Supplemental Material S1. List of *O. microtis* and *Oligoryzomys* sp. n. specimens analyzed, specifying the markers sequenced I7bg ([i7]), mt-Cytb ([cy]), cytochrome oxidase 1 ([coi]) and/or individuals karyotyped ([k]) or measured ([m]). Because several specimens listed in GenBank are referred by their field numbers, these are provided in parenthesis, when available. Additional specimens employed in phylogenetic analyses but not morphologically or cytogenetically analyzed by us are listed in appendix 2. Mammals' collections acronyms are: MN (Museu Nacional, UFRJ, Brazil), LBCE (ColMasto, Fiocruz, Brazil), USNM (United States National Museum, USA), AMNH (American Museum of Natural History, USA). Collector acronyms are: CRB (Cibele Rodrigues Bonvicino), FO (Fazenda Osara), PQ (Pequizeiro), SVS (Serviço de Vigilância em Saúde, Ministry of Health, Brazil). Numbers in parentheses refer to sampling localities in map (Fig. 1).

Oligoryzomys sp. n. Central clade:

BRAZIL, Mato Grosso state, **(1) Alta Floresta**: MN89726[k,m] (SVS1028), MN87938[m] **(**SVS1048); **Rondônia state**, **(7) Alto Paraíso, Fazenda do Sr. Bento**: MN91084[i7,cy,k] (LBCE7038/SVS003), MN91085[cy,k] (LBCE7039/SVS004), SVS005, MN87897 (SVS006), SVS007, SVS009, SVS010, SVS011, SVS017[i7], MN87898 (SVS018), SVS019, SVS020, LBCE20448[i7] (SVS021), SVS022-SVS024, SVS027, SVS028, MN87899 (SVS030), MN87900 (SVS031), SVS032, MN87901 (SVS034), MN87902[m] (SVS037), SVS038, SVS040-SVS043, MN87903[m] (SVS047), SVS049, SVS051, MN87904[m] (SVS053), MN91083 (SVS055), MN87905[m] (SVS056), SVS057, SVS058, SVS060, SVS061, LBCE20474[i7] (SVS062), MN87906[m] (SVS063), SVS064, MN87907 (SVS067), SS068, SVS069, SVS072, MN87908[m] (SVS0073), MN87909[m] (SVS0074),

LBCE20483[i7] (SVS075), SVS076, MN87910[m] (SVS077), MN87911[m] (SVS078), MN87912[m] (SVS079), MN87913[m] (SVS081), MN87914[m] (SVS082), MN87915[m] (SVS083), MN87916[m] (SVS084), MN87916[m] (SVS087), MN87917[m] (SVS089), SVS092, LBCE20492[i7] (SVS093), MN87918[m] (SVS099), SVS106[cy], MN91086[m] (SVS107), SVS108[cy], SVS113, SVS116, SVS117, MN87919[cy,m] (SVS118), MN87920[m] (SVS127), SVS129, MN87921[cy,m] (LBCE 20531/SVS134).

Oligoryzomys sp. n. Eastern clade:

BRAZIL, Pará state, **Belem, (2) Utinga:** MN91079[m], MN91080 [m], USNM461070[m] USNM461071[m] USNM461076[m]; **Marabá, (3) 73 Km N And 45 Km W, Near Jatobal:** USNM519769[m], USNM519770[m] USNM521454[m], USNM521455[m], USNM521456[m], USNM521457[m], USNM521458[m], USNM521459[m], USNM521460[m], USNM521461[m], USNM521462[m], USNM521540[m]; **Marabá, (4) Floresta Nacional de Tapirapé-aquiri**: MN75541, MN75575; **Parauapebas, (5) Floresta Nacional de Carajás:** MN73863, MN73978, MN75447, MN91082; **(6) Itupiranga**, **Programa Assentamento Benfica 1:** LBCE6722[k], **Tocantins state**, **São Sebastião do Tocantins, (8) Fazenda Osara II**: MN76192[m,coi] (FO05), MN76194[m,k,coi] (FO07), MN76198[m,k,coi] (FO10), MN76200[m] (FO13), MN76203[m] (FO16), MN75205[k,coi] (FO18), MN76206[m,coi] (FO19), MN76207[m,coi] (FO20), MN76209[m,coi] (FO22), MN76210[m,k,coi] (FO23), MN76212[m,k,coi] (FO25), MN76213[m,coi] (FO26), MN76216[m,coi] (FO29), MN76217[m,coi] (FO30), MN76223[m,k,coi] (FO36), MN81726 (FO41), MN76226[m] (FO43), MN81727 (FO44), MN76227[m] (FO45), MN80436 (FO47), MN80431 (FO39), MN81639[i7,cy] (offspring of MN81726), MN81640[k] (offspring of MN81726), MN81641[k,i7] (offspring of MN81727), MN81642[i7] (offspring of MN81727), MN81643[k,i7] (offspring of MN81726), MN81646 (born in captivity); **Couto Magalhães, (9) Fazenda do Zé Carlos**: MN76925[m,k,coi] (PQ23), MN76926[m,k,coi] (PQ24).

