VIII-XI Región, XIV Región de Los Ríos (Scholtz 1990; Diéguez 2008; AMNH, BMNH, CASC, CMNC, CNCI, DEBU, FMNH,

LEMQ, UNSM). A new provincial record for Neuquén, Argentina is included based on specimens with the following details: Lago Nahuel Huapi, Isla Victoria, January 1941 (1 specimen, CMNC); Lolog, 7 km N San Martín de los Andes, 900 m, pans near stream, 23-30 November 1990, S.A. Marshall (1 specimen, CNCI); Lolog, 7 km N San Martín de los Andes, Gentili property, 950 m, 23 November - 1 December 1989, S.A. Marshall (2 specimens, CNCI and DEBU). A new regional record for Chile, XI Región de Aisén is included based on specimens with the following details: 15 km S Las Juntas, 30 km N Puyuhuapi, 100 m, *Nothofagus* forest, carrion trap, 30 December 1984 - 29 January 1985, S. and J. Peck (3 specimens, CMNC); San Sebastián, 34 km W Puerto Aisén, 150 m, cliff base mixed forest, carrion trap, 24 - 26 January 1985, S. and J. Peck (3 specimens, CMNC); Coyhaique, hand collecting, 1 January - 28 February 1999, P.M. Hammond and K.A. Jackson, BM-1999-107 (1 specimen, BMNH); Parque Nacional Río Simpson (33 km E Puerto Aisén), 70 m, select cut forest, carrion trap, 31 December 1984 - 26 January 1985, S. and J. Peck (3 specimens, CMNC); Río Grande, 16 km NW Cisnes Medio, 200 m, mature beech forest, carrion trap, 30 December 1984 - 28 January 1985, S. and J. Peck (1 specimen, CMNC); 20 km ENE Coyhaique, Monumento Nacional Dos Lagunas, 600 m, beech groves in steppe, carrion trap, 23 - 27 January 1985, S. and J. Peck (1 specimen, CMNC).

Comment. A few of the localities listed in Scholtz (1990) were based on misidentified *Polynoncus chilensis* specimens and vice versa (based on my observations of specimens with Scholtz determination labels). Diéguez (2008) should be used for more accurate locality data for this species in Chile.

Polynoncus neuquen (Vaurie, 1962)

Original combination. *Trox neuquen* Vaurie, 1962: 123. Type series: holotype not examined, reportedly deposited in the Zoologische Museum, Berlin, Germany (Vaurie 1962). Type locality: "Neuquen [Argentina]."

Distribution. Argentina: Neuquén, Río Negro, Chubut (Scholtz 1990; CMNC, NMW). A new provincial record for Río Negro, Argentina is included based on one specimen with the following details: Corca Inv. Roca, October 1963, Bachmann (CMNC). A new provincial record for Chubut, Argentina is included based on two specimens with the following details: Puerto Madryn, 12 February 1977, Kovac (NMW).

Comment. Dubious records from Coquimbo, Chile and Salta, Argentina were listed by Vaurie (1962) and Scholtz 1990 respectively. In the absence of further specimens or data these areas should be excluded from the distribution. Very few specimens of this species have been collected - I have only seen three.

Polynoncus patagonicus (Blanchard, 1847)

Original combination. *Trox patagonicus* Blanchard, 1847: 186. Type series: lectotype at MNHN (Figs. 37-40) labeled a) "♀" (handwritten), b) "MUSEUM PARIS / PATAGONIE / (PATAGONES) / D'ORBIGNY 1834" (typeset), c) "1028." (handwritten), d) "6097 / 34." (round, green label, handwritten on white underside), e) "Trox / patagonicus / Blanch" (green paper, handwritten), f) "LECTOTYPE" (red paper, typeset), g) "Trox / PATAGONICUS / BLANCHARD, 1847 / LECTOTYPE / A.B.T. SMITH" (red label, handwritten and typeset), h) "SCARABS OF / SOUTHERN / SOUTH AMERICA / SSSA3001570" (typeset with two-dimensional barcode), i) "POLYNONCUS / PATAGONICUS / (BLANCHARD) /

