

New data on ambrosia beetles of the genus *Sampsonius* EGGERS, 1935 with descriptions of three new species from South America (Coleoptera: Curculionidae: Scolytinae)

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Abstract

Three new species of *Sampsonius* EGGERS, 1935 (Coleoptera: Curculionidae: Scolytinae) are described from Brazil, Ecuador, and Peru: *S. lepusculus*, *S. lapidosus* and *S. militaris*. *Sampsonius ensifer* WOOD, 2007 is synonymized with *S. giganteus* SCHÖNHERR, 1994. The male of *S. dampfi* SCHEDL, 1940 is described for the first time. New records and a key to the world species of *Sampsonius* is given.

Key words: Coleoptera, Curculionidae, Scolytinae, Xyleborini, Ambrosia Beetles, taxonomy, key to species, Brazil, Ecuador, Peru.

Introduction

During the study of Scolytinae from South America we were able to improve the knowledge of the distribution and biology of the Neotropical species of the genus *Sampsonius*. The genus *Sampsonius* was described by EGGERS (1935). BRIGHT (1991) revised the genus, developed a key to the species and provided new distribution data. Until today, 19 valid species were known (BRIGHT 1991, SCHÖNHERR 1994, WOOD 2007, PETROV & MANDELSHTAM 2009).

A total of 16 species of *Sampsonius* was collected by the authors in Peru and Brazil (2010–2013), and by Alexey K. Tishechkin in Ecuador (2008). Among these species three were recognized as new to science, and also males of *S. dampfi* SCHEDL, 1940, which were previously not known. This paper lists new findings, provides detailed descriptions and figures of the new species and the male of *S. dampfi*. Some biological notes are also provided. According to our knowledge the genus *Sampsonius* now includes 22 species.

Material

All specimens listed below were collected by A.K. Tishechkin, C.A.H. Flechtmann and A.V. Petrov and by some other collectors. Their material is kept in MEFEIS, MZUSP and NHMW. All specimens cited here are deposited in the collections listed below and some private collections mentioned in the text.

APP	Alexander Petrov private collection, Moscow, Russia
LSAM	Louisiana State Arthropod Museum, Louisiana Museum of Natural History, Baton Rouge, USA
MEFEIS	Museu de Entomologia da FEIS/UNESP, Ilha Solteira, São Paulo State, Brazil
MZUSP	Museu de Zoologia, Universidade de São Paulo, Brazil
NHMW	Naturhistorisches Museum Wien, Vienna, Austria
ZMM	Zoological Museum of Moscow State University, Moscow, Russia

Sampsonius alvarengai* BRIGHT, 1991*MATERIAL EXAMINED:**

P E R U: JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, 19.I.2006, 12.I.2007, leg. A.V. Petrov, 2 ♀♀; Río Venado vill., Capiro River, 15 km NW from Satipo, 1100 m a.s.l., 74°46'W 11°11'S, 22.–23.II.2013, leg. A.V. Petrov, 2 ♀♀; LORETO: 70 km SSW from Iquitos to Nauta, 140 m a.s.l., 2.III.2008, leg. A.V. Petrov, 1 ♀; (1 ♀ in MEFEIS, 1 ♀ in S.M. Smith collection, remaining three females in APP).

Sampsonius buculus* SCHEDL, 1937*MATERIAL EXAMINED:**

B R A Z I L: AMAZONAS: Itacoatiara, Mil Madeireira, non-flooded terra firme primary tropical forest, 58°31'58.57"W 2°43'3.04"S, unbaited FIT, 2.XII.2010, leg. R.L.S. Abreu, 1 ♀; BAHIA: Nova Viçosa, ex *Eucalyptus grandis* stand, ethanol-baited FIT, 25.VI.–9.VII.1997, leg. C.A.H. Flechtman, 3 ♀♀; MATO GROSSO: Itiquira, ex *Hevea brasiliensis* clone GT1 stand, ethanol-baited FIT, 28.III.1993, leg. O.T. Dall'Oglio, 3 ♀♀; MATO GROSSO DO SUL: Três Lagoas, Horto Barra do Moeda, cerrado fragment, ethanol-baited FIT, 24.X.1991, leg. C.A.H. Flechtman, 1 ♀; SÃO PAULO: Jarinu, ex *Eucalyptus saligna* stand, ethanol-baited FIT, 23.IV.1991, leg. A. Dwulatka, 2 ♀♀; F R E N C H G U I A N A: Saül, Belvédère, primary ombrophilous rainforest, 53°12'34"W 3°1'22"N, unbaited window trap, 11.I.2011, leg. S. Brûlé, 2 ♀♀; (all specimens in MEFEIS).

Sampsonius conifer* (HAGEDORN, 1905)*MATERIAL EXAMINED:**

F R E N C H G U I A N A: Cayenne, Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°4'18"N, unbaited window trap, 10.X–20.X.2009, leg. S. Brûlé, 3 ♀♀; (2 ♀♀ in MEFEIS, 1 ♀ in APP).