Oligoryzomys microtis

BOLIVIA, El Beni, (12) Boroica, Rio Itonama: USNM460740[m]; **(13) Cachuelita, Itonama, Rio S. Huios, Las Petas**: USNM460739[m]; **(14) Chaco Lejo, 20 Km SE San Ramon**: USNM391295[m] USNM391296[m] USNM391297[m]; **(15) Las Penas, Rio Machupo**: USNM460741[m]; **(16) San Joaquin**: USNM364738[m] USNM391299[m] USNM460273[m] USNM460742[m] USNM460743[m]. **BRAZIL, Acre state, (17) Brasiléia**: LBCE13098[k,cy], **(18) Capixaba:** MN87922[cy] (SVS638), MN87923[cy] (SVS639), MN87924[cy,m] (SVS641), MN87925[cy,m] (SVS642), MN87926[cy] (SVS643), MN87927[cy,m] (SVS645), SVS647[cy], MN87928[cy] (SVS650), MN87929[cy,m] (SVS663), MN87930[cy] (SVS665), MN87931[cy] (SVS666), MN89725[cy] (SVS673), MN87932[cy] (SVS675), SVS676[cy], MN87933[m] (SVS680), SVS689[cy], MN87934[m] (SVS706), SVS712[cy], MN87937[m] (SVS723); **Porto Acre, (19) Humaitá:** MN87950[cy,m] (LBCE18369), MN87951[cy,k,m] (LBCE18385), MN87953[k] (LBCE18403); **Porto Acre, Rodovia AC10, Km20, (20) Ramal Profª Lucila:** MN87939[m] (LBCE15118), LBCE15123[k,cy], MN87942[m] (LBCE15124), LBCE15126[k,cy], MN87945[m] (LBCE15132), MN87946[m] (LBCE15133), LBCE 15135[k,cy], MN87948[m] (LBCE15136), LBCE15141[k,cy]; **(21) Rio Branco, Parque Zoobotânico:** MN87952[cy,m] (LBCE18400), LBCE18403[m]; **Amazonas state**, **(22) Manacapuru, Paraíso D'Angelo:** MN84349[cy,k] (CRB3004); **Solimões River (restricted by Voss et al. 2001 to Manacapuru)**: AMNH37091[m], AMNH37096[m], AMNH37157[m]; **PERU, Madre de Dios, Tambopata, (23) Puerto Maldonado**: USNM390112[m], USNM390115[m], USNM390116[m], USNM390117[m], USNM390118[m], USNM390119[m]; **(24) Rio Manu, 57 Km Above Mouth**: USNM559399[m], USNM559400[m], USNM559401[m], USNM559402[m], USNM559403[m]; **(25) Rio Tambopata, 30 Km From Mouth**: USNM530925[m], **Ucayali, (26) 59 Km SW Pucallpa**: USNM499223[m], USNM499224[m].

