

## SUPPLEMENTARY MATERIAL

**Genetic diversity and biogeography of the south polar water bear *Acutuncus antarcticus* (Eutardigrada: Hypsibiidae) – evidence that it is a truly pan-Antarctic species**Michele Cesari<sup>A</sup>, Sandra J. McInnes<sup>B</sup>, Roberto Bertolani<sup>A</sup>, Lorena Rebecchi<sup>A,C</sup> and Roberto Guidetti<sup>A</sup><sup>A</sup>Department of Life Sciences, University of Modena and Reggio Emilia, via G. Campi 213/d 41125 Modena, Italy.<sup>B</sup>British Antarctic Survey, Natural Environment Research Council, Madingley Road, Cambridge, CB3 0ET, UK.<sup>C</sup>Corresponding author. Email: lorena.rebecchi@unimore.it**Supplementary Table S1. GenBank accession numbers for specimens utilised as comparison in the 18S phylogram**

For references of Table S1 see below

Species	Reference	GenBank acc. no.
Apochela		
<i>Milnesium cf. tardigradum</i>	Jørgensen and Kristensen 2004	AY582120
Parachela		
Isohypsibioidea		
<i>Apobidius confusus</i>	Dabert <i>et al.</i> 2014	KC582830
<i>Doryphoribius flavus</i>	Bertolani <i>et al.</i> 2014a	HQ604940
<i>Doryphoribius macrodon</i>	Bertolani <i>et al.</i> 2014a	HQ604942
<i>Eremobiotus alicatai</i>	Bertolani <i>et al.</i> 2014a	HQ604951
<i>Eremobiotus alicatai</i>	Guil and Giribet 2012	FJ435722
<i>Halobiotus crispae</i>	Møbjerg <i>et al.</i> 2007	EF620402
<i>Halobiotus crispae</i>	Møbjerg <i>et al.</i> 2007	EF620402
<i>Halobiotus stenostomus</i>	Jørgensen and Kristensen 2004	AY582121
<i>Hebesuncus ryani</i>	Sands <i>et al.</i> 2008	EU266956
<i>Hebesuncus conjungens</i>	Kiehl <i>et al.</i> 2007	AM500646
<i>Hebesuncus</i> sp.	Sands <i>et al.</i> 2008	EU266958
<i>Hexapodibius micronyx</i>	Bertolani <i>et al.</i> 2014a	HQ604915
<i>Hexapodibius</i> sp.	Bertolani <i>et al.</i> 2014a	HQ604917
<i>Isohypsibius cambrensis</i>	Kiehl <i>et al.</i> 2007	AM500652
<i>Isohypsibius dastychi</i>	Bertolani <i>et al.</i> 2014a	HQ604954
<i>Isohypsibius granulifer</i>	Møbjerg <i>et al.</i> 2007	EF620403
<i>Isohypsibius papillifer</i>	Sands <i>et al.</i> 2008	EU266925
<i>Isohypsibius prosostomus</i>	Møbjerg <i>et al.</i> 2007	EF620404
<i>Pseudobiotus kathmanae</i>	Bertolani <i>et al.</i> 2014a	HQ604957
<i>Pseudobiotus megalonyx</i>	Bertolani <i>et al.</i> 2014a	HQ604959

