

**Table S1.** List of non-type specimens examined.

*Polynoncus aeger* (Guérin-Meneville, 1830)

**ARGENTINA: San Luis**, Villa Elena Natural Reserve, xi.1976, M. Viana leg. (2♂ CVMD). **BRAZIL: Rio Grande do Sul**, Canguçu, Cabanha Sobrado Branco, iv.2012, Santos Dias, Carneiro & Zacca leg. (♀ CEMT); Herval, 32°05'S, 53°36'W, xii.2014, L. Garcia leg. (CEMT). **URUGUAY: Colônia**, La Estanzuela, 12.ix.1995, J.R. Verdú leg. (♂ CEMT).

*Polynoncus argentinus* (Harold, 1872)

**ARGENTINA:** Buenos Aires, Puan, Felipe Solá, xi.1961, A. Martinez leg. (2♂ and 8 unsexed MZSP). **Buenos Aires**, Villarino, Playa La Chiquita, 27.iii.2014, G. Flores & N. Zanetti leg. (2 IADIZA). **Córdoba**, Rio Cuarto, Estación Monte de los Gauchos, 23.ii.1996, Maceda leg. (2♂ IADIZA). **La Pampa**, Bajo Giuliani, 3.iii.1999, Gouts, Rastelli leg. (IADIZA). **Rio Negro**, Rio Colorado (CEMT).

*Polynoncus aricensis* (Gutiérrez, 1950)

**CHILE: Tarapacá**, Iqueque, Colchane, "Pampa Caraguano", 19°33'50"S, 68°44'24"W, 3.iii.1998, A. Ugarte leg. (3♂ and 3 unsexed CEMT); Iqueque, Colchane, "Pampa Caraguano", 30.i.1998, H. Larrain leg. (2♀ CEMT).

*Polynoncus bifurcatus* (Vaurie, 1962)

**ARGENTINA: Chaco**, Capitán Solari, 26°48'45"S, 59°33'19"W, 10.ix.2016, C. Guerra-A leg. (2♂ and 3♀ CEMT).

*Polynoncus brasiliensis* (Vaurie, 1962)

**BRAZIL: Paraná**, Céu Azul, Iguaçu National Park, 25°9'0"S, 53°50'0"W, 14.x.2015, R. Barros leg. (1♂ CEMT); Londrina, Mata dos Godoy State Park, 23°26'0"S, 53°50'0"W, 5.xii.2016, R. Barros leg. (1♀ CEMT). **Rio Grande do Sul**, Bento Gonçalves, ix.2001, C. Arioli leg. (4 CEMT).

*Polynoncus brevicollis* (Eschscholtz, 1822)

**ARGENTINA:** Neuquén, San Martín de los Andes, 25.xi.1979, M. Gentili leg. (1♂ CEMT). **CHILE:** Los Rios, Valdivia, 17.x.1994 (1♂ and 1♀ CEMT).

*Polynoncus bullatus* (Curtis, 1844)

**CHILE:** Bío-Bío, Ñuble, Puente Marchant, i.1998, V.M. Diéguez leg. (2♂ and 5 unsexed CEMT). **Coquimbo,** Elqui, Tongoy, 3.vi.1999 (1♂ and 1♀ CEMT).

*Polynoncus burmeisteri* Pittino, 1987

**ARGENTINA:** Córdoba, Calamuchita, Hotel El Sauce, x.1975, M. Viana leg. (1♂ CVMD); Calamuchita, Hotel El Sauce, xi.1968, M. Viana leg. (1♂ CVMD). **Mendoza,** Santa Rosa, Reserva de Biosfera de Ñacuñán, 11–13.xii.2002, V.M. Diéguez leg. (1♂ and 1♀ CEMT).

*Polynoncus chilensis* (Harold, 1872)

**CHILE:** Los Lagos, Osorno, Fundo Porvenir, 13.iii.1982, D. Jackson leg. (2♂ CVMD). **Los Rios,** Valdivia, ix.1986, E. Krammer leg. (1♂ CEMT); Valdivia, Santo Domingo, 23.ix.1990, E. Krahmer leg. (1♀ CEMT).