Supplemental Material S2. Specimens used in molecular analysis. Museum and collector acronyms are: ACUNH (Abilene Christian University Natural History, Texas, USA), AMNH (American Museum of Natural History, New York, USA), AN (Instituto Evandro Chagas, Ananindeua, Brazil) ASNHC (Angelo State Natural History Collections, San Angelo, TX, USA), Bar (Bariloche, specimens at Instituto Nacional de Enfermedades Virales Humanas, Pergamino, Buenos Aires, Argentina), AVG (unknown field number, specimens at MUSM), BYU (Monte L. Bean Museum, Brigham Young University, Provo, UT, USA), CIT (Laboratório de Citogenética de Vertebrados, Universidade de São Paulo, Brazil), (Carnegie Museum of Natural History, Pittsburgh, PA, USA), CNP (Campo Novo do Parecis), CRB (Cibele Rodrigues Bonvicino), CURN (Centro Universitario Regional del Norte de la Universidad Autónoma de Nicaragua), GD (Guillermo D´Elía), IMBICE (Instituto Multidisciplinario de Biologia Celular, La Plata, Argentina), INEVH (Instituto Nacional de Enfermedades Virales Humanas "Dr. Julio I. Maiztegui," Buenos Aires, Argentina), JMR (José M. Rojas), (Colección de Mamíferos del Centro Nacional Patagonico, Puerto Madryn, Argentina), LBCE (ColMasto, FIOCRUZ, Rio de Janeiro, Brazil), LF (Luís Flamarion), MACN (Museo Argentino de Ciencias Naturales "Bernardino Rivadavia," Buenos Aires, Argentina), MCNU (Museu de Ciencias Naturais da Ulbra, Brazil), MN (Museu Nacional, Universidade Federal do Rio de Janeiro, Brazil), MNFS (Maria Nazaré F. da Silva), MPEG (Museu Paraense Emílio Goeldi, Belém, Pará, Brazil), MSB (Museum of South western Biology, University of New Mexico, Albuquerque, USA), MUSM (Museo de Historia Natural, Universidade Mayor de San Marcos, Lima, Peru), MVZ (Museum of Vertebrate Zoology, University of California, Berkeley, USA), NK (Museum of Southwestern Biology, University of New Mexico, Albuquerque, USA), OMNH (Sam Noble Museum, University of Oklahoma, Norman, USA), JPJ (Jorge Pablo Jayat), ROM (Royal Ontario Museum, Ottawa,

Canada), RCO (unknown field number, specimens at MUSM), SVS (Serviço de Vigilância em Saúde, Ministry of Health, Brazil), TK (Tissue collection, Texas Tech University, Lubbock, TX, USA), TTU (The Museum, Texas Tech University, Lubbock, TX, USA), UFES (Universidade Federal do Espírito Santo, Vitória, Brazil), UFPB (Universidade Federal da Paraíba, João Pessoa, Brazil), UNB (Universidade de Brasília, Distrito Federal, Brazil). 1= Hurtado and D'El 2019, 2= Hurtado and D'Elía 022, 3= Teta et al. 2013, 4= González-Ittig et al. 2010, 5= Hanson et al. 2011, 6= Percequillo et al. 2011, 7= Milazzo et al. 2006, 8= Hurtado and D'Elía 2 8, 9= Agrellos et al. 2012, 10= González-Ittig et al. 2014, 11= Palma et al. 2005, 12=Weksler et al. 2017, 13=Rogers et al. 2009, 14= da Cruz et al. 2019, 15= Palma et al. 2010b, 16=Firth et al. 2012, 17= Rocha et al. 2011 18= Carroll et al. 2005, 19= Patton and Silva 1995, 20= Richter et al. 2010, 21= Palma et al. 2010a, 22=Canon et al. 2014, 23=Smith and Patton 1999, 24=Hanson 2008, 25= Bonvicino et al. 2014, 26= Almendra et al. 2014, 27=Machado et al. 2014, 28= D'Elía et al. 2015, 29= Oliveira da Silva et al. 2022.

