Supporting Information, File S7

*LONCOVILIUS GERMAINI* (SCHEERPELTZ, 1933)

*Material examined:*CHILE: Araucanía: P. N. Longuimay 23/12/2013 litter layer near small stream 38,44°S -71.51°W [-38.4405, -71.5122, 1♀ TSC]; Cautín Pr.: P.N. Villarrica, Volcán Villarrica, road to ski center, 1390m, 39°23.27' S 71°57.82’ W [-39.3878, -71.9636]/ 27.xii.1996-3.ii.1997 stunted Nothofagus pumilio forest / FMHD #96-242, carrion trap (squid), A.Newton & M.Thayer 981 FIELD MUS. NAT. HIST. / ♀ /  FMNH-INS 0000 024 382-383 [2♀ FMNH]; Malleco Pr. 30km E Curacautin nr. Malalcahuello [-38.4485, -71.62342] 1100m, 19-25.XII.1976 S. Peck, carrion trap [1♂ 1♀ FMNH]; Malleco Prov. 12km E Malacahuello [-38.4331, -71.4981] 1350m, trap site 650 13-31.xii.1982 Noth. dombeyi-Araucaria f. A.Newton & M.Thayer / window trap [1♀ FMNH]; Malleco Prov. 14 km E Malalcahuello [-38.4436, -71.5090] 1570m, trap site 649, 13-31.xii.1982 Noth. pumilio-Araucaria f.  A.Newton & M.Thayer / [carrion trap (squid), human dung trap and window trap 1♂ 1♀  FMNH; 1♂ NHM ex. FMNH; 1♂ NHMD ex. FMNH; 1♂ CZUG ex. FMNH]; Malleco Prov., 40 km W Curacautin [40 km E Curacautín -38.4450, -71.5033], 1500m, 12.XII.1984 - 16.II.1985 / FMHD#85-905, Nothofagus- Araucaria, S. Peck, P [1♂ FMNH]; MallecoProv. 20km E Manzanar [-38.4466, -71.5166] 1100m 19-21.xii.1976 H. F. Howden [1♀ FMNH]; Rio Blanco [-39.1075, -71.6110] 27/31.I.1959 L. Pena, leg. [1♀ FMNH]; Aysén: Coigaique Prov., 10km NW Coihaique Reserca Nac. [~ -45.4740, -72.1547], 900m, 22-27.I.1985 / FMHD#85-982, mossy log and leaf litter beech forest, S.&J. Peck P#85-99, carrion trap [2♂ 1♀ FMNH; 1♂ 1♀ MNNC ex. FMNH]; Coihaique Prov., 40 km SW Balmaceda, Cerro Castillo [-46.0950, -72.0500], 2-27.I.1985 / FMHD#85-961 dry open beech forest, S.&J. Peck, P [1♀ 3♂ FMNH; 1♀ 1♂ NHMD ex. FMNH; 1♀ CZUG ex. FMNH]; Nef V. Reg. XI xi-xii.2002 [1 NHM]; Los Lagos: Osorno: Antillianca [-40.7720, -72.2050], 3700 ft., February 10, 1968 C.W. O'Brien / AMNH  1489 [pale orange label] / ♀ / FMNH-INS 0000 024 466 [1♀ FMNH]; Osorno Prov. Parque Nac. Puyehue, Volcán Casa Blanca [-40.7711, -72.0025] 1130-1180m trap site 669 20-25.xii.1982 pan trap above treeline A.Newton & M.Thayer  [1♀  FMNH]; Volcán Casa Blanca [-40.7711, -72.0025] 1270m, trap site 667 20-25.xii.1982 treeline Noth. for. A.Newton & M.Thayer [2♂ 1♀ FMNH; 1♀ NHM ex. FMNH]; PN Puyehue, Aguas Calientes to Antillanca [-40.7750, -72.2750] 1000m, 2.i.1991 Agosti&Burckhardt #27a [1♂ 1♀ MHNG]; Port. Puyehue [Portezuelo Puyehue, -40.6988, -71.9560] 1200Mts. 19.I.1969 Coll: L.E.Pena/ NHMD 916999 [1♂ FMNH]; Unknown locality: 1892 F. SAIZ det. 1970 [2 MNNC].

