

Table S1. Occurrence of western tubenose goby (*Proterorhinus semilunaris*) with sites and years of record/monitoring in Europe. Abbreviations: l. – left, r. – right. * first record of western tubenose goby in country.

Country	Name	Site	Year	Source
Poland	River Bug		2008*	Grabowska et al. 2008
	River Vistula	under the Włocławek Reservoir		Grabowska et al. 2008
Belarus	River Pripyat (tributary of the Dnieper)	near the Dnieper-Bug Canal	2007*	Rizevsky et al. 2007
Ukraine	River Dnieper (Днепр/Дняпро/Дніпро)	from the estuary to Kiev		Smirnov 1986
	Zaporozhskiy Reservoir (on the Dnieper)			Movčan & Romaň 2014
	Dniprodzerzhynsk Reservoir (on the Dnieper)			Beljaev et al. 1965
	Kremenchuk Reservoir (on the Dnieper)			Movčan & Romaň 2014
	Kaniv Reservoir (on the Dnieper)			Movčan & Romaň 2014
	Kyiv Reservoir (on the Dnieper)			Movčan 2012
	River Samara (tributary of the Dnieper)			Movčan & Romaň 2014
	River Oril (tributary of the Dnieper)			Movčan & Romaň 2014
	River Vorskla (tributary of the Dnieper)			Kessler 1856
	River Psel (tributary of the Dnieper)			Berg 1932
	River Tiasmyn (tributary of the Dnieper)			Movčan & Romaň 2014
	River Vilshanka (tributary of the Dnieper)			Movčan & Romaň 2014
	River Ros' (tributary of the Dnieper)			Beling 1937
	River Sula (tributary of the Dnieper)			Movčan & Romaň 2014
	River Supiy (tributary of the Dnieper)			Movčan & Romaň 2014
	River Stuhna (tributary of the Dnieper)			Movčan & Romaň 2014
	River Trubizh (tributary of the Dnieper)			Berg 1932
	River Desna (tributary of the Dnieper)			Tkačenko et al. 2007
	River Southern Buh (Південний Буг)	to above Pervomaisk		Berg 1949
	Dzharylhach Bay	Black Sea coast		Manilo 2008-2009
	Tendra Bay	Black Sea coast		Manilo 2008-2009
	Yahorlyk Bay	Black Sea coast		Manilo 2008-2009
	Gulf of Zbur'ivka	Black Sea coast		Manilo 2008-2009
	Dniprovs'ka Gulf	Black Sea coast		Manilo 2008-2009
	Berezans'kyi Liman	Black Sea coast		Manilo 2008-2009

	Tilihulskiy Liman	Black Sea coast	Manilo 2008-2009
	Budagkskiy Liman	Black Sea coast	Manilo 2008-2009
	Sasyk Liman	Black Sea coast	Manilo 2008-2009
	Zhebriyanskiy Liman	Black Sea coast	Manilo 2008-2009
	Lake Kytaj		Borcea 1933
Moldova-Ukraine	River Dniester (Nistru/Дністер)	Soroca city	Bulat 2017
		Otaci city	Bulat 2017
		Naslavcea village	Bulat 2017
Moldova	River Dniester (Nistru/Дністер)	in the lower stretch	Vasiľeva 2003
		Pulanca village	Bulat 2017
		Sucleia village	Bulat 2017
		Varnița village	Bulat 2017
		Criuleni city	Bulat 2017
		Vadul lui Vodă city	Bulat 2017
		Dubăsari city	Bulat 2017
		Goian village	Bulat 2017
		Camenca city	Bulat 2017
	Dubăsari Dam (dam reservoir on the Dniester)		Vasiľeva 2003
	River Bîc (tributary of the Dniester)		Bulat 2017
	River Răut (tributary of the Dniester)		Borcea 1933
	River Ciuluc (tributary of the Bâc and Răut)		Bulat 2017
	River Cubolta (tributary of the Bâc and Răut)		Bulat 2017
	River Copăceanca (tributary of the Bâc and Răut)		Bulat 2017
	River Ghidighici (tributary of the Bâc and Răut)		Bulat 2017
Romania-Moldova	River Prut (l. tributary of the Danube)	up to Iași city	Berg 1949
		up to Costești Reservoir	Bulat 2017
		Giurgiulești	Bulat 2017
		Câșlița asi Cîșlița-Prut	Bulat 2017
		Cahul	Bulat 2017
		Leova	Bulat 2017
		Leușeni	Bulat 2017

