

Additional file 9: Taxonomic sampling for tissues, chromosomal suspensions and blood cells used in this study

Family (sub-family)	Genus. Species	Sampling type	Field reference	Voucher reference
Nototheniidae (Trematominae)	<i>T. eulepidotus</i>	tissue	si487n3152 ⁴	MNHN 2009-1358
		chromosomes	CE2381 ⁵ , m251 ⁶	
		erythrocytes	CE4011 ⁵	
	<i>T. pennellii</i>	tissue	TA364TRPE1 ³	MNHN 1996-0319
		chromosomes	TA647 ³	
		erythrocytes	CE1434 ⁵	
	<i>T. borchgrevinki</i>	tissue	TA263PABO1 ³	MNHN 2002-1711
		erythrocytes	CE5560 / 5561 / 5562 / 5655 / 5656 / 5662 / 5664 ⁵	
	<i>T. hansonii</i>	tissue	TA440TRHA2 ³	MNHN 1996-0307
		chromosomes	TA 646TRHA2 ³	
		erythrocytes	CE 4002 / 4003 / 4004 / 4316 / 5660 / 5664 / 5708 / 5711 / 5738 / 5856 / 5880 / 5661) ⁵	
	<i>T. bernacchii</i>	tissue	Si352n2561 ⁴ / TA 337TRBE7-1/01/03 ³	MNHN 2009-1312
		erythrocytes	Ich1098 / 1099 / 1100 / 1101 / 1102 / 1114 / CE4314 / 4315 / 5658 / 5659 / 5685 / 5709 / 5737 / 6042 / 6043 / 6091 / 6092 ⁵	
	<i>T. loennbergii</i>	tissue	si259n923 ⁴ / si170n1265 ⁴	MNHN 2009-1246
		erythrocytes	CE5916 ⁵	
	<i>T. lepidorhinus</i>	tissue	TNB238 ⁶	MNHN 1999-0394
	<i>T. newnesi</i>	tissue	TA401TRNE3 ³	MNHN 2001-1148 ^{3,5}
		erythrocytes	CE4319 ⁵ / TA456 ³	
	<i>T. scotti</i>	tissue	si541n6317 ⁴	MNHN 2009-1368
	<i>T. nicolai</i>	tissue	TNB214 ⁶	MNHN 1999-0400 ⁶
		erythrocytes	Ich1115 / CE5684 ⁵	MNHN 2002-1707 ⁵
	<i>I. cyanobranca</i>	tissue	Aus30 ²	MNHN 2007-1844
Nototheniidae (Nototheniinae)	<i>N. coriiceps</i>	tissue	N°10RECOLTE2001 / TA421NOCO8 ³	MNHN 2008-1884 ^{3,4,5} not vouchered ¹
		chromosomes	TA449 ³ / NC4 ¹	
		erythrocytes	Ich1095 / 1096 / 1097 ⁵	
Nototheniidae (Dissostichinae)	<i>D. mawsoni</i>	tissue	REVO759 ⁵	MNHN 2001-1143 ⁵ not vouchered ¹
		chromosomes	DM1 ¹	
		erythrocytes	CE4054 / 4055 / 4056 ⁵	
Eleginopsidae	<i>E. maclovinus</i>	chromosomes	RG ¹	MNHN 2005-0093
Bovichtidae	<i>B. diacanthus</i>	chromosomes	BD1 / BD4 ¹	MNHN 2005-0102
Percidae	<i>P. fluviatilis</i>	chromosomes		MNHN 2010-987

Tissue samples, chromosomal preparations and blood cells were collected during the Antarctic campaigns of the IPEV programs: **ICEFISH2**¹ (2004, Southern Ocean and south atlantic), **POKER**² (2010 and 2013 Kerguelen-Heard, shelf and islands), **ICOTA**³ (1996-2008, Adelie Land), **CEAMARC**⁴ (2007/2008 north of Adélie Land and George V Land of Eastern Antarctica), **REVOLTA**⁵ (2010-2014, Adelie Land). The fish identifier and collector is Catherine Ozouf-Costaz except for NC4, DM1, RG, BD1 and BD4: Guillaume Lecointre; TNB and m251: Eva Pisano, and sample of *P. fluviatilis*: Gaël Denys. TNB and m251 samples are originated from the **ICEFISH1**⁶ campaign and conserved in the museum of Genoa (no voucher reference). A single voucher reference is provided per species/locality. Other specimens are deposited in the MNHN research collections.