LONCOVILIUS EDWARDSIANUS (KORGE, 1963)

*Material examined:* ARGENTINA: Chubut: [Futaleufú], Esquel, Lago Mendéndez, El Sagrario Puerto [-42.7335, -71.7451], 2.-4.1982, 600m, [coll.] Nielsen & Karsholt [1♀ NHMD]; Río Negro: [Bariloche], Lago Nahuel Huapi Puerto Blest, [December 1978], NHMD 916924–916926 [1♂ NHMD; 1♀ NHM ex. NHMD; 1♂ CZUG ex. NHMD; 1♀ NHM]; CHILE: Araucanía: Malleco [Nahuelbuta National Park, -37.8300, -73.0100], 23.xii.1992, 1100m, leg. D. Burckhardt/ NHMD 916901 [1♂ MHNG]; Aysén: Aisen, 33km W Coyhaique [-45.4545, -72.3777] I. 21. 1968/ Collectors L&C.W.O' Brien/ NHMD 916887 [2♀ CNC]; Biobío: Pichinahuel [Nahuelbuta National Park, -37.8051, -73.0325, January 1977], L.E. Peña, FMNH-INS 0000 023 483 [1♀ FMNH]; Los Lagos: P. N. [National Park] Puyehue [-40.7755, -72.2627, 750m, February 2004], [coll.] A.B.T Smith & M.J.Paulsen [2♂ FMNH]; [same locality, February 1996], leg. D. Burckhardt, NHMD 916895 [1♀ MNNC ex. MHNG]; Llanquihue, PN Alerce Andino, road from park entrance to Laguna Chaiquenes [-41.5800, -72.5464, 300 m], leg. D. Burckhardt, NHMD [1♀ MHNG]; [same locality, January 1993], leg. D. Burckhardt, NHMD 916894 [1♀ MNNC ex. MHNG]; [same locality, December 2011], leg. V.I.Gusarov NHMO 14712/ DNA Voucher Jenkins Shaw et al. 2020 Table S2: JJS-56 NHMD [1♂ NHMO]; [Palena, Hornopirén National Park], 17/12/2013, [-41.8700, -72.3600], litter layer [3 ind. TSC]; [Puerto Varas], volcan Osorno sifting forest litter 910m, I. Ribera leg. 16.xii.2014/ NHMD 916905 [1♀ NHMO]; Chiloé, -42.482473, -73.872132 579 m, observed on 11 dec 2022 17:18 -03:00, Valdivian temperate forests ecoregion, Matías Gargiulo [record via iNaturalist, this occurrence was not included in the niche modeling as it was found after the first review]; Los Ríos: [La Unión] Alerce Cosero [-40.1775, -73.4405], 900m, 18.ii.2004/ NHMD 916922 [1♂ FMNH].

*LONCOVILIUS SEMIFLAVUS* (FAIRMAIRE & GERMAIN, 1862)

*Other material examined:*CHILE: Biobío: Concepción [unknown locality, 1♀ FMNH, 2♀ RBINS]; Maule: Talca, Altos de Vilches [-35.6000, -71.0666], FMNH-INS 0000 023 759-762, [December 1979], coll. L. E. Peña, [2♂ 2♀ FMNH]; [same locality, December 1976 and 1979, January 1988], NHMD 917078, 917077 [5♂ 2♀ FMNH]; [same locality, January 1988], NHMD 917082, 916954 [1♂ 1♀ MNNC ex. FMNH];[same locality, December 1984 to February 1985], coll. S.Peck [1♀ FMNH]; [same locality, December 1976],  Coll. G.Arriagada [1♂ NHMD ex. FMNH]; [same locality, January 1990, 1991],  coll. C. Perez de Arce [1♂ 1♀ MNNC ex. FMNH]; [same locality, January 1992, 1♂ 3♀ AMS]; Los Queñes, Estero La Jaula [-35.005, -70.7488], NHMD 917013- 917016, [January 1964], coll. L. E. Peña [4♂ FMNH]; [same locality, January 1964], FMNH-INS 0000 024 258, coll. L. E. Peña [1♀ NHMD ex. FMNH]; [same locality, January 1964], FMNH-INS 0000 024 254, coll. L. E. Peña [1♀ NHM ex. FMNH]; [same locality, January 1964], FMNH-INS 0000 024 253, coll. L. E. Peña [1♀ CZUG ex. FMNH]; Linares, Parral, Fundo Malcho [-36.2298, -71.4015], FMNH-INS 0000 024 021, 0000 024 024–028, 0000 024 038–39, [October 1957], coll. L. E. Peña [4♂ 2♀ FMNH; 1♂ NHM ex. FMNH; 1♂ CZUG ex. FMNH]; Chile Vilches Alto 20.I.1983 [2♂ ZSM]; Villegas [-36.2298, -71.4015] FMNH-INS 0000 024 262, [December 1960], coll. L. E. Peña [1♀ FMNH]; Las Cruces [-36.2511, -71.3942], FMNH-INS 0000 024 260-261 [October 1958 and September 1960], coll. L. E. Peña [2♀ FMNH]; Laguna Almargo [-36.3646, -71.4411],  FMNH-INS 0000 024 468, [December 1990], Endrödy-Younga [1♀ FMNH]; Ñuble: Termas de Chillán, Las Trancas [-36.9121, -71.4789, January 2005 1♂ NHMD]; [same locality, January 1988],  S. Roitman [1♂ MNNC]; Santiago Metropolitan Region: Santiago, unknown locality, FMNH-INS 0000 023 556, [February 1979], coll. L. E. Peña [1♂ FMNH]; Unknown locality and date: [1♂ FMNH; 2 MNNC; 5♂ 2♀ MNHN].