		Sculeni		Bulat 2017
		Braniște		Bulat 2017
		in the Costești Reservoir		Bulat 2017
	River Ciuhur (l. tributary of the Prut)			Bulat 2017
	River Racovăț (l. tributary of the Prut)			Bulat 2017
	River Lopatnic (l. tributary of the Prut)			Bulat 2017
	River Vilia (l. tributary of the Prut)			Bulat 2017
	River Larga (l. tributary of the Prut)			Bulat 2017
	Lakes Belev	on the left side of the Prut		Bulat 2017
	Lakes Manta	on the left side of the Prut		Bulat 2017
	Lakes Costești-Stânca	on the left side of the Prut		Bulat 2017
Romania	River Siret (Сирет) (l. tributary of the Danube)	between Dolhasca and Bacău		Battes et al. 2005
	River Buzău (r. tributary of the Siret)		2003-2005	Ureche et al. 2006
	River Jijia (r. tributary of the Prut)			Borcea 1933
	River Bahlui (r. tributary of the Jijia)			Borcea 1933
	River Beregsău (Begej) (l. tributary of the Bega)			Bănărescu 1964, Bănărescu & Bănăduc 2007
	Lakes Vladnic	on the right side of the Prut		Borcea 1933
	Lakes Beldiman	Iași		Borcea 1933
	Lake Razelm (Razim)			Antipa 1909
	ponds	in the area of Lake Razelm		Bănărescu & Bănăduc 2007
	Lake Sinoe			Antipa 1909
	Lake Snagov			Borcea 1933
	River Dâmbovița (tributary of the Argeș)			Bănărescu 1964
	River Ilfov (tributary of the Dâmbovița)	Nucet city		Bănărescu 1964
	River Colentina (tributary of the Dâmbovița)	Bucharest city		Borcea 1933
	lake	around Bucharest		Bănărescu 1964
Bulgaria	River Archar (r. tributary of the Danube)		after 2000	Vassilev et al. 2012
		up to 3. r.km	2006-2012	Zarev et al. 2013
	River Lom (r. tributary of the Danube)		2000	Vassilev et al. 2012
		up to 4. r.km	2006-2012	Zarev et al. 2013

	River Ogosta (r. tributary of the Danube)	in the estuary up to 32. r.km	2006-2012	Karapetkova 1994 Zarev et al. 2013
	River Skat (r. tributary of the Ogosta)	up to 16. r.km	after 2000 2006-2012	Vassilev et al. 2012 Zarev et al. 2013
	River Yantra (r. tributary of the Danube)	up to Petko Karavelovo	2006-2012	Vassilev et al. 2008
	Stara reka (r. tributary of the Yantra)	up to Džujunicu		Michov & Kolev 2006
Serbia	River Tisza (l. tributary of the Danube)	Senta	1994	Guelmino 1994
	River Sava (Cava) (r. tributary of the Danube)	Makiš confluence with the River Kolubara (Obrenovac)		Simonović et al. 2015 Simonović et al. 2015
Croatia	River Sava (Cava) (r. tributary of the Danube)	Račinovci Slavonski Brod Davor		Simonović et al. 2015 Simonović et al. 2015 Simonović et al. 2015
Hungary-Croatia	River Drava (r. tributary of the Danube)	in the lower stretch	late 80's of the 20th century	Harka 1990, 1992a
	River Drava (r. tributary of the Danube)	up to Barcs Vízvár	1999 2003	Harka 1992a, Majer 1998, Sallai 2002 Sallai & Kontos 2005
		from Matty to Vízvár		Sallai & Kontos 2008
Hungary	River Tisza (l. tributary of the Danube)	Szeged (r.km 173) Hódmezővásárhely (r.km 203) Lake Tisza (r.km 428) near Tiszafürede Tiszaöku (r.km 518) Tiszabercel (r.km 570) Szabolcsveresmart (r.km 608) Csongrád	1957 1960 in the 80s of the 20 th century 2000 2007 2008 1998	Berinkei 1972 Sterbetz 1963 Harka 1988 Györe et al. 2001 Harka & Szepesi 2008 Antal & Csipkés 2010 Sevcsik & Erős 2008
	Rákospatak (l. tributary of the Danube)	Budapest		Szendőfi 2014
	channel (l. tributary of the Danube)	Ócsa	1979	Botta et al. 1987
	Dunavölgyi-főcsatorna (l. tributary of the Danube)	Dabas	1979	Botta et al. 1984
	Árapasztó canal (l. tributary of the Danube)	Sári	1981	Botta et al. 1984
	Szódipatak (l. tributary of the Danube)			Botta et al. 1981
	River Bodrog (r. tributary of the Tisza)	Olaszliszka (r.km 20)	2003	Harka & Csipkés 2009