*Polynoncus crypticus* Diéguez, 2019

**CHILE:** Aisén, Cochrane, Cap. Prat, 3.ii.1990, L.E. Peña leg. (1♂ CVMD – PARATYPE). **Araucanía,** Malleco, Cuesta Las Raices, ii.2001, A. Ugarte leg. (1♂ CVMD – PARATYPE). **Bío-Bío,** Chillán, Las Trancas, Puente Aserradero, 1295m, 36°54"S, 71°27"W, 29.xii.2016, Thomas Fichet leg. (1♂ CEMT – PARATYPE). **Los Lagos,** Ainco, 7 km W Pargua, 25.xii.2010, colectados a la luz, G. Arriagada leg. (1♀ CVMD – PARATYPE).

*Polynoncus diffluens* (Vaurie, 1962)

**CHILE:** Bío-Bío, Ñuble, Chillan, Piedras Comadres, 17.i.1992, S. Roitman leg. (1♂ CVMD). **Los Rios,** Valdivia, Panguipulli, Liquiñe, 9–15.ii.1999, V.M. Diéguez leg. (1♀ CVMD). **Santiago,** Melipilla, Fundo San Luis Pallocabe, 300m, 10–15.xii.2001, ultraviolet traps, V.M. Diéguez leg. (1♂ CEMT).

*Polynoncus ecuadorensis* (Vaurie, 1962)

**ECUADOR: Imbabura**, Chachimbiro, 18.xi.1984, F. Bravo leg. (1♀ CEMT). **Pichincha**, Quito, 16.i.1988, Sanchez leg. (1♀ CEMT); Quito, Calderón, 25.iii.1997 (1♂ CEMT); Tumbaco, 2,650m, 15.v.1989, J. Vallejo leg. (1 total, 1♂, ♀ CEMT).

*Polynoncus erugatus* Scholtz, 1990

**ARGENTINA: Tucuman**, El Infiernillo, 9.xi.1995, G. Flores & S. Roig leg. (1♂ and 2♀ CEMT). **Catamarca**, San Fernando del Valle de Catamarca, 540m, iv.2005, G.E. Acuña leg. (1 CEMT).

*Polynoncus furcillifer* Pittino, 1987

**BRAZIL: Espírito Santo**, Domingos Martins, Pedra Azul State Park, 1,500m, i.2000, Lopes-Andrade & Vaz-de-Mello leg. (1♂ and 3♀ CEMT); Venda Nova do Imigrante, xii.2001, F.Z. Vaz-de-Mello leg. (1♂ and 1♀ CEMT). **Minas Gerais**, Viçosa, Mata Atlântica (UFV [Federal University of Viçosa]), 20°47'52"S, 42°51'43"W, 23.ix.3–x.2016, NTP-80 (meat), M. Ix-Balam leg. (1♀ and 11 unsexed CEMT); Viçosa, Mata do Paraíso, i.1996, J. Louzada, Lopes Sperber & Vaz-de-Mello leg. (1♂ and 1♀ CEMT).

*Polynoncus galapagoensis* (Van Dyke, 1953)

**ECUADOR: Galapagos Islands**, Isla Wolf, Croton Forest, 11.v.1996, S. Peck (42 CMNC).

*Polynoncus gemmifer* (Blanchard, 1847)

**ARGENTINA: Chubut**, Epuyén, [N.–W. Patagonia (sic!)], 300-900m, xii.1919, H.E. Box leg. (1♂ and 1 unsexed NHMUK); Languineo, Manantiales, 6.xi.1985, L. Peña leg. (1♂ and 1♀ CMNC). **Mendoza**, San Carlos, 17km E Refugio Alvarado, Reserva Natural Laguna del Diamante, 1,704m, 35°15'22"S, 69°12'4"W, 19.xi.2012, horse carcass, G. Arriágada leg. (1 CEMT).

*Polynoncus gemmiferus* (Blanchard, 1847)

**ARGENTINA: Mendoza**, Dique El Nihuil, iii.2002, C.A Medina leg. (1♂ and 1♀ CEMT). **Rio Negro**, Cerro Tapilique, 19.iii.1915 (4♀ CEMT).

*Polynoncus gemmingeri* (Harold, 1872)

**BRAZIL: Minas Gerais**, Andrelândia, Tora do João Japonês I, 21°46'26"S, 44°21'58"W, 22.iii.2014, L.F.M. Iniesta leg. (1♂ and 8 unsexed CEMT); Lavras, Campus da UFLA, xi–xii.2001, Light trap, F.Z. Vaz-de-Mello leg. (2♂ CEMT).