Sampsonius dampfi* SCHEDL, 1940*MATERIAL EXAMINED:**

B R A Z I L: AMAZONAS: Manaus, Adolpho Ducke Forest Reserve, INPA [Instituto Nacional de Pesquisas da Amazônia], primary Amazon forest, 60°12'40"W 2°35'45"S, ethanol-baited FIT, 28.II.–31.V.1993, leg. R.L.S. Abreu, 5 ♀♀; Manaus, Estação Experimental de Silvicultura Tropical, INPA, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 1.IX.–31.X.2000, 9.I.2001, leg. R.L.S. Abreu, 6 ♀♀; BAHIA: Camacã, Serra Bonita Reserve, primary Atlantic cloud forest, 39°33.810'W 15°23.429'S, 850 m a.s.l., ethanol-baited FIT, 14.VI.2013, leg. A.L. Cognato, S.M. Smith & C.A.H. Flechtman, 4 ♀♀; Esplanada, *Pinus caribaea* var. *hondurensis* stand, ethanol-baited FIT, 30.VIII.1991, leg. A. Dwulatka, 2 ♀♀; Taperoa, Brasessência Takasago, ex live *Ocotea* trunk, 16.X.1998, leg. G.C. Foltran, 1 ♀; CEARÁ: Crato, Floresta Nacional do Araripe, anthropized pluvio-nebular subperennial tropical forest fragment, 39°26'38.9"W 7°12'31.2"S, ethanol-baited FIT, 26.IX.–12.XI.2012, leg. F.R. Azevedo, 8 ♀♀; Crato, Floresta Nacional do Araripe, cerrado fragment, 39°28'15.8"W 7°20'45.4"S, ethanol-baited FIT, 26.IX.–14.XI.2012, leg. F.R. Azevedo, 2 ♀♀; ESPÍRITO SANTO: Aracruz, Aracruz Celulose, *Eucalyptus grandis* stand, ethanol-baited FIT, 11.XII.1991, leg. C.A.H. Flechtman, 3 ♀♀; MATO GROSSO: Itiquira, *Hevea brasiliensis* clone GT1 stand, ethanol-baited FIT, 30.IX.1992, leg. O.T. Dall'Oglio, 6 ♀♀; MATO GROSSO DO SUL: Selvíria, UNESP Farm, riparian forest fragment, 51°24'W 20°23'S, 9.II.2011, ex *Acacia polyphylla*, leg. A.V. Petrov, 1 ♂, 15 ♀♀; Selvíria, UNESP Farm, *Pinus* spp. stand, ethanol-baited FIT, 13.XI.1989, 1.III.–8.III.1990, leg. C.A.H. Flechtman, 5 ♀♀; Três Lagoas, Champion Papel e Celulose, Horto Barra do Moeda, *Eucalyptus grandis* stand, ethanol-baited FIT, 7.VI.1994, leg. C.A.H. Flechtman, 2 ♀♀; PARÁ: Rio Maria, Fazenda Riongi-Porã, *Schizolobium amazonicum* stand, ethanol-baited FIT, 15.VI.–20.VII.2011, leg. A.M. Lunz, 14 ♀♀; PARANÁ: Telêmaco Borba, Klabin Papel e Celulose, *Eucalyptus grandis* stand, ethanol-baited FIT, 28.VII.–3.XI.1995, 23.II.–21.VI.1996, leg. C.A.H. Flechtman, 26 ♀♀; Telêmaco Borba, Klabin Papel e Celulose, *Pinus taeda* stand, ethanol-baited FIT, 28.VII.–3.XI.1995, 1.III.–10.V.1996, 16.XI.1999, 16.II.2001, 5.IV.2002, 2.V.2003, 19.V.–29.IX.2006, 30.III.–11.V.2007, leg. C.A.H. Flechtman, 28 ♀♀; Telêmaco Borba, Klabin Papel e Celulose, mixed ombrophilous forest fragment (*Araucaria angustifolia* forest), ethanol-baited FIT, 28.IV.–3.XI.2006, 12.I.–16.V.2007, leg. C.A.H. Flechtman, 30 ♀♀; RIO DE JANEIRO: Pirai, Tribeira, *Macadamia integrifolia* stand, ethanol-baited FIT, unknown date, unknown collector, 6 ♀♀; RONDÔNIA: Ouro Preto do Oeste, CEPLAC, 16-year old 'capoeira' area, second-growth forest enriched with the planting of native trees, 62°13'22.72"W 10°43'1.85"S, ethanol-baited FIT, 21.II.–4.VII.2011, leg. O. Trevisan, 6 ♀♀; Ouro Preto do

Oeste, CEPLAC, 16-year old intercropping area with peach palm, cocoa and coffee, 62°14'0.68"W 10°43'31.82"S, ethanol-baited FIT, 4.IV.–13.VI.2011, leg. O. Trevisan, 7 ♀♀; Ouro Preto do Oeste, CEPLAC, Amazon forest fragment, 62°13'45.40"W 10°43'12.60"S, ethanol-baited FIT, 27.VI.–4.VII.2011, leg. O. Trevisan, 3 ♀♀; SÃO PAULO: Agudos, Duraflora S.A., *Pinus caribaea* var. *hondurensis* stand, ethanol-baited FIT, 24.IV.–9.V.1985, leg. C.A.H. Flechtmann, 8 ♀♀; Anhembi, Estação Experimental de Ciências Florestais de Anhembi, *Eucalyptus urophylla* stand, 47°53.040'W 24°36.544'S, ethanol-baited FIT, 20.IV.–14.IX.2011, leg. E.N. Lopes, 13 ♀♀; Caconde, *Coffea arabica* stand, ethanol-baited FIT, 4.I.1993, leg. V.A. Costa, 1 ♀; Ibatê, RIPASA, *Eucalyptus* sp. stand, ethanol-baited FIT, 13.III.–20.IV.1985, leg. C.O. Santos, 20 ♀♀; E C U A D O R: ORELLANA: Tiputini Biodiv. Stn., 35 m a.s.l., 76°09'W 0°38'S, 28.VII.–3.VIII.2008, leg. A.K. Tishechkin, 3 ♀♀; Yasuni Res. Stn., 76°23'W 0°40'S, 25 a.s.l., 15.–23.VII.2008, leg. A.K. Tishechkin, 3 ♀♀; F R E N C H G U I A N A: Cayenne, Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°41'18"N, unbaited window trap, 10.X.2009, leg. S. Brûlé, 1 ♀; M E X I C O: Chiapas, Lectotype ♀; P A N A M A: Barro Colorado Isl., Snyder-Malino trail, canopy light trap, 3.–9.VII.1985, leg. H. Wolda, 1 ♀; P E R U: HUÁNUCO: Cayumba vill., 26 km SSW from Tingo Maria, 780 m a.s.l., 75°59'W 9°29'S, 16.II.2007, leg. A.V. Petrov, 1 ♀; (lectotype in NHMV, all other specimens in MEFEIS and APP); JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m, 120 m a.s.l., 12.II.2012, leg. A.V. Petrov, 1 ♂, 15 ♀♀; same locality, but 1100 m a.s.l., 74°13'W 11°07'S, 12.–19.I.2006, 7.–12.I.2007, 2.–7.III.2008, leg. A.V. Petrov, 69 ♀♀; Rio Venado vill., Capiro River, 15 km NW from Satipo, 1100 m a.s.l., 74°46'W 11°11'S, 22.–23.II.2013, leg. A.V. Petrov, 32 ♀♀; LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 1.–3.II.2007, 16.–22.II.2008, leg. A.V. Petrov, 46 ♀♀; 70 km SSW from Iquitos to Nauta, 1.–5.III.2008, leg. A.V. Petrov, 9 ♀♀; Gen Gen vill., Momón River, 20 km NNW from Iquitos, 120 m a.s.l., 6.II.2007, leg. A.V. Petrov, 1 ♀.