*LONCOVILIUS LIVIDIPENNIS* (FAIRMAIRE & GERMAIN, 1862)

*Material examined:* ARGENTINA: Chubut: Esquel, Lago Mendéndez, Sagrario Puerto [-42.7335, -71.7451] 550m 20.-22.ii,1979 [1♂ NHMD]; Esquel, Lago Mendéndez, El Sagrario Puerto [-42.7335, -71.7451] 2.-4.1982 600m Nielsen & Karsholt [2♂ NHMD]; Neuquén: Ra Neuqueén Huiliche PN Lanin L Tromen Bosque Notofagus 13-I-03 Roig Debandi / 39°34'17"S, 71°26'27"W [-39.5713, -71.4408] 1064 msm [6♂ NHMD]; RA Neuquén P N Lanin Secc Queñi 12Km S Hua Hum 14-1-03 Roig Flores Debandi  40°09'38" S 71°43'12" W [-40.1605, -71.7200] 857 msm [3♂ 1♀ NHMD]; LaEstacada. 13km S, Va. LaAngostura [-40.8383, -71.5381] 3. Feb. 1974 O.S.Flint, Jr. [1♀ NHMD];  P.N.Lanin, Lago Queñi S40°09'27" W71°43´17" [-40.1575, -71.7215] Jan-14-2003 857m F.C.Ocampo, A.B.T.Smith [1♂ CNC]; Rio Negro: Lago Nahuel Huapi, Puerto Blest [-41.0275, -71.8165], 770m 4.xii.1978/ NHMD 916934 [1♂ NHMD];  El Bolson [-41.9915, -71.4995] Topál / Nr. 39 6.III.61 / ex. coll. Scheerpeltz [2♂ 1♀ NHMW]; CHILE: Araucanía: Malleco Prov. 6.5 km E Malalcahuello [-38.4666, -71.5166], 1080m, 13-31.xii.1982 [*Nothofagus dombeyi* ] with *Chusquea* A.Newton & M.Thayer [5♀ FMNH]; Malleco Prov., 40 km W [40 km E] Curacautin [-38.4450, -71.5033], 1500m, 12.XII.1984 - 16.II.1985 /*Nothofagus*-*Araucaria*, S. Peck [15♂ 54♀ FMNH]; Malleco Prov. 12km E Malacahuello [-38.4331, -71.4981] 1350m, 13-31.xii.1982 A.Newton & M.Thayer [1♂ 1♀ FMNH]; Las Raices [-38.5445, -71.4595], XII.1976 L.E.Peña leg. [2♂ 4♀ FMNH]; Malleco Prov. 20km E Manzanar [-38.4466, -71.5166] 1100m 19-21.xii.1976 H.F.Howden [11♂ 9♀ FMNH]; MallecoProc. 7km E Manzanar [-38.4615, -71.6388] 1100-1300m 23-24.xii.76 H.F. Howden [1♀ FMNH]; [Curacautín] 1.-3. 2. 2005 Manzanar 38°28 071-71°41 873 [-38.4665, -71.6930] 800m Sv. Bilý leg. [3♂ 1♀ NMPC]; Cord. Nahuelbuta, Cabreria [-37.7166, -73.0333] 14.XII.1976 L.E.Peña leg. [1♂ 2♀ FMNH]; [same data as above except:] 1100m, 15-20.I.1977 [1♂ 1♀ FMNH]; P.N. Nahuelbueta Coimallin, Araucari, 1230m S 37°48.266' W 73°00.963´ [-37.8044, -73.0160] 14 February 2004 mv light A.Smith, M.Paulsen, J.Mondaca [1♀ CNC]; [same locality] 20-I-1993, Coll. T Curkovic [1♂ FMNH]; PN Nahuelbuta, Pehuenco [campsite env.], 37°49.8'S, 73°00.4'W [-37.830000, -73.006667], 1125 m, 10-12.xii.2013, Fikáček, Kment & Vondráček [2 NMPC]; CHILE: IX Region Malleco prov. PN Nahuelbuta 23.xii.1992, 1100m 37°50S, 73°00W [-37.8085, -73.0130] leg. D. Burckhardt #30b/ sifting of moss