*Polynoncus gibberosus* Scholtz, 1990

**CHILE: Araucanía**, Lonquimay, ii.1994, S. Castro leg. (1♀ CEMT). **Bío-Bío**, Alto Cayucupil, Cordillera de Nahuelbuta, 25–31.i.1997, V.M. Diéguez leg. (1♂ CEMT; 1♂ and 6 unsexed CVMD).

*Polynoncus gordonii* (Steiner, 1981)

**PERU: Amazonas**, Bagua, Achaguay Alto, 688m, 5°35'24"S, 78°30'11"W, 31.iii.2012, I. Medina & J. Grados leg. (1♂ CEMT; 1 CVMD); Chachapoyas, 1889, M. de Mathan leg. (1♀ MNHN).

*Polynoncus hemisphaericus* (Burmeister, 1876)

**ARGENTINA: Mendoza**, Malargüe, El Nevado, 7km E. Ruta 186, 2,198m, 35°37'29"S, 68°36'4"W, 21.ii.2006, R. Carrara leg. (2 CEMT); San Carlos, Laguna del Diamante, 3,289m, 20.xi–17.xii.2012, pitfall trap with human feces, G. Arriágada leg. (1♀ CEMT). **CHILE: Magallanes**, Ultima Esperanza, Cerro Guido, 7.i.2010, em oveja [sheep], Douglas Jackson leg. (1♂ CEMT).

*Polynoncus juglans* (Ratcliffe, 1978)

**BRAZIL: Amazonas**, Manaus, Adolpho Ducke Forest Reserve, 2°55'49"S, 59°58'32"W, 28.iv–3.v.2013, F.Z. Vaz-de-Mello leg. (2♂ CEMT); Manaus, Esteio Farm, Biological Dynamics Project of Forest Fragments (PDBFF), 2°25"S, 59°50"W, 2–28.vii.2000, I. Quintero leg. (1 CEMT). **FRENCH GUYANE: Sinnamary**, Paracou, Paracou Field Station, x.2003, pitfall with meat, lisière forêt, F. Feer leg. (1♂ and 1 unsexed CEMT).

*Polynoncus longitarsis* (Harold, 1872)

**ARGENTINA: Neuquén**, 32 km E [East] of Paso Hua-Hum, Lago Lacar, 950m, 40°8"S, 71°26"W, 11.i.1988, pitfall with human dung, Ashworth, Fugiseth, Maliske leg. (1♂ CEMT). **CHILE: Los Ríos**, Valdivia, 19.iii.2007 (1♂ and 2♀ CEMT); Valdivia, Santo Domingo, 23.ix.1990, E. Krahmer leg. (2♂ CEMT).

*Polynoncus mirabilis* Pittino, 1987

**ARGENTINA: Neuquén**, 32 km E. [East] of Paso Hua-Hum, Lago Lacar, 950m, 40°8'S, 71°26'W, 11.i.1988, human dung, Ashworth, Fugiseth, Maliske leg. (1♂ and 1♀ CEMT). **CHILE: Araucanía**, Curacautin, Cuesta Las Raíces, xii.1999, Alfredo Ugarte leg. (1♂ CVMD).

*Polynoncus Neuquén* (Vaurie, 1962)

**ARGENTINA: Chubut**, Telsen, 3.ii.2011, under Guanaco [*Lama guanicoe*] carcass, G. Arriagada leg. (1♂ CEMT). **Mendoza**, Las Heras, Reserva Natural Villavicencio, 2,200m, 31.xii.2014, F. Aballay leg. (2♀ CEMT; 8 IADIZA).

*Polynoncus pampeanus* (Burmeister, 1876)

**ARGENTINA: La Pampa**, Guatraché, Estancia La Unión, ix.1995, Pessino leg. (1 CEMT); Santa Rosa, Facultad de Agronomía, 2.iv.2003, Tirani leg. (3♂ and 2 IADIZA); Zapala, Ruta 14 Km 166, 31.vii.1999, Maceda leg. (1♂ CEMT).

*Polynoncus parafurcatus* Pittino, 1987

**BRAZIL: Distrito Federal**, Brasilia, IBGE Ecological Reserve, xi.1986, I. Diniz leg. (3♂ CVMD); Brasília, Brasília National Park, 15°51'22"S, 47°48'48"W, 17.ii.2016, FIT [Flight Interception trap], Cerrado, N.H.D. Silva leg. (1♂ CEMT). **Paraná**, Tibagi, Guartelá State Park, 900m, xi.2007, pitfall, P. Grossi leg. (1♀ CEMT).