DESCRIPTION (Male): Dwarfed form, 2.5–2.7 mm long, 3.3–3.5 times as long as wide (Figs. 1, 2). Body uniformly coloured, brown. Frons glabrous, shining, flattened from epistoma to level of eyes. Central portion of the frons is concave above upper level of eyes. Frontal surface with minute light hairs, epistoma with longer hairs. Eyes small, coarsely faceted, weakly emarginated anteriorly. Antennae brown. Antennal club nearly round, as long as wide, with margins of first and second sutures weakly procurved (almost straight). Pronotum cylindrical, brown, shining, 1.6 times as long as wide, with sides parallel from the basal half to anterior margin. Apical margin of pronotum protruding beyond head in the form of a pointy peak, bearing one central tubercle. Anterior slope of pronotum excavated in center from the middle of pronotum to apical margin. Base of pronotum nearly straight. Base, posterior half and lateral sides of pronotum sparsely punctate, anterior half of the pronotum abundantly punctured. Whole pronotal surface covered by short light recumbent hairs, longer at sides and in apical portion of the pronotum. Scutellum small, shining, rounded at apex. Elytra brown, faintly shining, cylindrical, 2.1 as long as wide, 1.2 times as long as pronotum. Sides parallel and tapering towards apex in posterior $\frac{3}{4}$ of length, moderately arcuate to narrowly rounded apex. Discal striae straight up to apex, punctures are round and large. Strial hairs in rows short, erect. Interstriae smooth, shining, about 1.5–2.0 as wide as striae, punctures in interstriae set more sparsely, less impressed, with longer sparse erect setae. Elytral declivity occupies $\frac{1}{4}$ of elytral length, its surface impressed dorsally. Surface of declivity faintly shining, feebly shagreened, strial punctures are mixed. Central suture raised at apical portion of elytra. Interstriae 2–4 with rows of numerous tubercles. Surface of elytral sides with abundant long, erect yellow setae. Mesonotum and abdomen covered by sparse, rounded punctures. Abdominal sternites horizontal, with light erect setae. Legs unicoloured, light brown, with short yellow setae.

Male genitalia: length 0.5 mm, Median lobe arcuate, lateral and apical margins more sclerotized, apex with coarse punctures. Apophysis short, 0.25 as long as median lobe, feebly procurved. Tegmen circular, broad. Spicule reduced (Figs. 3, 4).

***Sampsonius giganteus* SCHÖNHERR, 1994**
(syn. *S. ensifer* WOOD, 2007 **syn.n.**)

MATERIAL EXAMINED:

B R A Z I L: AMAZONAS: Manaus, Adolpho Ducke Forest Reserve, INPA, primary Amazon forest, 60°12'40"W 2°35'45"S, ethanol-baited FIT, 26.X.1993, leg. R.L.S. Abreu, 2 ♀♀; Manaus, INPA, Estação Experimental de Silvi-

cultura Tropical, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 6.IV.1993, 9.XI.2000, 25.VI.2001, 30.IX.2009, leg. R.L.S. Abreu, 4 ♀♀; MATO GROSSO: Jangada, Panflora Farm, *Tectona grandis* stand, ethanol-baited FIT, X.2000, leg. O. Peres Filho, 2 ♀♀; Itiquira, *Hevea brasiliensis* clone GT1 stand, ethanol-baited FIT, 30.IX.1992, 15.IV.1993, leg. O.T. Dall'Oglio, 2 ♀♀; RONDÔNIA: Ouro Preto do Oeste, CEPLAC, Amazon forest fragment, 62°13'45.40"W 10°43'12.60"S, ethanol-baited FIT, 28.I.2013, leg. O. Trevisan, 1 ♀; Ouro Preto do Oeste, CEPLAC, 16-year old 'capoeira' area, second-growth forest enriched with planting of native trees, 62°13'22.72"W 10°43'1.85"S, ethanol-baited FIT, 17.XII.2012, 28.I.2013, leg. O. Trevisan, 2 ♀♀; E C U A D O R: ORELLANA: Tiputini Biodiv. Stn., 25 m a.s.l., 76°09'W 0°38'S, 28.VII.–3.VIII.2008, leg. A.K. Tishechkin, 2 ♀♀; Yasuni Res. Stn., 76°23'W 0°40'S, 27 a.s.l., 11.–24.VII.2008, leg. A.K. Tishechkin, 2 ♀♀; F R E N C H G U I A N A: Cayenne-Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°4'18"N, unbaited window trap, 22.IX.–20.X.2009, leg. S. Brûlé, 6 ♀♀; P E R U: JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, 19.I.2006, 12.I.2007, in wood of coffee tree, leg. A.V. Petrov, 4 ♀♀; LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 3.II.2007, 11.II.2007, 22.II.2007, in wood of *Ficus* sp., leg. A.V. Petrov, 3 ♀♀; same locality, but 20.II.2008, leg. A.V. Petrov, 2 ♀♀; (all specimens in MEFEIS and APP).

We are synonymizing *Sampsonius ensifer* WOOD with *S. giganteus* SCHÖNHERR on the basis of authoritatively identified specimens of both species, as well as identical characters purportedly diagnosing them from other *Sampsonius* spp. (pronotum, elytral declivity and processes of the declivity). We have not been able to locate the holotype of *S. giganteus* (although it was purportedly deposited in the collection of the Department of Zoology of the Universidade Federal do Paraná in Curitiba, Brazil – it may yet be lost or found in Germany). If it is eventually found, careful comparison of the holotypes of these species would be desirable to fully confirm this synonymy.

***Sampsonius kuaizi* PETROV & MANDELSHTAM, 2009**

MATERIAL EXAMINED:

P E R U: LORETO: Itaya River, left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 5.II.2006, leg. A.V. Petrov; 60 km SSW from Iquitos to Nauta, 120 m a.s.l., 22.II.2008, leg. A.V. Petrov, 2 ♀♀; 74 km SSW from Iquitos to Nauta, 153 m a.s.l., 73°30'W 4°20'S, 24.II.2006, in window trap, leg. A.V. Petrov, 1 ♀; (all specimens in APP; except for one paratype in S.M. Smith collection).