on stone dead wood, and veg. detribs in Araucaria-Nothofagus dombeyi forest along creek with river #30b [1♂ 6♀ MHNG]; Malleco prov. PN Tolhuaca, sector Laguna Verde, 1000-1300m, mix *Nothofagus*/*Araucaria* forest 27.i.1996 Burckhardt #63a [1♀ MHNG]; Parque Nac. Tolhuaca Lago Malleco [-38.2192, -71.8253], 890m 1.i.1983, disturbed *Northofagus* forest A.Newton & M.Thayer [1♀ FMNH]; IX.r., 12.-14. 2. 2005 Trm. De Tolhuaca 38°14 162-71°43 027 [-38.2345, -71.7171]900m Sv. Bilý leg. [1♂ NMPC]; Tolhuaca [-38.2345, -71.7171] 15-23.III.1986, L.E. Pena Collector [19♂ 4♀ FMNH]; Termes Tolhuaca 15/20-1-1958 L.Pena.leg. [9♂ 1♀ FMNH; 1♂ CZUG ex. FMNH]; Weg zur Laguna Blanca 22 ENE Curacautin Araucaria Nothofagus Mischwald, 1250-1450m, 38°21’S. 71°39’W Totholz, Laub, Moos 11.I.2006, leg. M. Schülke [1♀ ZMHB]; P.N. Lonquimay, 23/12/2013, 38.44°S - 71.51°W [-38.4400, -71.5100], litter layer small stream [2♂ TSC]; Sierra Nevada Cord. Lonquimay [-38.5755, -71.6180]/ Coll. L. Peña 31.XII.61 [1♂ FMNH]; Prov. Cautín PN Conguillío, 1150 m Playa Linda [-38.6495, -71.6175], forest litter, 19-20.XII.1990 Agosti & Burckhardt [2♂ MHNG]; Prov. Cautín PN Conguillío, 950 m Playa Linda [-38.6495, -71.6175], forest litter, 19-21.XII.1990 Agosti & Burckhardt [6♂ 6♀ MHNG]; Lago Galletue Cord. Lonquimay [-38.6680, -71.3112]/ Coll. L. Peña 9/13.I.61 [1♂ 1♀ FMNH]; IX.r., 4-5.2.2005, Laguna Icalma, 38°49 148-71°19 097 [-38.8135, -71.3185], 1250m, Sv. Bilý leg. [15♂ 1♀ NMPC]; Rio Blanco [-39.1075, -71.6110] 27/31.I.1959 L. Pena, leg. [5♂ FMNH]; Rio Blanco [-39.1075, -71.6110]: Curacautin II.64 / Chile. L. Peña, leg. [52♂ 11♀ FMNH]; Cautín 30.1 km E Vilarrica, 550m 39°17'S, 71°56'W [-39.2477, -71.9118] 26 Nov 1994 R. Leschen & C. Carlton #146 [1♀ FMNH]; Cautín Pr. Volcán Villarrica [-39.3633, -71.9400], 1250m, site 653 15-29.xii.1982 Noth. Domb.-pumilio forest w/ Chusquea A.Newton & M.Thayer [1♂ 8♀ FMNH]; PN de Villarica, N-Seite, 39°27.665’S. 71°50.181’W [-39.4610, -71.8363]. 1086m, 4.I.2006, leg. M. Schülke [1♂ 2♀ FMNH]; Biobío: Arauco: Pichinahuel [-37.8051, -73.0325], 23.XII.1976 L.E. Peña, leg. [2♂ 1♀ FMNH]; [same locality] Alto Caicupil 12-I-1954 720-1100m L. Pena, leg. [10♂ 11♀ FMNH; 1♂ 1♀ CZUG ex. FMNH]; [same locality] CHILE: Butamalal 23/32-I-1954 1100-1400 m L Pena leg. [46♂ 26♀ FMNH]; [same locality] Pichinahuel 1/10-1-1959 L. Pena, leg. [23♂ 13♀ FMNH]; [same locality] Pichinahuel 10/20-I-1959 L. Pena leg. [8♂ 4♀ FMNH]; [same locality] Pichinahuel 