*Polynoncus patagonicus* (Blanchard, 1847)

**ARGENTINA: Chubut**, Península Valdes, Punta Delgada, 2.xi.1997, Daniel Rojas Lanus leg. (1♂ CVMD); Without specific locality, H. Richter leg. (1♂ CEMT). **La Pampa**, 35km W de Jagüel del Monte, 14.vii.1999, Maceda leg. (1♂ CEMT).

*Polynoncus patriciae* Pittino, 1987

**ARGENTINA: Buenos Aires**, Balcarce, J.M. Gallardo leg. (1♂ CEMT); Tandil (1♂ MACN).

*Polynoncus pedestris* (Harold, 1872)

**ARGENTINA: Córdoba**, Hotel El Sauce, x.1970, M. Viana leg. (3 CVMD). **La Pampa**, Río Colorado, between Río Negro and La Pampa, 20.ii.2001, D.R. Lanus leg. (4 CVMD).

**San Luís**, Belgrano, Fundo El Molle, 20–28.i.2013, pitfall with pig dung as bait, G. Arriágada leg. (1♂ CEMT).

*Polynoncus peruanus* (Erichson, 1847)

**ARGENTINA: Jujuy**, Tumbaya, Cuesta de Lipán, Ruta 52, km 22, 3,500m, 23°40'58"S, 65°35'62"W, 17.i.2008, L.R. Faria Jr. leg. (1♀ CEMT). **CHILE: Tarapacá**, Iquique, Colchane, "Pampa Caraguano", 4,000m, 30.i.1998 (1♂ and 3♀ CEMT).

*Polynoncus pilularius* (Germar, 1823)

**ARGENTINA: Chaco**, Río Muerto, 26°7'33"S, 61°40'39"W, 31.x.2016, pitfall, C. Guerra-A leg. (1♀ CEMT). **BRAZIL, Rio Grande do Sul**, Bagé, Embrapa Pecuaría, i.2006, pitfall, L.D. Audino leg. (1♂ CEMT). **Santa Catarina**, Bom Jardim da Serra, Mantiqueira, xii.2001, C. Arioli leg. (1♂ CEMT).

*Polynoncus pittinoi* Costa-Silva & Diéguez, 2020

**ARGENTINA: Córdoba**, Calamuchita, Villa Yacanto, x.1970, M. Viana leg. (1♀ CEMT – PARATYPE); Calamuchita, Río Tercero, x.1970, M. Viana leg. (1♀ CJEB – PARATYPE).

*Polynoncus pseudogemmifer* Costa-Silva et al. 2024

**ARGENTINA: Chubut**, Giaman, Bryn Gwyn Sur, 43°21'4"S, 65°28'30"W, 3.iii.2010, D.R. Lanus leg. (6 CEMT – PARATYPES). **Mendoza**, Santa Rosa, 11–13.xii.2002, V.M. Diéguez leg. (7♂ and 6♀ CVMD – PARATYPES).

*Polynoncus sallei* (Harold, 1872)

**ECUADOR: Loja**, Malacatos, 1,500m, 7.xi.1995, P. Ortiz leg. (1♀ CEMT). **PERU: Arequipa**, Lomas Atiquita, 800m, ii.2005, pitfall trap, J. Cerdeña leg. (1♂ and 2 unsexed CVMD).

*Polynoncus seymourensis* (Mutchler, 1925)

**ECUADOR: Galapagos Islands**, Isla Santa Cruz, 6.iii.1995, N. Criollo leg. (1♀ CEMT) Santa Cruz Is., Charles Darwin Research Station (CDRS), 10 m, 17–30.i.1989, UV light, S. Peck & B. Sinclair leg. (2 NHMUK). **Manabí**, Manta, San Juan, 8.i.2010, bosque seco, W. Chamorro leg. (1♂ CVMD).

*Polynoncus tenebrosus* (Harold, 1872)

**ECUADOR: Chimborazo**, Guano, 2,683m, 10.vii.2007, manual (1♂ CEMT).

*Polynoncus vazdemelloi* Huchet & Costa-Silva, 2018

**BRAZIL: Paraíba**, Mamanguape, Rebio Guaribas, 6°41'0"S, 35°10'0"W, xi.2001, pitfall fezes, A.A. Endres leg. (2♂ and 2♀ CEMT). **São Paulo**, Praia Grande, Parque Estadual Xixová-Japui, 1.xii.1999, interceptação de voo (1♀ CEMT).