***Sampsonius obtusicornis* SCHEDL, 1976**

MATERIAL EXAMINED:

B O L I V I A: SANTA CRUZ: 3.7 km SSE Buena Vista, Hotel Flora & Fauna, 400 m a.s.l., 63°39'W 17°29'S, 23.–30.IV.2004, leg. A. Cline & J. Wappes, 2 ♀♀; Poterrillos del Guenda Preserva Natural, 370 m a.s.l., 63°27'W 17°40'S, 1.–4.X.2007, leg. J. Wappes & R. Morris, 2 ♀♀; B R A Z I L: ESPÍRITO SANTO: Aracruz, Aracruz Celulose, *Eucalyptus grandis* stand, ethanol-baited FIT, 4.VI.1978, leg. J.B. Silva, 1 ♀; same locality, 18.X.1992, leg. C.A.H. Flechtmann, 1 ♀; MARANHÃO: Pedrinhas, island of São Luís, 44°18'41.3"W 2°43'29.88"S, black light FIT, 12.III.–7.VII.1993, leg. E. Bergmann, 3 ♀♀; MATO GROSSO: Cotriguaçu, São Nicolau Farm, Amazon rainforest, ethanol-baited FIT, VI.2002, leg. O. Peres Filho, 1 ♀; E C U A D O R: ORELLANA, Tiputini Biodiv. Stn., 28.VII.–3.VIII.2008, leg. A.K. Tishechkin, 6 ♀♀; P E R U: JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, 12.I.2006, in light trap, leg. A.V. Petrov, 1 ♀; (all specimens in MEFEIS and APP); LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 22.II.2008, leg. A.V. Petrov, 1 ♀.

***Sampsonius pedrosai* SCHÖNHERR, 1994**

MATERIAL EXAMINED:

B R A Z I L: AMAZONAS: Manaus, Estação Experimental de Silvicultura Tropical, INPA, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 20.VII.–26.X.1993, 30.I.–31.X.2000, 9.I.–16.V.2001, leg. R.L.S. Abreu, 18 ♀♀; Itacoatiara, Mil Madeireira, non-flooded terra firme primary tropical forest, 58°31'58.57"W 2°43'3.04"S, ethanol-baited FIT, 4.XI.–2.XII.2010, leg. R.L.S. Abreu, 2 ♀♀; same locality, unbaited FIT, 5.I.2011, leg. R.L.S. Abreu, 1 ♀; BAHIA: Camacã, Serra Bonita Reserve, primary Atlantic cloud forest, 39°33.810'W 15°23.429'S, 850 m a.s.l., ethanol-baited FIT, 14.V.2013, leg. A.L. Cognato, S.M. Smith & C.A.H. Flechtmann,

1 ♀; MATO GROSSO DO SUL: Três Lagoas, Champion Papel e Celulose, Horto Barra do Moeda, *Eucalyptus grandis* stand, ethanol-baited FIT, 1.IV.–12.IX.1993, leg. C.A.H. Flechtmann, 8 ♀♀; RONDÔNIA: Ouro Preto do Oeste, CEPLAC, 16-year old ‘capoeira’ area, second-growth forest enriched with the planting of native trees, 62°13'22.72"W 10°43'1.85"S, ethanol-baited FIT, 28.II.–2.VII.2011, 11.VI.2012, leg. O. Trevisan, 4 ♀♀; Ouro Preto do Oeste, CEPLAC, 16-year old intercropping area with peach palm, cocoa and coffee, 62°14'0.68"W 10°43'31.82"S, ethanol-baited FIT, 28.II.–18.VI.2011, leg. O. Trevisan, 4 ♀♀; Ouro Preto do Oeste, CEPLAC, Amazon forest fragment, 62°13'45.40"W 10°43'12.60"S, ethanol-baited FIT, 7.V.–4.VII.2011, leg. O. Trevisan, 11 ♀♀; E C U A D O R: ORELLANA: Yasuni Res. Stn., 76°23'W 0°40'S, 27 a.s.l., 11.–24.VII.2008, leg. A.K. Tishechkin, 2 ♀♀; F R E N C H G U I A N A: Cayenne, Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°4'18"N, unbaited window trap, 8.IX.–21.XI.2009, leg. S. Brûlé, 7 ♀♀; P E R U: JUNÍN: Sta Cruz vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, 12.I.2006, in light trap, leg. A.V. Petrov, 2 ♀♀; LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 3.II.2006, leg. A.V. Petrov, 5 ♀♀; same locality, but 21.–22.II.2008, A.V. Petrov, 74 km SSW from Iquitos to Nauta, 153 m a.s.l., 73°30'W 4°20'S, 24.II.2006, leg. A.V. Petrov, 6 ♀♀; (all specimens in MEFEIS and APP).

Sampsonius pennatus SCHEDL, 1973

MATERIAL EXAMINED:

B R A Z I L: AMAZONAS: Manaus, INPA campus, ethanol-baited FIT, 23.II.1987, leg. R.L.S. Abreu, 1 ♀; Manaus, Estação Experimental de Silvicultura Tropical, INPA, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 13.X.1993, 30.I.2001, leg. R.L.S. Abreu, 2 ♀♀; GUANABARA: Represa Rio Grande, XII.1967, leg. F.M. Oliveira, holotype ♀; F R E N C H G U I A N A: Cayenne, Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°4'18"N, unbaited window trap, 30.IX.–20.X.2009, leg. S. Brûlé, 6 ♀♀; (holotype in MZUSP, all other specimens in MEFEIS).

Sampsonius prolongatus SCHÖNHERR, 1994

MATERIAL EXAMINED:

B R A Z I L: AMAZONAS: Itacoatiara, Mil Madeireira, non-flooded terra firme primary tropical forest, 58°31'58.57"W 2°43'3.04"S, unbaited FIT, 4.XI.2010, leg. R.L.S. Abreu, 3 ♀♀; Manaus, Adolpho Ducke Forest Reserve, INPA, primary Amazon forest, 60°12'40"W 2°35'45"S, ethanol-baited FIT, 3.V.1993, leg. R.L.S. Abreu, 3 ♀♀; F R E N C H G U I A N A: Cayenne, Camopi, Reserve Naturelle des Nouragues (Saut Pararé), primary ombrophilous rainforest, 52°43'57"W 4°4'18"N, unbaited window trap, 10.X.–13.XI.2009, leg. S. Brûlé, 2 ♀♀; P E R U: LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 3.II.2006, leg. A.V. Petrov, 4 ♀♀; same locality, but 21.–22.II.2008, leg. A.V. Petrov, 4 ♀♀, same locality, but 8.V.2009, leg. A.V. Petrov, 1 ♀; (all specimens in MEFEIS and APP).