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. andinus	Peru: Huánuco, Huamalíes, Punchao, Chinchuragra	MUSM22887	MK128667	MW390661	1	2
O. andinus	Peru: Lima, Huaura, Huacho, Albúferas Medio Mundo	MUSM42033	MK128685	MW390662	1	2
O. arenalis	Peru: Piura, Huancabamba, Canchaque, Chorro Blanco	MUSM21694	MK128692	MW390665	1	2
O. arenalis	Peru: Cajamarca, Chota, Querocoto, Quebrada Honda	MUSM39523	MK128695	MW390666	1	2
O. brendae	Argentina: Jujuy, Quebrada Alumbriojo, aprox. 8 km al NE de Santa Ana	JPJ2219	JX154134	MW390668	3	2
O. brendae	Argentina: La Rioja, Km 14 de la ruta provincial N° 73, aprox. 1 km de Pampa de la Viuda	JPJ2423	JX154133	MW390667	3	2
O. chacoensis	Argentina: Salta	INEVH-Or22498	GU185904	-	4	-
O. chacoensis	Paraguay: Presidente Hayes, Estancia Loma Pora	TTU118460/TK62086	MK128704	MW390669	1	2
O. chacoensis	Paraguay: Boqueron, La Lomita, Base Naval Pedro P. Peña	TTU104514	-	MW390670	-	2
O. costaricensis	Panama: Los Santos	MSB96068/NK101603	MK128706	MW390672	1	2

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. costaricensis	Panama: Gamboa	TK163369	GU393988	-	5	-
O. costaricensis	Costa Rica: Cartago, 2 km NE Cartago	MVZ155316	-	MW390671	-	2
O. delicatus	Venezuela: Sucre, Finca Vuelta Larga	AMNH257262	GU126529	MW390674	6	2
O. delicatus	Venezuela: Portuguesa, Hato Maporal near Caño Delgadito	TK138080	DQ227457	-	7	-
O. destructor destructor	Peru: Huánuco, Chinchao, Caserío de San Pedro de Carpish	MUSM19069	MG214280	MW390676	8	2
O. destructor spodiurus	Peru: Cajamarca, Chota, Querocoto	MUSM39519	MG214266	MW390675	8	2
O. flavescens	Brazil: São Paulo, Pedreira	CRB1430	JQ013746	JQ282855	9	9
O. flavescens	Uruguay: Maldonado, Barra Arroyo	GD729	MK128719	MW390678	1	2
O. fornesi	Argentina: Chaco, Parque Nacional Chaco	MACN22830	GU185920	-	4	-
O. fornesi	Argentina: Formosa, Colonia Buena Vista	INEVH36163	HQ890936	KY933614	10	Unp

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. fulvescens	Mexico: Tamaulipas, 5 km N of Soto La Marina	ROM96111	MK128743	MW390680	1	2
O. fulvescens	Honduras: Olancho, 4 km E Catacamas	TTU84699	MK128744	MW390679	1	2
O. guille	Peru: Ica, Pisco, Huamay, Pueblo Vernal, lagunilla	MUSM26270	MK128702	MW390663	1	2
O. guille	Peru: Ica, Pisco, Caucato	MUSM44245	MK128703	MW390664	1	2
O. longicaudatus	Argentina: Rio Negro, Bariloche	Bar23403	GU185912	KY933627	4	Unp
O. longicaudatus	Argentina: Neuquén	LB012	AY275702	-	11	-
O. longicaudatus	Chile	GD1198	-	MW390682	-	2
O. magellanicus	Chile: Magallanes	IPAT	AY275705	-	11	-
O. mattogrossae	Brazil: Mato Grosso do Sul, Corumbá	LBCE5718	KY952256	-	12	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. mattogrossae	Brazil: Bahia, Jaborandi	MN62640	KY952261	JQ282862	12	9
O. mattogrossae	Brazil: Mato Grosso, São José do Xingu, Fazenda São Luiz	CRB2793	-	PS	-	PS
O. mattogrossae	Brazil: Mato Grosso, São José do Xingu, Fazenda São Luiz	CRB2823	-	PS	-	PS
O. messorius	Venezuela: Amazonas, Pozon, 50 km NE of Puerto Ayacucho	ACUNHC275	EU258537	-	13	-
O. messorius	Venezuela: Amazonas, Pozon, 50 km NE of Puerto Ayacucho	ROM107871	MK128745	MW390683	1	2
O. moojeni	Brazil: Goiás, Sitio D Abadia	LBCE11615	JQ013771	JQ282874	9	9
O. moojeni	Brazil: Goiás, Cavalcante	MN50309	JQ013768	JQ282844	9	9
O. nigripes	Brazil: Santa Catarina, Jaborá	LBCE8160	JQ013778	JQ282873	9	9
O. nigripes	Brazil: Rio de Janeiro, Parque Nacional da Serra dos Órgãos	MN71984/LBCE6468	GQ259904	JQ282868	9	9
O. occidentalis	Bolivia: Cochabamba, 7.5 Km SE of Rodeo	MSB87148	MK128796	MW390689	1	2