	from Bodrogkeresztúr to Felsőberekci	2007	Harka & Csipkés 2009
Hanyi-ér (r. tributary of the Tisza)	up to Pély	2003-2004	Harka & Szepesi 2004b
River Laskó (r. tributary of the Tisza)	from Sarud to Mezőtárkány	2003-2004	Harka & Szepesi 2004b, 2005
River Hejő (r. tributary of the Tisza)	from Hejőkürt to Nemesbikk		Harka & Szepesi 2004b, 2006
River Sajó (r. tributary of the Tisza)	Girincs (r.km 25)	2004	Harka & Szepesi 2004b
	Köröm	2007	Harka et al. 2015
	Tiszaujváros	2012	Harka & Szepesi 2013b
	Sajókersztúr (r.km 65)	2012	Harka & Szepesi 2013b
	from estuary to Múcsony (r.km 84)	2012/2013	Csipkés et al. 2014
River Zagyva (r. tributary of the Tisza)	Újszász	1998	Harka & Szepesi 2004a, 2004b, Harka et al. 2004
	Lőrinci	2003	Harka & Szepesi 2004a, 2004b, Harka et al. 2004
River Tápió (Zagyva basin)	from Tápiógyörgye to Tápióság	2003-2004	Harka & Szepesi 2004a, 2004b, Harka et al. 2004
River Galga (Zagyva basin)	from Jászfényszaru to Galgagyörk		Harka & Szepesi 2004a, 2004b, Harka et al. 2004
River Tarna (Zagyva basin)	from Jaszjákohalma to Aldebró		Harka & Szepesi 2004a, 2004b, Harka et al. 2004
	Kompolt	1996	Harka et al. 2015
Eger-patak (r. tributary of the Tisza)	Négyes	2003-2004	Harka & Szepesi 2004b, 2005
	Borsodivánka	2007	Harka & Szepesi 2013a
River Csincse (r. tributary of the Eger-patak)	from Négyes to Gelej		Harka & Szepesi 2004b, 2005, 2013a
River Maros (Mureş) (l. tributary of the Tisza)	from Szeged to Makó	2003	Sallai et al. 2010
	up to Apátfalva	2013	Harka et al. 2015
River Körös (Criş) (l. tributary of the Tisza)	Kunszentmárton	1990	Harka 1990, 1991
	Békésszentandrás	1992	Sallai 1997
	Köröstarcsa	1994	Harka 1996
River Fekete-Körös (Crişul Negru) (r. tributary of the Körös)	Gyula-Városerdő	2009	Györe et al. 2011
	Sarkad		Harka et al. 2015
River Sebes-Körös (Crişul Repede) (r. tributary of the Körös)	Szeghalom	1993	Harka 1996

River Kálló (r. tributary of the Sebes-Körös)	Körösszakál	2008	Harka et al. 2015
Berettyó (Barcău) (r. tributary of the Sebes-Körös)	Szeghalom	2003	Halasi-Kovács et al. 2011
River Ér (Ier) (r. tributary of the Berettyó)	Săcueni	2005	Harka et al. 2006
channels in the Tisza basin	Piru Nou	2012	Wilhelm 2006
	near Püspökladány	1994	Telcean et al. 2014
	near Nádudvar	1995	Harka et al. 2003
	near Árkus	1996	Harka et al. 2003
	near Polgár	1998	Harka et al. 2003
	Tiszavasvári	2000	Sallai 2000
	Gávavencsellő	2013	Harka et al. 2015
Nagykunsági föcsatorna	lake Tisza		Nyeste et al. 2017
Gyöngyös-patak (r. tributary of the Tarna)	from Tarnaörs to Jászárokszállás	2003	Harka et al. 2004, Harka & Szepesi 2004a
	Vámosgyörku	2006	Szepesi & Harka 2008
	Gyöngyöshalász	2014	Harka et al. 2015
Bene-patak	from Nagyfüged to Detk	2003	Harka & Szepesi 2004a, Harka et al. 2004
River Tarnóca	Nagyút		Harka & Szepesi 2004a, Harka et al. 2004, Harka et al. 2015
River Hornád (Hernád) (l. tributary of the Sajó)	Sajóhidvég	2012	Harka & Szepesi 2013b
	Bócs	2012	Harka & Szepesi 2013b
River Takta (l. tributary of the Sajó)	Kesznyéten	2004	Harka & Szepesi 2004b
River Bodva (l. tributary of the Sajó)	Múcsony	2012	Csipkés et al. 2015
	Borsodszirák	2013	Csipkés et al. 2015
River Kis-Sajó (l. tributary of the Sajó)		2015	Fazekas et al. 2016
River Sió (r. tributary of the Danube)			Ahnelt 1989
Váli-víz (r. tributary of the Danube)	Baracska	1980	Botta et al. 1981, 1984
Szentlászló-patak (r. tributary of the Danube)	Martonvásár	2006	Sevcsik & Erős 2008
Benta-patak (r. tributary of the Danube)	Tárnok	1981	Botta et al. 1981
Apátkúti-patak (r. tributary of the Danube)		1980	Botta et al. 1984