Sampsonius quadrispinosus EGGERS, 1935

MATERIAL EXAMINED:

B R A Z I L: MATO GROSSO: Cotriguaçu, São Nicolau Farm, Amazon rainforest, ethanol-baited FIT, VI.2002, leg. O. Peres Filho, 1 ♀; RONDÔNIA: Ouro Preto do Oeste, CEPLAC, 16-year old ‘capoeira’ area, second-growth forest enriched with the planting of native trees, 62°13'22.72"W 10°43'1.85"S, ethanol-baited FIT, 26.XI.2011, 4.VI.2012, 12.XI.2012, leg. O. Trevisan, 3 ♀♀; Ouro Preto do Oeste, CEPLAC, 16-year old intercropping area with peach palm, cocoa and coffee, 62°14'0.68"W 10°43'31.82"S, ethanol-baited FIT, 2.IV.2012, leg. O. Trevisan, 1 ♀; E C U A D O R: ORELLANA, Tiputini Biodiv. Stn., 76°08'W 0°38'S, 25 m a.s.l., 29.VII.–3.VIII.2008, leg. A.K. Tishechkin, 1 ♀; P E R U: HUANUCO: 7 km S from Tingo Maria, 75°58'W 9°21'S, 6.IV.2013, leg. A.V. Petrov, 1 ♀; JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, 19.I.2006, 2 ♀♀ from same place, but 12.–11.II.2007, 26.III.2008, leg. A.V. Petrov, 2 ♀♀; Rio Venado vill., Capiro River, 15 km NW from Satipo, 1100 m a.s.l., 74°46'W 11°11'S, 22.–23.II.2013, leg. A.V. Petrov, 6 ♀♀; LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 6.–10.V.2009, leg. A.V. Petrov, 3 ♀♀; (all specimens in MEFEIS and APP).

Sampsonius sagittarius PETROV & MANDELSHTAM, 2009

MATERIAL EXAMINED:

P E R U: JUNÍN: Cananeden vill., left bank of Perene River, 8 km NNE from Puerto Ocopa, 1100 m a.s.l., 74°13'W 11°07'S, in window trap, 27.III.2009, leg. A.V. Petrov, 1 ♂; Rio Venado vill., Capiro River, 15 km NW from Satipo, 1100 m a.s.l., 74°46'W 11°11'S, in window trap, 22.V.2012, leg. A.V. Petrov, 1 ♂; same locality, but 20.–25.II.2013, leg. A.V. Petrov, 4 ♀♀; LORETO: left bank of Amazon River, 58 km SSW from Iquitos to Nauta, 120 m a.s.l., 73°26'W 4°11'S, 1.II.2006, leg. A.V. Petrov, 3 ♀♀ (holotype and two paratypes); same locality, but 18.–20.II.2008, leg. A.V. Petrov, 2 ♀♀ (paratypes); Punto Alegre vill., Momón River, 25 km NE from Iquitos, 73°30'W 3°33'S, 109 m a.s.l., 14.IV.2012, leg. A.V. Petrov, 1 ♂; (one paratype in NHMW, one female in MEFEIS, all other specimens in APP).

Sampsonius sulcatus BRIGHT, 1981

MATERIAL EXAMINED:

E C U A D O R: ORELLANA: Tiputini Biodiv. Stn., 28.07.2008, leg. A.K. Tishechkin, 2 ♀♀; P E R U: JUNÍN: Rio Venado vill., Capiro River, 15 km NW from Satipo, 1100 m a.s.l., 74°46'W 11°11'S, 22.II.2013, leg. A.V. Petrov, 1 ♂; (all specimens in APP).

Sampsonius lapidosus sp.n.

TYPE LOCALITY: Peru, Junín Province, Satipo region, Capiro River.

TYPE MATERIAL: **Holotype** ♀ (ZMM): P E R U: JUNÍN: 15 km NW from Satipo, Capiro River, Rio Venado vill., 1100 m a.s.l., 74°46'W 11°11'S, 22.II.2013, in window trap, leg. A.V. Petrov.

DESCRIPTION (Female): 5.4 mm long, 3.3 times as long as wide (Figs. 5, 8). Body unicoloured, reddish brown, shining. Frons convex. Central portion of the frons from apical margin up to the upper level of eyes compared to the vertex, roughly shagreened due to microreticulation, and covered with numerous shining minute tubercles. The centre of the frons from epistoma to the level of eyes with median carina. Surface of the frons with erect long yellow hairs. Eyes large, coarsely faceted, weakly emarginated anteriorly. Antennae brown. Antennal club nearly round, as long as wide, with margins of first and second sutures procurved.

Pronotum cylindrical, reddish brown, shining, 1.4 times as long as wide, with sides parallel in the basal half and evenly rounded towards the anterior margin. Base of pronotum nearly straight, slightly sinuate at sides. Base, posterior half and lateral sides of pronotum sparsely punctate, anterior half of the pronotum covered by rough rugosities. Apical margin of pronotum without central tubercles. Whole pronotal surface covered by light hairs, longer at sides and in apical portion of the pronotum. Scutellum dark brown, shining, rounded in apex.

Elytra reddish brown, faintly shining, cylindrical, 1.3 times as long as pronotum. Sides parallel and tapering towards apex in posterior $\frac{3}{4}$ of length, moderately arcuate to narrowly rounded apex. Discal striae straight up to beginning of the declivity, punctures round, large (diameter 0.1 mm). Strial hairs in rows short, erect. Interstriae smooth, shining, about 1.5 as wide as striae, punctures in interstriae set more sparsely, less impressed, with longer erect setae. Elytral declivity occupies $\frac{1}{3}$ of elytral length, its surface strongly impressed dorsally. Surface of declivity dull, shagreened, strial punctures obsolete. Interstriae 2–4 with rows of numerous rugose reticulate tubercles and spines of different sizes, interstria 2 on declivity with 17 tubercles, interstria 3 weakly elevated with six spines increasing in size toward elytral apex and two tubercles, interstria 4 with 12 small tubercles (Fig. 8). Surface of elytral sides with abundant long, erect yellow setae.

Mesonotum and abdomen covered by sparse, rounded punctures. Abdominal sternites horizontal, with light erect setae. Legs unicoloured, reddish brown, with short yellow setae.

Male unknown.

DIAGNOSIS: The new species is closely related to *Sampsonius alvarengai* and *S. conifer*, but can be distinguished by the specific structure of the elytral declivity.