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. occidentalis	Argentina: Salta	INEVH-Or22523	GU185914	-	4	-
O. occidentalis	Bolivia: Cochabamba, 28 km W Comarapa	MSB55318	-	MW390688	-	2
O. rupestris	Brazil: Goiás, Alto Paraiso	MN50322	JQ013763	JQ282850	9	9
O. rupestris	Brazil: Goiás, Alto Paraiso	MN50326	JQ013764	JQ282851	9	9
O. stramineus	Brazil: Goiás, Terezina de Goiás	MN46410	JQ013747	-	9	-
O. stramineus	Brazil: Bahia, Palmeiras, Fazenda Alto Coités	MN84348/MW303	MF696155	OR651755	14	PS
O. stramineus	Brazil: Goiás, Terezina de Goiás	MN34439	-	JQ282842	-	9
O. utiaritensis	Brazil: Mato Grosso, Campo Novo do Parecis	MN75622	JQ013756	JQ282891	9	9
O. utiaritensis	Brazil: Mato Grosso, Campo Novo do Parecis	MN75625	JQ013752	JQ282893	9	9
O. vegetus	Costa Rica: Cartago, Volcan Irazu	ROM113156/F48462	EU258541	MW390691	13	2
O. vegetus	Costa Rica: Punta Arenas, Cerro Amigo	KU142065	EU192165	-	15	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
Oligoryzomys sp. n. Central clade	Brazil: Mato Grosso, Aripuanã	CIT683	OR651742	-	PS	-
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso	AN693269	JX443659	-	16	-
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso	AN693307	JX443657	-	16	-
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraíso	MN91084/LBCE7038	OR651743	OR651754	PS	PS
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraíso	MN91085/LBCE7039	OR651744	-	PS	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso, Faz. Seu Bento	LBCE20448/SVS021	-	OR651749	-	PS
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso, Faz. Seu Bento	LBCE20474/SVS062	-	OR651750	-	PS
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso, Faz. Seu Bento	LBCE20483/SVS075	-	OR651751	-	PS
Oligoryzomys sp. n. Central clade	Brazil: Rondônia, Alto Paraiso, Faz. Seu Bento	LBCE20492/SVS093	-	OR651752	-	PS
Oligoryzomys sp. n. Eastern clade	Brazil: Tocantins, Pium	UFES1442	HM594618	-	17	-
Oligoryzomys sp. n. Eastern clade	Brazil: Tocantins, São Sebastião do Tocantins, Fazenda Osara II	MN81639/CRB1448	KY952251	JQ282857	12	9