*Omorgus (O.) suberosus* (Fabricius, 1775)

**BRAZIL: Minas Gerais**, Águas Vermelhas, 814m, xii.1998, A. Bello & F. Vaz-de-Mello leg. (1♂ and 2♀ CEMT). **PARAGUAY: Concepción**, Zanja Moroti, 242m, 3–15.xi.2006, E. Abadie leg. (1♂ CEMT).

*Omorgus (O.) fuliginosus* (Robinson, 1941)

**MEXICO: Veracruz**, Carr. Actopan, Passando la Desv. Idolos, 240m, 30.viii.1994, trampa necro permanente, L. Arellano & R. Sanchez leg. (2♂ and 3 unsexed CEMT); Carr. Alto Lucero, Km 2 Desviación la Concepción, 690m, 18.x.1994, trampa necro permanente, L. Arellano & R. Sanchez leg. (1♂ CEMT).

*Omorgus (Afromorgus) squalidus* (Olivier, 1789)

**TCHAD**: Farcha, 12°7'56"N, 15°0'6"E, 31.vii.2006 (4♂, 2♀, and 4 unsexed CEMT).

*Omorgus (Afromorgus) gemmatus* (Olivier, 1789)

**SENEGAL**: Richard Toll, 16°27'7"N, 15°42'19"W, 5.viii.1996, lumière, J.B. Huchet & J. Sudre leg. (2♂, 3♀, and 14 unsexed CEMT).

*Omorgus (Haroldomorgus) batesi* (Harold, 1872)

**BRAZIL: Maranhão**, ReBio Gurupi 3°14'5"S, 46°41'83"W, 7–15.i.2011, Armad. Luminosa, F. Limeira-de-Oliveira, M.M. Abreu & E.A.S. Barbosa leg. (1♂ CEMT). **Mato Grosso**, Rio Branco, xii.1984, Magno & Alvarenga leg. (1♂ CEMT). **Roraima**, Caracará, vii.1997, F. Vaz-de-Mello leg. (1♀ CEMT).

*Trox (T.) plicatus* Robinson, 1940

**MEXICO: Durango**, Durango, Molinillos, 2,360m, 18–21.vii.2006, squid bait, S. Anduaga & K.G. Tam leg. (1♂ CEMT). **Hidalgo**, P.N. El Chico, 2,890m, 3.vi.2006, J.R. Verdú et al. leg. (1♀ CEMT). **UNITED STATES: Arizona**, Santa Cruz Co., Madera Canyon, 1,650m, 31.7128°N, 110.8737°W, 9.viii.2013, P. Bouchard leg. (2 CNC).

*Trox (T.) variolatus* Melsheimer, 1846

**CANADA: Quebec**, Quebec, 13.v.2000, Michel Racine leg. (1♂ CEMT). **MEXICO: Durango**, Durango, Molinillos, 2,360m, 18–21.vii.2006, squid bait, S. Anduaga & K.G. Tam leg. (1♂ and 1♀ CEMT).

*Phoberus montanus* (Kolbe, 1891)

**TANZANIA: Klimanjaru**, Klimajaru Natinal Park (2♂ CEMT).

*Phoberus luridus* (Fabricius, 1781)

**BOTSWANA: Twee Rivieren**, 883m, 26°28'56"S, 20°36'54"E, 15.xii.2010, pitfall, W.P. Strümpher leg. (3 CEMT). **SOUTH AFRICA: Northern Cape**, Namaqualand, Kotzesrus, 30°58'21"S, 17°47'30"E, 8.viii.2015, W.P. Strümpher leg. (1♂ CEMT). **Western Cape**, Strandfontein, 70m, 31°45'1"S, 18°14'20"E, 10.viii.2015, pitfall, W.P. Strümpher leg. (1♀ CEMT).

*Glareis pardoalcaidei* Martínez, Pereira & Vulcano, 1961

**ARGENTINA: Mendoza**, Desaguadero, 5.ii.2017, light, G. Arriagada leg. (1♂ CEMT). **Santiago del Estero**, Pampa de los Guanaco, rd 16, 30km S, 400m, 17–20.i.2010, S. Jakl leg. (3 CEMT). **BRAZIL: Distrito Federal**, Planaltina, N.R. Taquara, 1,048m, 10.x.2006, C.M. Oliveira leg. (1♂ CEMT).