<i>Thulinus augusti</i>	Bertolani <i>et al.</i> 2014b	KF360231
<i>Thulinus augusti</i>	Bertolani <i>et al.</i> 2014b	KF360232
<i>Thulinus augusti</i>	Bertolani <i>et al.</i> 2014b	KF360233
<i>Thulinus</i> sp.	Moon and Kim 1996	Z93337
<i>Thulinus stephaniae</i>	Garey <i>et al.</i> 1999	AF056023
Hypsibioidea		
<i>Acutuncus antarcticus</i>	Sands <i>et al.</i> 2008	EU266943
<i>Acutuncus antarcticus</i>	Sands <i>et al.</i> 2008	EU266944
<i>Acutuncus antarcticus</i>	Kagoshima <i>et al.</i> 2013	AB753858
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296262
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296263
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296264
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296266
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296267
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296268
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296269
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296272
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296273
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296274
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296275
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296276
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296286
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296293
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296294
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296304
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296310
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296313
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296318
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296319
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296320
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296322
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296325
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296330
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296331
<i>Acutuncus</i> sp.	Czechowski <i>et al.</i> 2012	JX296333
<i>Adropion belgicae</i>	Bertolani <i>et al.</i> 2014a	HQ604925
<i>Adropion scoticum</i>	Bertolani <i>et al.</i> 2014a	HQ604927
<i>Adropion</i> sp.	Bertolani <i>et al.</i> 2014a	HQ604931
<i>Astatumen trinacriae</i>	Guil and Giribet 2012	FJ435733
<i>Astatumen trinacriae</i>	Bertolani <i>et al.</i> 2014a	HQ604922
<i>Borealibius zetlandicus</i>	Bertolani <i>et al.</i> 2014a	HQ604923
<i>Calohypsibius ornatus</i>	Bertolani <i>et al.</i> 2014a	HQ604914
<i>Calohypsibius</i> sp.	Sands <i>et al.</i> 2008	EU266942
<i>Diphascon higginsii</i>	Bertolani <i>et al.</i> 2014a	HQ604932
<i>Diphascon mauccii</i>	Sands <i>et al.</i> 2008	EU266945
<i>Diphascon pingue</i>	Guil and Giribet 2012	FJ435736
<i>Diphascon pingue</i>	Bertolani <i>et al.</i> 2014a	HQ604938

<i>Diphasccon puniceum</i>	Sands <i>et al.</i> 2008	EU266949
<i>Diphasccon</i> sp.	Sands <i>et al.</i> 2008	EU266955
<i>Hypsibius scabropygus</i>	Sands <i>et al.</i> 2008	EF632429
<i>Hypsibius convergens</i>	Guil and Giribet 2012	FJ435726
<i>Hypsibius dujardini</i>	Bertolani <i>et al.</i> 2014a	HQ604943
<i>Hypsibius klebelsbergi</i>	Kiehl <i>et al.</i> 2007	AM500648
<i>Hypsibius pallidus</i>	Bertolani <i>et al.</i> 2014a	HQ604945
<i>Hypsibius</i> sp.	Kiehl <i>et al.</i> 2007	AM500649
<i>Itaquascon placophorum</i>	Bertolani <i>et al.</i> 2014a	HQ604946
<i>Microhypsibius</i> cf. <i>bertolanii</i>	Bertolani <i>et al.</i> 2014a	HQ604991
<i>Microhypsibius</i> cf. <i>bertolanii</i>	Bertolani <i>et al.</i> 2014a	HQ604992
<i>Mixibius</i> cf. <i>saracenus</i>	Bertolani <i>et al.</i> 2014a	HQ604956
<i>Mixibius saracenus</i>	Bertolani <i>et al.</i> 2014a	HQ604955
<i>Pilatobius nodulosus</i>	Bertolani <i>et al.</i> 2014a	HQ604934
<i>Pilatobius patanei</i>	Bertolani <i>et al.</i> 2014a	HQ604935
<i>Pilatobius ramazzottii</i>	Bertolani <i>et al.</i> 2014a	HQ604939
<i>Platicrista angustata</i>	Bertolani <i>et al.</i> 2014a	HQ604948
<i>Ramazzottius oberhaeuseri</i>	Jørgensen and Kristensen 2004	AY582122
<i>Ramazzottius</i> sp.	Sands <i>et al.</i> 2008	EU266959
<i>Ramazzottius varieornatus</i>	Bertolani <i>et al.</i> 2014a	HQ604950
Eohypsibiidae		
<i>Bertolanianus nebulosus</i>	Jørgensen <i>et al.</i> 2010	GQ849023
<i>Bertolanianus volubilis</i>	Bertolani <i>et al.</i> 2014a	HQ604918
<i>Bertolanianus weglarskae</i>	Bertolani <i>et al.</i> 2014a	HQ604920
<i>Eohypsibius nadjae</i>	Bertolani <i>et al.</i> 2014a	HQ604921
Macrobiotidae		
<i>Adorybiotus granulatus</i>	Bertolani <i>et al.</i> 2014a	HQ604961
<i>Dactylobiotus ambiguus</i>	Jørgensen <i>et al.</i> 2010	GQ925681
<i>Dactylobiotus octavii</i>	Jørgensen <i>et al.</i> 2010	GQ849025
<i>Dactylobiotus parthenogeneticus</i>	Bertolani <i>et al.</i> 2014a	HQ604963
<i>Macrobiotus furciger</i>	Sands <i>et al.</i> 2008	EU266927
<i>Macrobiotus furciger</i>	Sands <i>et al.</i> 2008	EU266928
<i>Macrobiotus furciger</i>	Sands <i>et al.</i> 2008	EU266929
<i>Macrobiotus harmsworthi</i> group sp.	Bertolani <i>et al.</i> 2014a	HQ604967
<i>Macrobiotus harmsworthi</i> group sp.	Bertolani <i>et al.</i> 2014a	HQ604969
<i>Macrobiotus hufelandi</i>	Jørgensen <i>et al.</i> 2010	GQ849024
<i>Macrobiotus hufelandi</i> group sp.	Bertolani <i>et al.</i> 2014a	HQ604971
<i>Macrobiotus islandicus</i>	Bertolani <i>et al.</i> 2014a	HQ604972
<i>Macrobiotus joannae</i>	Bertolani <i>et al.</i> 2014a	HQ604974
<i>Macrobiotus kristenseni</i>	Guidetti <i>et al.</i> 2013	KC193577
<i>Macrobiotus macrocalix</i>	Bertolani <i>et al.</i> 2014a	HQ604976
<i>Macrobiotus nelsonae</i>	Bertolani <i>et al.</i> 2014a	HQ604965
<i>Macrobiotus pallarii</i>	Guil and Giribet 2012	FJ435741
<i>Macrobiotus polonicus</i>	Welnicz <i>et al.</i> 2011	HM187580
<i>Macrobiotus sapiens</i>	Schill and Steinbrück 2007	DQ839601
<i>Macrobiotus</i> sp.	Sands <i>et al.</i> 2008	EU266936
<i>Macrobiotus</i> sp.	Sands <i>et al.</i> 2008	EU266937