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
Oligoryzomys sp. n. Eastern clade	Brazil: Tocantins, São Sebastiao do Tocantins, Fazenda Osara II	MN76226/FO43	-	OR651753	-	PS
O. microtis	Bolivia: Santa Cruz	JMR68	MK128746	-	1	-
O. microtis	Bolivia, Santa Cruz, El Refugio	BYU19014	AY439000	-	18	-
O. microtis	Brazil: Acre, Capixaba	MN89725/SVS673	KY952263	-	12	-
O. microtis	Brazil: Acre, Capixaba	SVS676	KY952264	-	12	-
O. microtis	Brazil: Acre, Capixaba	SVS647	OR651745	-	PS	-
O. microtis	Brazil: Acre, Igarapé Porangaba	MVZ193785	U58381	-	19	-
O. microtis	Brazil: Acre, Porto Acre, Humaitá	MN87951/LBCE18385	OR651746	-	PS	-
O. microtis	Brazil: Acre, Porto Acre, Rodovia AC-10, Km 20, Ramal Profª Lucila	LBCE15126	OR651747	-	PS	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. microtis	Brazil: Acre, Rio Branco, Parque ZooBotânico	LBCE18400	OR651748	-	PS	-
O. microtis	Brazil: Amazonas, Itacoatiara	AN683313	JX443647	-	16	-
O. microtis	Brazil: Amazonas, Itacoatiara	AN683316	JX443648	-	16	-
O. microtis	Brazil: Amazonas, Itacoatiara	AN683318	JX443649	-	16	-
O. microtis	Brazil: Amazonas, Jainu, right bank Rio Juruá	MVZ193858	EU258549	MW390684	13	2
O. microtis	Brazil: Amazonas, Manacapuru	MN84349/CRB3004	KY952252	-	12	-
O. microtis	Brazil: Amazonas, Seringal Condor	MVZ190403	MK128748	-	1	-
O. microtis	Peru: Cusco	RCO468	MG988102	-	Unp	-
O. microtis	Peru: Loreto, Iquitos	TTU76247	MK128767	-	1	-
O. microtis	Peru: Loreto, Zona Marina	TTU76249	FJ374766	-	20	-
O. microtis	Peru: Madre de Dios, Puerto Maldonado	MUSM21839	MK128758	-	1	-
O. microtis	Peru: Madre de Dios, Puerto Maldonado	MUSM21840	MK128759	-	1	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
O. microtis	Peru: Madre de Dios, Puerto Maldonado	MUSM21841	MK128760	-	1	-
O. microtis	Peru: Madre de Dios, Puerto Maldonado	MUSM21843	MK128762	-	1	-
O. microtis	Peru: Madre de Dios, Puerto Maldonado	MUSM21846	MK128765	MW390685	1	2
O. microtis	Peru: Loreto	MUSM43213	MG824921	-	Unp	-
OUTGROUPS						
Abrothrix longipilis	Chile, Aysen	NK160649	GU564074	GU564103	21	21
Thomasomys aureus	Peru, Cusco	MVZ170076	U03540	KJ614620	23	22
Sigmodon hispidus	Mexico, Tamaulipas	TK137315	EU073177	EU652895	24	24
Handleyomys saturatior	Nicaragua, Matagalpa	CURN JAGE438	KF658386	KF658445	26	26
Hylaeamys megacephalus	Brazil, Goiás	LBCE18571	KP122250	-	25	-

Taxon	Locality	Voucher Number	mt-Cytb	**ifgb7**	Ref. mt-Cytb	Ref. Ifgb7
Hylaeamys megacephalus	Brazil, Brasília	UNB3069	-	JQ966815	-	27
Lundomys molitor	Brazil, Rio Grande do Sul	MCNU2302	JQ966241	JQ966825	27	27
Melanomys chrysomelas	Nicaragua, Atlantico Norte	TK121417	EU340017	KP970194	28	28
Neacomys paracou	Suriname: Brokopondo, Brownsberg Nature Park, Headquarters	ROM114023	KP778425	KP778752	Unp	Unp
Oecomys auyantepui	Brazil: Pará, Óbidos	MPEG40457	OM927735	OM927739	29	29
Oryzomys couesi	Honduras, Olancho	TK102040	DQ185383	EU652903	7	24
Pseudoryzomys simplex	Argentina, Chaco	CNP4589	KP970127	KP970198	28	28
Sooretamys angouya	Paraguay, Ñeembucu	TK61763	KP970128	KP970200	28	28

Supplemental Material S3. Haplotypes (H) of *O. microtis* and *Oligoryzomys* sp. n. Numbers after localities refer to collecting sites in the map (Fig. 1) Museum and collector acronyms are as in Supplemental Material S2. Brazilian states are Acre (AC), Amazonas (AM), Rondônia (RO), Tocantins (TO).