18/41-I-1959 L. Pena leg. [11♂ FMNH]; [same locality] Pichinahuel 20/28-1-1959 L. Pena leg. [13♂ 6♀ FMNH; 1♀ CZUG ex. FMNH]; Pichinahuel 23/31-I-1954 1100-1400m L. Pena leg. [9♂ 10♀ FMNH]; Pichinahuel 28/31-1-1959 L. Pena leg. [16♂ 18♀ FMNH; 11♂ 12♀ CNC]; [Caramávida] 1/6-I-1954 Caramavida [-37.7225, -73.1230] 12-1400m L. Pena leg. [2♂ 3♀ FMNH]; 11.I.54 Carmavida [-37.7225, -73.1230] 750-1100m L. Pena, leg. [1♂ FMNH]; Caramavida [-37.7225, -73.1230] 1/3-I-1954 L. Pena leg. [2♂ FMNH]; Los Lagos: Osorno 1250m, Puyehue NP, Argentina border [-40.6853, -71.9480] 13-14.II.1988 [1♀ FMNH]; Osorno: Antillianca [-40.7735, -72.2046], 3700 ft., February 10, 1968 C.W. O'Brien [5♂ 5♀ FMNH]; Aguas Calientes to Antillanca [-40.7750, -72.2750] 1000m, 2.I.1991 Agosti & Burckhardt [1♂ MHNG]; P.N. Puyehue 750m, clearing on road to Antillanca, 23.ii.2004 S / 40°46.533’, W 72°15.766’ [-40.7755, -72.2627] A.B.T Smith & M.J.Paulsen [1♀ FMNH]; PN Puyehue, Río Chanleufu above Aguas Calientes, 40°44.4'S, 72°18.0'W [-40.74000, -72.30000], 480 m, 7.xii.2013, Fikáček, Kment & Vondráček [2 NMPC]; Ruta Vulcan Osorno, los bosques [-41.1370, -72.5337], 1600 m a.s.l.; 2-01-15. leg. Mauro Daccordi [2♀ FMNH]; volcan Osorno, sifting forest litter 910m, 41°8’28.0”S 72°32’7.70”W [-41.1411, -72.5355], I. Ribera leg. 16.xii.2014 [1♂ NHMO]; Los Ríos: Valdivia: Enco [-39.875, -72.1666] 20-23.II.1978 L.E. Peña, leg. FIELD MUS. NAT. HIST. [15♂ 1♀ FMNH]; Enco [-39.875, -72.1666] 26.II.1956 120-170m L.Pena, leg. [3♂ 1♀ FMNH]; Ñuble: [Chillan] Trancas nr Termas [-36.9045, -71.4455], 1700m, 6.XII.1984-19.II.1985 /*Nothofagus* forest, S.Peck [7♂ 2♀ FMNH]; Las Trancas, 19.5km ESE Recinto [-36.9080, -71.4757], 1250m, trap site 647: 10.XII.1982-3.I.1983 *Nothofagus forest* A.Newton & M.Thayer [8♂ 8♀ FMNH]; [same locality] I.1979 L.E. Peña, leg. FIELD MUS. NAT. HIST. / ♂ / FMNH-INS 0000 023 558-561 [4♂ FMNH]; [same locality] 23/30-II-1956 1260m L.Pena, leg [1♂ 1♀ FMNH]; [same locality] 15-21.II.1976 G. Morena / CNCI L2004-28 / ♂ / FMNH-INS 0000 024 122-124 [3♂ CNC]; [same locality] 15.-17. 2. 2005, Sv. Bilý leg. NHMD 917116-917122 [7♂ NMPC]; [same locality] 13-14.XII.1976 H.F.Howden / CNCI L2004-28 / ♂ / FMNH-INS 0000 023 125-126 [2♂ CNC]; Refugia Shangrila [-36.9089, -71.4887], 1400m Cord.Chillan 18, 19 Marzo-71 Coll. L.E.Pena [1♂ FMNH]; Las Cabras [-36.9089, -71.4887] 8/15-11-1959  L. Pena leg. [6♂ 4♀ FMNH]; Las Cabras [-36.9089, -71.4887] I.63 / Coll. Peña [8♂ 10♀ FMNH].