<i>Macrobotus</i> sp.	Garey <i>et al.</i> 1996	U32393
<i>Macrobotus</i> sp.	Sands <i>et al.</i> 2008	EU266926
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296277
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296283
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296291
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296327
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296334
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296336
<i>Macrobotus</i> sp.	Czechowski <i>et al.</i> 2012	JX296338
<i>Macrobotus vladimiri</i>	Guil and Giribet 2012	FJ435738
<i>Minibiotus furcatus</i>	Bertolani <i>et al.</i> 2014a	HQ604977
<i>Minibiotus furcatus</i>	Guil and Giribet 2012	FJ435747
<i>Minibiotus gumersindoi</i>	Guil and Giribet 2012	FJ435748
<i>Minibiotus intermedius</i> group sp.	Bertolani <i>et al.</i> 2014a	HQ604979
<i>Minibiotus</i> sp.	Sands <i>et al.</i> 2008	EU266934
<i>Murrayon</i> cf. <i>dianae</i>	Guil and Giribet 2012	FJ435737
<i>Murrayon</i> cf. <i>dianae</i>	Bertolani <i>et al.</i> 2014a	HQ604981
<i>Murrayon pullari</i>	Jørgensen <i>et al.</i> 2010	GQ849026
<i>Murrayon pullari</i>	Bertolani <i>et al.</i> 2014a	HQ604983
<i>Paramacrobotus areolatus</i>	Schill and Steinbrück 2007	DQ839602
<i>Paramacrobotus richtersi</i> group sp.	Giribet <i>et al.</i> 1996	X81442
<i>Paramacrobotus richtersi</i>	Guidetti <i>et al.</i> 2009	EU038081
<i>Paramacrobotus richtersi</i>	Bertolani <i>et al.</i> 2014a	HQ604985
<i>Paramacrobotus tonollii</i>	Schill and Steinbrück 2007	DQ839605
<i>Richtersius coronifer</i>	Sands <i>et al.</i> 2008	EU266930
<i>Richtersius coronifer</i>	Sands <i>et al.</i> 2008	EU266931
<i>Richtersius coronifer</i>	Jørgensen and Kristensen 2004	AY582123
<i>Richtersius coronifer</i>	Bertolani <i>et al.</i> 2014a	HQ604987
<i>Xerobiotus pseudohufelandi</i>	Bertolani <i>et al.</i> 2014a	HQ604989
<i>Xerobiotus pseudohufelandi</i>	Bertolani <i>et al.</i> 2014a	HQ604989

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