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
1	*O. microtis*	MUSM43190	MG824919	Peru: Loreto	Unpublished. GenBank
1	*O. microtis*	MUSM43210	MG824922	Peru: Loreto	Unpublished. GenBank
1	*O. microtis*	MUSM43213	MG824921	Peru: Loreto	Unpublished. GenBank
1	*O. microtis*	MUSM43223	MG824920	Peru: Loreto	Unpublished. GenBank
2	*O. microtis*	MVZ193785	U58381	Brazil: AC, Igarapé Porangaba - 31	Patton and Silva 1995
3	*O. microtis*	MN87950/ LBCE18369	OR709690	Brazil: AC, Porto Acre, Humaitá - 19	Present study
3	*O. microtis*	MN87951/ LBCE18385	OR651746	Brazil: AC, Porto Acre, Humaitá - 19	Present study
3	*O. microtis*	LBCE15123	OR709691	Brazil: AC, Porto Acre, Rodovia AC-10, Km 20, Ramal Profª Lucila - 20	Present study
3	*O. microtis*	LBCE15135	OR709	Brazil: AC, Porto Acre, Rodovia AC-10,	Present study

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
			692	Km 20, Ramal Profª Lucila - 20	
3	*O. microtis*	LBCE15141	OR709693	Brazil: AC, Porto Acre, Rodovia AC-10, Km 20, Ramal Profª Lucila - 20	Present study
4	*O. microtis*	MUSM21839	MK128758	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
5	*O. microtis*	MN87930/ SVS665	OR709694	Brazil: AC, Capixaba - 18	Present study
5	*O. microtis*	MUSM21841	MK128760	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
5	*O. microtis*	MUSM21842	MK128761	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
5	*O. microtis*	MUSM21845	MK128764	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
6	*O. microtis*	AN683313	JX443647	Brazil: AM, Itacoatiara - 39	Firth et al. 2012
7	*O. microtis*	AVG711	MG988103	Peru: Cusco, La Convencion, Echarate - 41	Unpublished. GenBank
7	*O. microtis*	RCO468	MG988102	Peru: Cusco	Unpublished. GenBank
8	*O. microtis*	AN683316	JX443648	Brazil: AM, Itacoatiara - 39	Firth et al. 2012
9	*O. microtis*	MVZ190401	HM594	Brazil: AM, Seringal Condor - 33	Rocha et al. 2011

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
			624		
9	*O. microtis*	MVZ190403	MK128748	Brazil: AM, Seringal Condor - 33	Hurtado and D'Elía 2019
10	*O. microtis*	MVZ193858	EU258549	Brazil: AM, Jainu - 32	Rogers et al. 2009
11	*O. microtis*	SVS647	OR651745	Brazil: AC, Capixaba - 18	Present study
12	*O. microtis*	MN84349/ CRB3004	KY952252	Brazil: AM, Manacapuru - 22	Weksler et al. 2017
13	*O. microtis*	MUSM21843	MK128762	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
13	*O. microtis*	MUSM21844	MK128763	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
14	*O. microtis*	TTU76247	MK128767	Peru: Loreto, Iquitos - 42	Hurtado and D'Elía 2019
14	*O. microtis*	TTU76248	MK128768	Peru: Loreto, Iquitos - 42	Hurtado and D'Elía 2019
15	*O. microtis*	TTU76249	FJ374766 = MK128766	Peru: Loreto, Iquitos - 42	Richter et al. 2010; Hurtado and D'Elía 2019
1	*O. microtis*	JMR68	MK128	Bolivia: Santa Cruz - 35	Hurtado and

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
6			746		D'Elía 2019
17	*O. microtis*	BYU19014	AY439000	Bolivia: Santa Cruz, los Mineros, Dinamarca - 36	Carroll et al. 2005
18	*O. microtis*	LBCE15126	OR651747	Brazil: AC, Porto Acre, Rodovia AC-10, Km 20, Ramal Profª Lucila - 20	Present study
19	*O. microtis*	MUSM21840	MK128759	Peru: Madre de Dios, Puerto Maldonado - 23	Hurtado and D'Elía 2019
20	*O. microtis*	SVS676	KY952264	Brazil: AC, Capixaba - 18	Weksler et al. 2017
21	*O. microtis*	LBCE13098	OR709695	Brazil: AC, Brasiléia - 17	Present study
21	*O. microtis*	MN97925/ SVS642	OR709696	Brazil: AC, Capixaba - 18	Present study
21	*O. microtis*	MUSM21846	MK128765	Peru: Madre de Dios, Puerto Maldonado	Hurtado and D'Elía 2019
22	*O. microtis*	MN97923/ SVS639	OR709697	Brazil: AC, Capixaba - 18	Present study
22	*O. microtis*	MN97924/ SVS641	OR709698	Brazil: AC, Capixaba - 18	Present study
22	*O. microtis*	MN97926/ SVS643	OR709699	Brazil: AC, Capixaba - 18	Present study
2	*O. microtis*	MN97927/	OR709	Brazil: AC, Capixaba - 18	Present study