Által-ér (r. tributary of the Danube)	Kecskéd	2005-07	Keresztessy & Bardóczyné Székely 2006, Halasi-Kovács et al. 2011 Sevcsik & Erős 2008
Cuhai-Bakony-ér (r. tributary of the Danube)	from Bőny to Gönyű		Harka & Nagy 2007
Mosoni Duna (r. tributary of the Danube)	Győr	1932	Mihályi 1954, Harka 1991, 1992b, Keresztessy 2006 Sevcsik et al. 2002
River Rábca (Répcsa/Rabnitz) (tributary of the Moson Danube)	Kapuvár		Sevcsik et al. 2002
River Rábca (Répcsa/Rabnitz) (tributary of the Moson Danube)	Miklósmajor		Sevcsik et al. 2002
River Marcal (r. tributary of the Rába)	Dabronc		Vutskits 1911
	Győr	2008	Harka et al. 2009
	Mersevát	2008	Harka et al. 2009
	Karakó	2008	Harka et al. 2009
Sokorói-Bakony-ér (r. tributary of the Marcal)	from Koroncó to Kajárpéc	2008-2010	Harka & Szepesi 2011
Kis-séd (r. tributary of the Marcal)	Pápa Kéttornúlak	2008-2010	Harka & Szepesi 2011
Bittva (r. tributary of the Marcal)	from Békás to Mihályháza	2008-2010	Harka & Szepesi 2011
Hajagos (r. tributary of the Marcal)	Vinár	2008-2010	Harka & Szepesi 2011
Torna-patak (r. tributary of the Marcal)	Karakó	2008-2010	Harka & Szepesi 2011
Meleg-víz (r. tributary of the Marcal)	Zalagyömörő	2008-2010	Harka & Szepesi 2011
Gerence (r. tributary of the Tapolca)	Takácsi	2008-2010	Harka & Szepesi 2011
Csente-ér (stream)			Antal et al. 2012
Derecskei-Kálló (stream)			Antal et al. 2012
Ér-főcsatorna (channel)			Antal et al. 2012
Konyári-Kálló (river)			Antal et al. 2012
Kódombszigeti-csatorna (channel)			Antal et al. 2012
Kutas-főcsatorna (channel)			Antal et al. 2012
Létai-ér (stream)			Antal et al. 2012
Ölyvös-ér (stream)			Antal et al. 2012
Szöcsköd-Komádi-csatorna (channel)			Antal et al. 2012
Lake Balaton			Herman 1887, Vutskits 1911
Tapolca Stream (tributary of the lake Balaton)			Vutskits 1911

	Eger-víz (Eger Stream) (tributary of the lake Balaton)			Vutskits 1911
	Lesence Stream (tributary of the lake Balaton)			Vutskits 1911
	River Zala (tributary of the lake Balaton)	Zalaapáti village		Sevcsik & Erős 2008
		Zalaszentgrót city		Sevcsik & Erős 2008
	gravel pit	near the Graz in the Mura basin		Friedl & Sampl 2000
	channel	Csorna city		Sevcsik et al. 2002
	channel system	area of the Hanság		Botta et al. 1981
	moss	Göd city	1980	Botta et al. 1981
Austria	Lake Neusiedl		in the 60s of the 20 th century	Mika & Breuer 1928, Kritscher 1973, Mikschi et al. 1996
	Lake Traunsee			Gassner et al. 2003
	gravel pit	south of Graz		Friedl & Sampl 2000
	River Lohbach (tributary of the Roth)		1997	von Landwüst 2006
Czech Republic	Mušov Reservoir	upper reservoir	1994*	Lusk & Halačka 1995
	River Thaya	from the estuary of the Moravia to the village of Stálky (r.km 209)	1994-1996	Lusk et al. 2000, Švátora et al. 2000
	River Jevišovka	in the lower stretch		Lusk et al. 2000
	River Moravia	from the estuary to the Danube to Hodonín		Lusk et al. 2000, Prášek & Jurajda 2005
Germany	River Main	Bamberg city	1999*	Schadt 2000
		Limbach city		Schadt 2000, Reinartz et al. 2000
	Rhine-Main-Danube channel			Freyhof 2000, Patzner & Schweiger 2007, Reinartz et al. 2000, Schadt 2000
	River Rhine		1999	Borcherding et al. 2011
		od Koblenzu po Andernach		Reinartz et al. 2000, IKS 2002
		Rheindorf	2001	Dönni & Freyhof 2002
	River Moselle	from Koblenz to Lehmen	2000-2005	von Landwüst 2006
Netherlands	River Rhine		2002*	von Landwüst 2006
	River Waal	Nijmegen city	2003	Tien et al. 2003
	dam reservoir	Gambshöhe commune	2007	Manné et al. 2013
France	River Ill			Manné et al. 2013
Switzerland	River Rhine	Basel city	2011*	Mané & Poulet 2008

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