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: The species name relates to the apical processes of the elytral declivity. «Lapidusus» means stony (full of stones) in Latin.

***Sampsonius lepusculus* sp.n.**

TYPE LOCALITY: Ecuador, Orellana.

TYPE MATERIAL: **Holotype** ♀ (ZMM): E C U A D O R: ORELLANA: Yasuni Res. Stn., 76°23.9'W 0°40.4'S, FIT, canopy, 27 m a.s.l., 11.–24.VII.2008, leg. A.K. Tishechkin. **Paratypes**: E C U A D O R: ORELLANA: 1 ♀: same locality, FIT, 11.–24.VII.2008, leg. A.K. Tishechkin; 2 ♀♀: Tiputini Biodiv. Stn., 76°89'W 0°38'S, 3.–6.VIII.2008, leg. A.K. Tishechkin; (two paratypes in APP, one paratype in LSAM).

DESCRIPTION (Female): 6.5 mm long, 3.6 times as long as wide (Figs. 6, 9). Body unicoloured, reddish brown, shining. Frons convex. Central portion of the frons from apical margin up to the upper level of eyes compared to the vertex, roughly shagreened due to microreticulation, and covered with numerous shining minute tubercles. Centre of frons from epistoma to level of eyes with raised median carina. Surface of frons with erect long yellow hairs. Eyes large, coarsely faceted, weakly emarginated anteriorly. Antennae brown. Antennal club nearly round, as long as wide, with margins of first and second sutures procurved.

Pronotum cylindrical, reddish brown, shining, 1.4 times as long as wide, with sides parallel in basal half and evenly rounded towards anterior margin. Base of pronotum nearly straight, slightly sinuate at sides. Base, posterior half and lateral sides of pronotum sparsely punctate, anterior half of the pronotum covered by rough rugosities. Apical margin of pronotum with two central tubercles. Whole pronotal surface covered by light hairs, longer at sides and in the apical portion of the pronotum.

Elytra reddish brown, faintly shining, cylindrical, 1.3 times as long as pronotum. Sides parallel and tapering towards apex in posterior $\frac{3}{4}$ of length. Elytral declivity occupies less than a third of elytral length, its surface strongly impressed dorsally. Surface of declivity roughly shagreened, dull. The base of declivity with small tubercles in interstriae. Interstria 3 on declivity slightly elevated from central area to apex of declivity. Interstriae 1–3 with numerous fine, scattered granules and long, erect setae. Apex of interstria 2 armed by pair of erect, incurved, acute processes. Elytral apex between processes smooth, shining (Fig. 9).

Mesonotum and abdomen covered by sparse and shallow punctures and pale light hairs of moderate length. Abdominal sternites horizontal, with lower surface nearly parallel to the elytral margin. Legs unicoloured, reddish brown, and covered with short yellow hairs.

Male unknown.

DIAGNOSIS: The new species is closely related to *Sampsonius giganteus* from which it can be distinguished by the form of the two processes and their arrangement on the elytral declivity.

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: The species name relates to the form of two processes on the elytral declivity, which are similar to the ears of a hare. «Lepusculus» means a small hare in Latin.

***Sampsonius militaris* sp.n.**

TYPE LOCALITY: Brazil, Amazonas, Manaus.

TYPE MATERIAL: **Holotype** ♀ (MEFEIS): B R A Z I L: AMAZONAS: Manaus, Estação Experimental de Silvicultura Tropical, INPA, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 1.III.2000, leg. R.L.S. Abreu. **Paratypes**: 2 ♀♀: Manaus, Adolpho Ducke Forest Reserve, INPA, primary Amazon forest, 60°12'40"W 2°35'45"S, ethanol-baited FIT, 31.V.1993, 10.VI.1993, 24.VIII.1993, leg. R.L.S. Abreu; 6 ♀♀: Manaus, Estação Experimental de Silvicultura Tropical, INPA, non-flooded terra firme primary tropical rainforest, ethanol-baited FIT, 6.VIII.1993, 6.X.2000, 9.XI.2000, 30.I.2001, leg. R.L.S. Abreu; (seven paratypes in MEFEIS, one paratype in APP).

DESCRIPTION (Female): 6.7 mm long, 3.3 times as long as wide (Figs. 7, 10). Body unicoloured, reddish brown, shining. Frons convex. Central portion of frons from apical margin up to upper level of eyes darker compared to vertex, roughly shagreened due to microreticulation, and covered with minute tubercles. Frons covered with short yellow hairs above epistoma and up to upper level of eyes; apices of hairs oriented downwards, towards mandibles. Occipital portion light red-brown, with only slight microreticulation and punctured by rounded points. Eyes large, coarsely faceted, weakly emarginated anteriorly. Antennae red-brown. Antennal club nearly round, as long as wide, with margins of first and second sutures procurved.

Pronotum cylindrical, shining, 1.3 times as long as wide, with sides parallel in basal half and evenly rounded towards anterior margin. Base of pronotum nearly straight, slightly sinuate at sides. Posterior half of pronotum punctured by sparse and minute points, anterior half of pronotum covered by rough rugosities. Apical margin of pronotum has several tubercles with apices oriented upwards; two central tubercles are larger than their neighbours and have acuminate apices. Whole pronotal surface covered by light shot hairs, longer at sides and in apical portion of the pronotum. Scutellum of triangular form, not depressed, at same level with elytral surface. Scutellar depression absent.

Elytra reddish brown, faintly shining, cylindrical, 1.32 times as long as pronotum. Sides parallel and tapering towards apex in posterior $\frac{3}{4}$ of length. Elytral surface covered with pale hairs that are significantly longer and much denser on the elytral declivity. Discal striae straight up to beginning of the declivity, coarsely punctured. Strial hairs in rows, short and recumbent. Interstriae with more sparsely set microscopic punctures. Elytral declivity occupies less than third of elytral length, its surface strongly impressed dorsally. Surface of declivity roughly shagreened, dull. Base of declivity without small tubercles in interstriae. Interstria 2 weakly impressed, interstria 3 on declivity slightly elevated from central area to apex of declivity. Interstriae 1–3 with numerous fine, scattered granules and long, erect setae. Apex armed by pair of large, erect, incurved, acute processes. Elytral apex between large processes smooth, shining (Fig. 10).