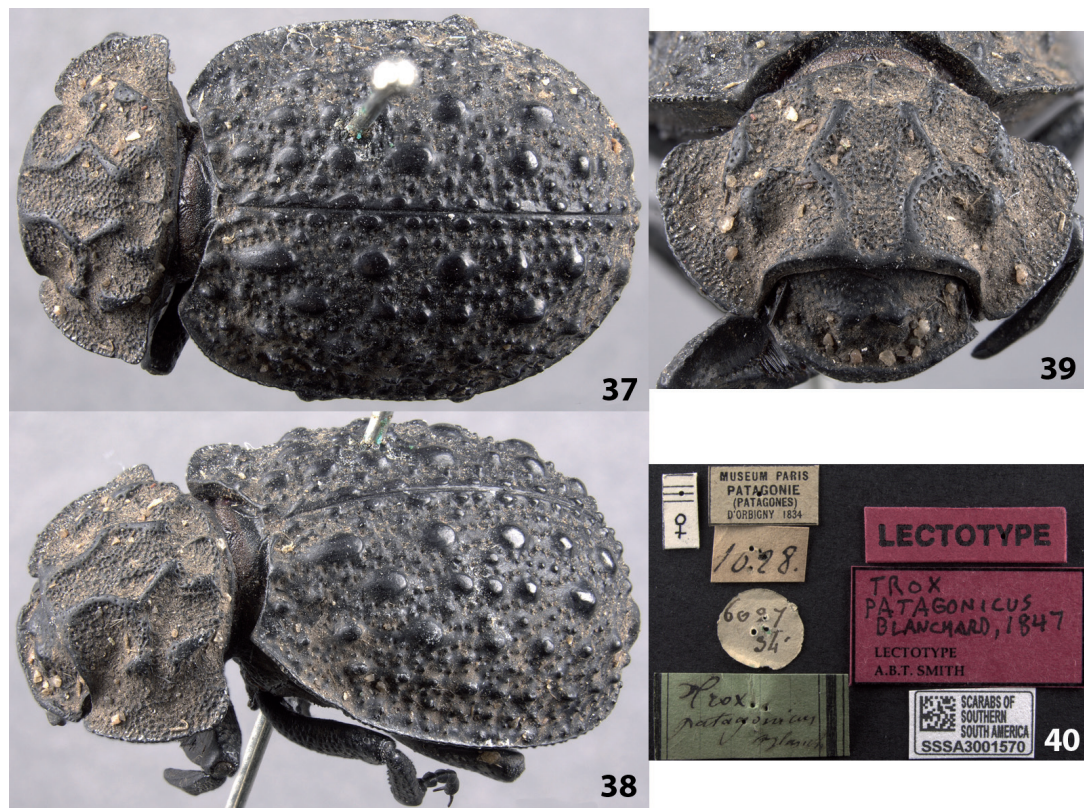
Det:A.B.T.Smith 2016" (handwritten and typeset). **Lectotype here designated.** Type locality: "en Patagonie... e'était à l'entrée du Río Negro sur les dunes."

Distribution. Argentina: Jujuy, Tucumán, Buenos Aires, Río Negro, Chubut, Santa Cruz (Vaurie 1962; Scholtz 1990; BMNH, MNHN).

Comment. The type series was collected in dunes at the mouth of the Río Negro, Río Negro, 3-19 March 1829 under an old cow carcass. According to D'Orbigny (see below), this species is active nocturnally above the surface of the sand. The label on the lectotype with the number 1028 corresponds to a data entry in D'Orbigny's collection catalog:

"1028. *Opatre*. Cette espèce, la plus grande du genre, ne fut rencontrée qu'une seule fois, à l'entrée du Río Negro, sur les dunes, sous une vieille carcasse de vache morte : du reste elle a les mêmes mœurs que les autres, et il est singulier que nous ne l'ayons vue qu'une fois : c'était au mois de mars et elle était accouplée. Le jour, elle se tient cachée, et sort de nuit pour chercher sa nourriture."

I discovered five specimens of this species in the BMNH that were collected by Charles Darwin during the voyage of the Beagle. One specimen in the series bore a distinctive Darwin label "697", which corresponds to Darwin's catalogue notebook for specimens collected in Bahía Blanca (Buenos Aires, Argentina) in September 1832 (Smith 1987). The record from Pará, Brazil in Vaurie (1962) is erroneous.



Figures 37-40. *Trox patagonicus* Blanchard, 1847 lectotype (now *Polynoncus patagonicus*). 37. Dorsal habitus. 38. Oblique habitus. 39. Head and pronotum. 40. Labels.

Polynoncus pedestris (Harold, 1872)

Original combination. *Trox pedestris* Harold, 1872: 128. Type series: none found, presumably they were originally deposited in MNHN. Type locality: “dans les salines d’Andres-Paz en Patagonie, à quelques lieues au-dessus du village de Patagones” (Blanchard 1847).