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
2		SVS645	700		
2	*O. microtis*	MN87929/	OR709	Brazil: AC, Capixaba - 18	Present study
2		SVS663	701		
2	*O. microtis*	MN87931/	OR709	Brazil: AC, Capixaba - 18	Present study
2		SVS666	702		
2	*O. microtis*	SVS712	OR709	Brazil: AC, Capixaba - 18	Present study
2			703		
2	*O. microtis*	MN87952/	LBCE1	Brazil: AC, Rio Branco, Parque	Present study
2		LBCE18400	8400	ZooBotânico - 21	
2	*Oligoryzomys* sp. n.	AN693262	JX4436	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
3	Central clade		56		
2	*Oligoryzomys* sp. n.	SVS106	OR709	Brazil: RO, Alto Paraíso - 7	Present study
3	Central clade		704		
2	*Oligoryzomys* sp. n.	MN91085/	OR651	Brazil: RO, Alto Paraíso - 7	Present study
3	Central clade	LBCE7039	744		
2	*Oligoryzomys* sp. n.	AN693269	JX4436	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
4	Central clade		59		
2	*Oligoryzomy*	AN693231	JX4436	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
5	*s* sp. n. Central clade		51		
2 5	*Oligoryzomy*	AN693239	JX4436 52	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693240	JX4436 60	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693244	JX4436 53	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693251	JX4436 54	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693277	JX4436 61	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693288	JX4436 62	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
2 5	*Oligoryzomy* *s* sp. n. Central clade	AN693292	JX4436 63	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012

H	Taxon	Voucher	mt-Cytb	Locality	Ref.
25	*Oligoryzomys* sp. n. Central clade	AN693338	JX443658	Brazil: RO, Alto Paraiso - 7	Firth et al. 2012
25	*Oligoryzomys* sp. n. Central clade	MN91084/ LBCE7038	OR651743	Brazil: RO, Alto Paraíso - 7	Present study
25	*Oligoryzomys* sp. n. Central clade	MN87919/ SVS118	OR709705	Brazil: RO, Alto Paraíso - 7	Present study
25	*Oligoryzomys* sp. n. Central clade	MN87921/ SVS134	OR709706	Brazil: RO, Alto Paraíso - 7	Present study
26	*Oligoryzomys* sp. n. Eastern clade	MN81639/ CRB1448	KY952251	Brazil: TO, São Sebastião do Tocantins - 8	Weksler et al. 2017
27	*Oligoryzomys* sp. n. Eastern clade	UFES1442	HM594618	Brazil: TO, Pium - 11	Rocha et al. 2011

Supplemental Material S4. Vector correlation loadings of principal components (PC1, PC2, PC3), coefficients of canonical discriminant functions (DF1 and DF2), and percentage of variation for multivariate analysis of selected samples of the *Oligoryzomys microtis*.

Variable	PC1	PC2	PC3	DF1	DF2
CIL	0.80	-0.34	-0.06	-0.27	-0.41
LD	0.27	-0.12	-0.03	-0.49	-0.19
PB	0.14	-0.17	-0.59	0.45	-0.75
LIF	0.13	-0.25	0.31	0.45	0.18
BIF	0.04	-0.12	-0.03	0.58	-0.21
LM	0.03	0.12	-0.32	-0.49	-0.33
BM1	0.02	0.03	-0.03	0.72	0.10
M1M	0.09	0.17	-0.06	-0.73	-0.10
BRO	0.16	-0.02	-0.03	-0.32	-0.12
ORL	0.27	0.17	0.65	0.58	0.42
ZB	0.37	0.83	-0.14	-0.28	0.62
BZP	0.07	0.00	0.01	0.10	0.58
Prop. Variance	77%	5%	4%	52%	48%
Cumulative Prop.	77%	83%	87%	52%	100%