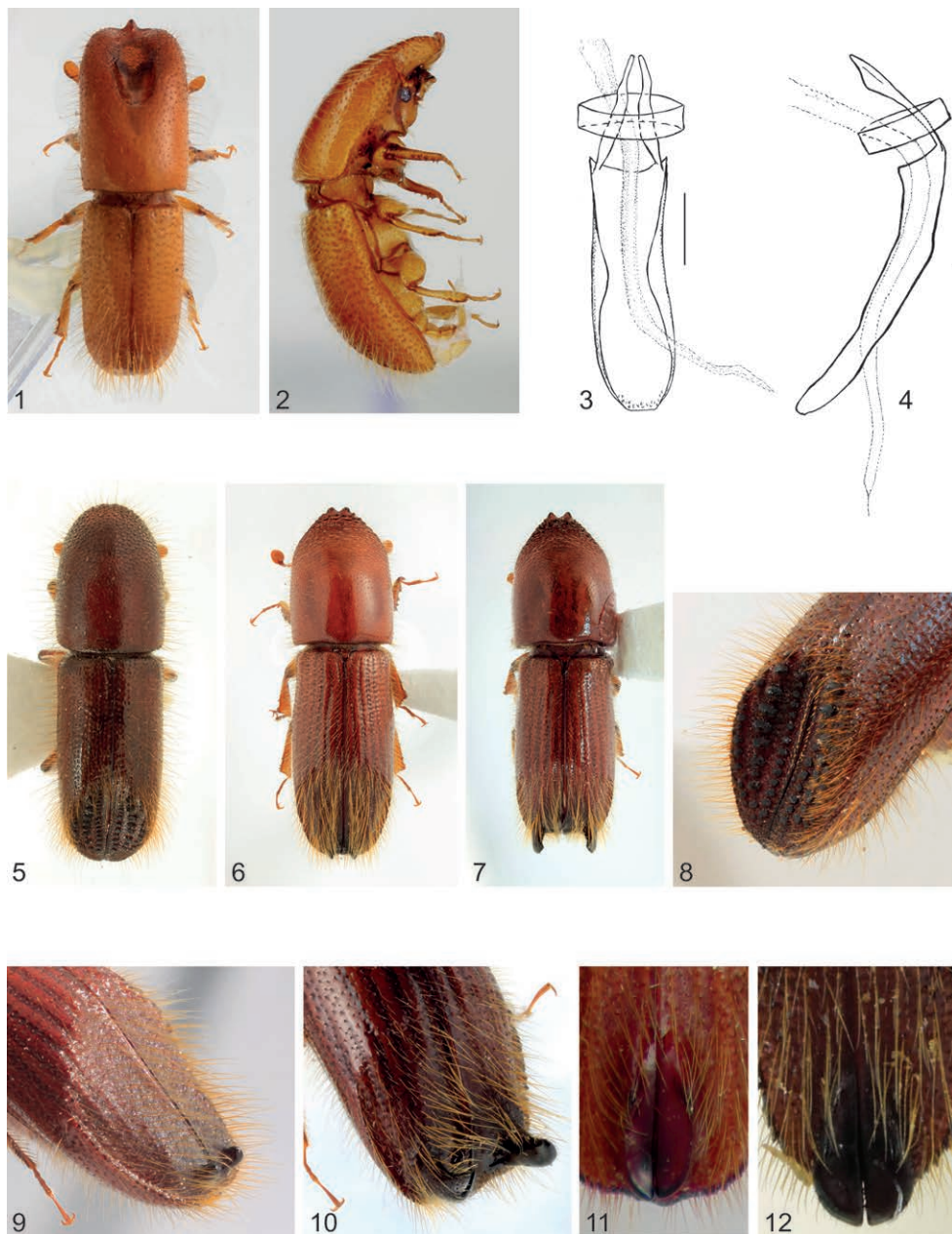
Mesonotum and abdomen covered by sparse and shallow punctures and pale light hairs of moderate length. Abdominal sternites horizontal, with lower surface nearly parallel to the elytral margin. Legs unicoloured, reddish brown, covered with short yellow hairs.

Male unknown.

DIAGNOSIS: The new species is closely related to *Sampsonius giganteus*, from which it can be distinguished by the base of the processes on the elytral declivity without small tubercles.

DISTRIBUTION: Known only from the type locality.

ETYMOLOGY: The species name relates to the stout body with two large acinaciform incurved processes. «Militaris» means martial (pertaining to war) in Latin.



Figs. 1–12: 1–2: Habitus of *Sampsonius dampfi*, male, 1) dorsal view, 2) lateral view; 3–4: *S. dampfi*, aedeagus; 5–7: habitus dorsal view, 5) *S. lapidosus*, holotype, 6) *S. lepusculus*, holotype, 7) *S. militaris*, paratype; 8–12: elytral declivity; 8) *S. lapidosus*, 9) *S. lepusculus*, 10) *S. militaris*, 11) *S. pennatus*, 12) *S. prolongatus*.