Synonym. *Trox denticulatus* Blanchard, 1847: 189 (junior primary homonym of *Trox denticulatus* Olivier, 1789). Type series: none found, presumably they were originally deposited in MNHN. Type locality: “dans les salines d’Andres-Paz en Patagonie, à quelques lieues au-dessus du village de Patagones” (Blanchard 1847).

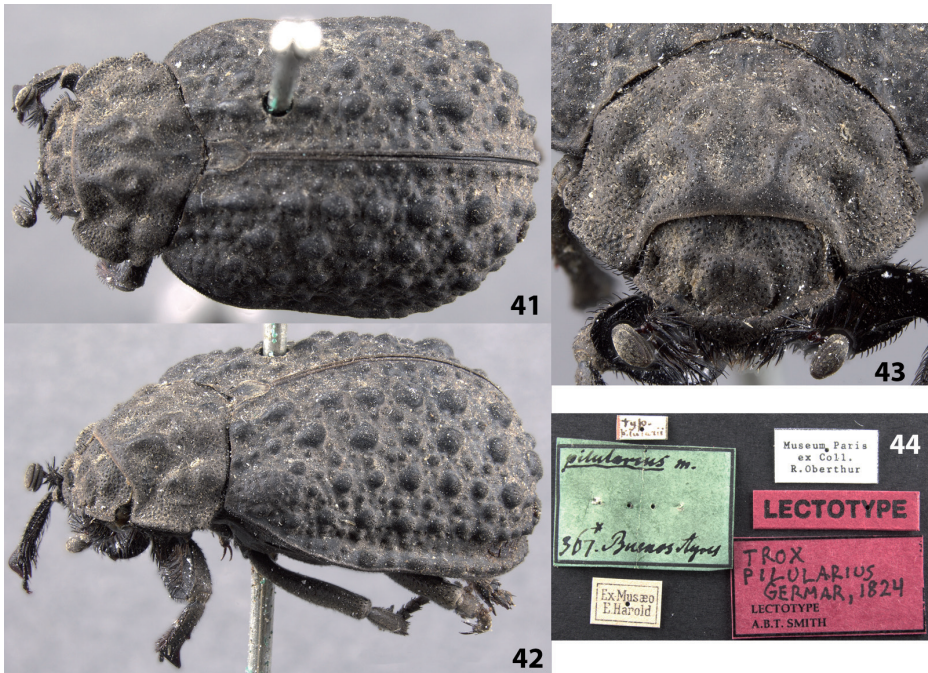
Distribution. Argentina: Salta, Tucumán, Catamarca, Santiago del Estero, La Rioja, Córdoba, San Luis, Mendoza, Río Negro (Vaurie 1962; Scholtz 1990; CMNC).

Polynoncus pilularius (Germar, 1824)

Original combination. *Trox pilularius* Germar, 1824: 113. Type series: lectotype at MNHN (Figs. 41-44) labeled a) “typ. / pilularii” (handwritten), b) “pilularius m. / 367* Buenos Ayres” (green paper with black border, handwritten), c) “Ex.Musæo / E.Harold” (white paper with black border, typeset), d) “Museum Paris / ex Coll. / R. Oberthur” (typeset), e) “LECTOTYPE” (red paper, typeset), f) “TROX / PILULARIUS / GERMAR, 1824 / LECTOTYPE / A.B.T. SMITH” (red label, handwritten and typeset), g) “POLYNONCUS / PILULARIUS / (GERMAR) / Det:A.B.T.Smith 2016” (handwritten and typeset). **Lectotype here designated.** Type locality: “Buenos Ayres.”

Distribution. Perú; Bolivia; Brazil; Paraguay; Uruguay; Argentina: Jujuy, Salta, Chaco, Tucumán, Catamarca, Santiago del Estero, Entre Ríos, Buenos Aires, Neuquén (Scholtz 1990).

Comment. The original description of this species gave no indication of the origin of the type series other than they were from “Buenos Ayres”.



Figures 41-44. *Trox pilularius* Germar, 1824 lectotype (now *Polynoncus pilularius*). 41. Dorsal habitus. 42. Oblique habitus. 43. Head and pronotum. 44. Labels.

Acknowledgments

I would like to thank Max Barclay and Beulah Garner for their hospitality at the BMNH and Keita Matsumoto for taking the photographs of the Curtis types. Thanks to Olivier Montreuil for his generous help at the MNHN, especially in bringing the D'Orbigny catalog to my attention. François Génier is acknowledged for transcribing and translating D'Orbigny's catalog entries. I would also like to thank all of the institutions, curators, and collections managers listed in the methods and materials section for allowing me to study specimens in their care.

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