**Table S1.** Primers and references for specific protocols for amplification of the five DNA fragments sequenced in the study

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DNA fragment | Primer name | Primer direction | Primer sequence (5’-3’) | Primer source | PCR programme\* |
| 18S rRNA | 18S\_Tar\_Ff1 | forward | AGGCGAAACCGCGAATGGCTC | Stec et al. (2017) | Zeller (2010) |
| 18S\_Tar\_Rr2 | reverse | CTGATCGCCTTCGAACCTCTAACTTTCG | Gąsiorek et al. (2017) |
| 28S rRNA | 28S\_Eutar\_F | forward | ACCCGCTGAACTTAAGCATAT | Gąsiorek et al. (2018) | Mironov et al. (2012) |
| 28SR0990 | reverse | CCTTGGTCCGTGTTTCAAGAC | Mironov et al. (2012) |
| ITS-1 | ITS1\_Echi\_F | forward | CCGTCGCTACTACCGATTGG | Gąsiorek et al. (2019) | Wełnicz et al. (2011) |
| ITS1\_Echi\_R | reverse | GTTCAGAAAACCCTGCAATTCACG |
| ITS-2 | ITS3 | forward | GCATCGATGAAGAACGCAGC | White et al. (1990) |
| ITS4 | reverse | TCCTCCGCTTATTGATATGC |
| *COI* | bcdF01 | forward | CATTTTCHACTAAYCATAARGATATTGG | Dabert et al. (2008) |
| bcdR04 | reverse | TATAAACYTCDGGATGNCCAAAAAA |

\*All PCR programmes are also provided in Stec et al. (2015).

**REFERENCES**

Dabert J, Ehrnsberger R, Dabert M. 2008. *Glaucalges tytonis* sp. nov. (Analgoidea: Xolalgidae) from the barn owl *Tyto alba* (Strigiformes: Tytonidae): compiling morphology with DNA barcode data for taxa descriptions in mites (Acari). Zootaxa **1719:**41–52. doi:10.11646/zootaxa.1719.1.2

Gąsiorek P, Jackson KJ, Meyer HA, Zając K, Nelson DR, Kristensen RM, Michalczyk Ł. 2019. *Echiniscus virginicus* complex: the first case of pseudocryptic allopatry and pantropical distribution in tardigrades. Biol J Linn Soc **128:**789–805. doi:10.1093/biolinnean/blz147

Gąsiorek P, Stec D, Morek W, Michalczyk Ł. 2017. An integrative redescription of *Echiniscus testudo* (Doyère, 1840), the nominal taxon for the class Heterotardigrada (Ecdysozoa: Panarthropoda: Tardigrada). Zool Anz **270:**107–122. doi:10.1016/j.jcz.2017.09.006

Gąsiorek P, Stec D, Zawierucha K, Kristensen RM, Michalczyk Ł. 2018. Revision of *Testechiniscus* Kristensen, 1987 (Tardigrada: Heterotardigrada: Echiniscidae) refutes the polar–temperate distribution of the genus. Zootaxa **4472:**261–297. doi:10.11646/zootaxa.4472.2.3

Mironov SV, Dabert J, Dabert M. 2012. A new feather mite species of the genus *Proctophyllodes* Robin, 1877 (Astigmata: Proctophyllodidae) from the long-tailed tit *Aegithalos caudatus* (Passeriformes: Aegithalidae): morphological description with DNA barcode data. Zootaxa **3253:**54–61. doi:10.11646/zootaxa.3253.1.2

Stec D, Zawierucha K, Michalczyk Ł. 2017. An integrative description of *Ramazzottius subanomalus* (Biserov, 1985) (Tardigrada) from Poland. Zootaxa **4300:**403–420. doi:10.11646/zootaxa.4300.3.4

Wełnicz W, Grohme MA, Kaczmarek Ł, Schill RO, Frohme M. 2011. ITS-2 and18S rRNA data from *Macrobiotus polonicus* and *Milnesium tardigradum* (Eutardigrada, Tardigrada). J Zool Syst Evol Res **49:**34–39. doi:10.1111/j.1439-0469.2010.00595.x

White TJ, Bruns T, Lee S, Taylor J. 1990. PCR protocols: a guide to methods and application. San Diego: Academic Press, 315–322.

Zeller C. 2010. Untersuchung der Phylogenie von Tardigraden anhand der Genabschnitte 18S rDNA und Cytochrom *c* Oxidase Untereinheit 1 (COX I). MScThesis, Technische Hochschule Wildau, Wildau.