Key to the species of *Sampsonius*

- 1 Anterior margin of pronotum evenly arcuate, unarmed 2
- Anterior margin of pronotum armed by two large median serrations 5
- 2 Elytral declivity armed on interstria 3 by two pairs of short spines, median area of pronotum without a subapical serration crest; 4.3 mm; Brazil, Peru **alvarengai** BRIGHT
- Elytral declivity armed by numerous tubercles or spines, more than two on each elytron 3
- 3 Declivity of elytra with rows of numerous reticulate spines of different sizes in interstriae 2–4, base of interstria 3 with six spines increasing in size toward elytral apex (Fig. 8); 5.4 mm; Peru **lapidosus** sp.n.
- Declivity of each elytron armed on interstria 3 by three prominent, elevated spines 4
- 4 Length of body more than seven mm; declivital spines increasing in size toward elytral apex, posterior spine on each elytron long, slender, incurved at apex; 7.9 mm; French Guiana **sexdentatus** EGGERS
- Length of body less than six mm; declivital spines all of similar length; 5.3–5.4 mm; French Guiana, Guyana **conifer** (HAGEDORN)
- 5 Elytral declivity deeply, longitudinally sulcate, lateral margins of declivity are raised above the suture, armed by small teeth or denticles 6
- Elytral declivity sloping, ridge of interstria 7 serrate, not higher than suture 7
- 6 Lateral margins of elytral declivity with numerous granules, three of which are larger; declivital surface reticulate, with abundant, long setae; 3.5–3.8 mm; Ecuador, Peru, Trinidad **sulcatus** BRIGHT
- Lateral margins of elytral declivity with three teeth, declivital surface shining with long setae; 3.0–3.5 mm; Bolivia, Brazil, Costa Rica, Ecuador, Peru **obtusicornis** SCHEDL
- 7 Elytral declivity without elevated processes, interstria 2 deeply longitudinally sulcate on declivity, interstria 3 elevated, with numerous granules 8
- Apex of elytral declivity armed by processes 9
- 8 Declivital interstria 1 strongly elevated, much higher than interstria 3; interstria 2 without tubercles; 5.1 mm; Colombia **expulsus** WOOD
- Declivital interstria 1 weakly elevated, not higher than interstria 3; interstria 2 with row of fine tubercles; 5.6–6.0 mm; Mexico **reticulatus** BRIGHT
- 9 Declivity dull, except extensive part of interstria 1 with shining glabrous surface of processes 10
- Declivity dull, devoid of extensive shining part on interstria 1 12
- 10 Central processes near apex of elytral declivity forming an elongate concave boat-like structure, lateral sides of processes elevated and procurved in direction of interstria 2, one tooth located laterally and not far from the center of the process (Figs. 11, 12) 11
- Lateral sides of processes weakly elevated, two acute teeth located at base and at apex of the process, surface of interstria 1 between teeth glabrous, shining; 5.3 mm; Bolivia, Brazil, Ecuador, Peru **quadrispinosus** EGGERS
- 11 Body stouter, 3.8 times as long as wide; interstria 1 with flat process in central part of declivity (Fig. 11), apical part of process not covering elytral apex; 4.5–5.0 mm; Brazil, French Guiana **pennatus** SCHEDL
- Body slender, 4.4 times as long as wide; apical part of the flat process protruding beyond elytral apex (Fig. 12); 4.0–4.1 mm; Brazil, French Guiana, Peru **prolongatus** SCHÖNHERR
- 12 Elytral declivity armed by one pair of subcontiguous, modified spines near apex of interstria 1 ... 13
- Elytral declivity armed by one pair of widely separated spines on the lower fourth of interstriae 2 or 3 (Fig. 9) 19

- 13 Basal margin of elytral declivity distinct, abrupt; declivity concave, declivity process on interstria 1 only slightly shorter than surrounding setae; 4.0 mm; Mexico *mexicanus* BRIGHT
- Basal margin of elytral declivity not evident, merging smoothly into disc; declivity evenly sloping 14
- 14 Elytral declivity modestly sulcate; interstria 1 armed by a small, acutely pointed spine on suture at apex; 4.0–4.4 mm; Costa Rica *usurpatus* WOOD
- Elytral declivity not sulcate; elevated spine-like process at apex of interstria 1 much larger 15
- 15 Elevated spine-like process of interstria 1 protruding 0.2 mm beyond the apex of the elytra; tips of processes are contiguous; 4.6–4.7 mm; Peru *kuaizi* PETROV & MANDELSHTAM
- Elevated spine-like process of interstria 1 at apex of elytra slightly protruding beyond elytral apex, less than 0.2 mm; tips of processes separated 16
- 16 Elevated spine-like process at apex of interstria 1 larger, over 0.5 mm long 17
- Elevated spine-like process at apex of interstria 1 much smaller, less than 0.3 mm long 18
- 17 Body stout, 3.5 times as long as wide; elevated spine-like triangular process at apex of interstria 1 much larger, raised 0.3 mm above the suture, distance between tips of two processes 0.2 mm; 4.3–4.7 mm; Peru *sagittarius* PETROV & MANDELSHTAM
- Body slender, 4.1 as long as wide; elevated spine at apex of interstriae 1 longer, raised more than 0.3 mm above the suture, distance between tips of two processes more than 0.4 mm; 4.3–4.8 mm; Brazil, French Guiana *buculus* SCHEDL
- 18 Body stout, 3.8–4.0 times as long as wide; elevated spine-like triangular process at the apex of interstria 1 much larger, raised 0.3 mm above the suture, distance between tips of two processes 0.2 mm; 4.3–4.7 mm; Brazil, Ecuador, French Guiana, Peru *pedrosai* SCHÖNHERR
- Body slender, 4.1 times as long as wide; elevated spine at apex of interstria 1 longer, raised more than 0.3 mm above the suture, distance between tips of two processes more than 0.4 mm; 2.9–4.1 mm; Mexico to Brazil *dampfi* SCHEDL
- 19 Declivital spine near apex of interstria 2 short, length equal longitudinal basal width; 6.2 mm (Fig. 9); Ecuador *lepusculus* sp.n.
- Declivital spine near apex of interstria 3 long, about twice as long as longitudinal basal width (Fig. 10) 20
- 20 Basal margin of elytral declivity not evident, merging smoothly into disc, without small teeth marking basal margin; 6.7 mm; Brazil *militaris* sp.n.
- Basal margin of elytral declivity distinct, with small teeth 21
- 21 Declivital spine near apex of interstria 3 very slender, about four times as long as longitudinal basal width, straight, slightly curved at apex, lateral base of spine not attaining lateral margin; 6.0 mm; Panama *detractus* WOOD
- Declivital spine near apex of interstria 3 long, stout, about twice as long as longitudinal basal width, distinctly curved on apical half, lateral base attaining lateral margin; 5.5–7.0 mm; Bolivia, Brazil, Ecuador, French Guiana, Peru *giganteus* SCHÖNHERR

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References

- BRIGHT, D.E. 1991: Studies in Xyleborini 2: review of the genus *Sampsonius* Eggers (Coleoptera, Scolytidae). – Studies on Neotropical Fauna and Environment 26: 11–28.
- EGGERS, H. 1935: Borkenkäfer aus Südamerika (Ipidae, Col.), VII. Vergessene und neue Gattungen (I. Teil). – Revista de Entomologia 5: 153–159.
- PETROV, A.V. & MANDELSHTAM, M.Y. 2009: New data on ambrosia-beetles of the genus *Sampsonius* Eggers, 1935 with descriptions of two new species from Peru (Coleoptera: Curculionidae: Scolytinae). – Koleopterologische Rundschau 79: 313–319.
- SCHÖNHERR, J. 1994: Neue Borkenkäfer von Brasilien (Coleoptera: Scolytidae). – Deutsche Entomologische Zeitschrift N.F. 41: 63–69.
- WOOD, S.L. 2007: Bark and ambrosia beetles of South America (Coleoptera: Scolytidae). – Provo: Brigham Young University, 900 pp.

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