Barcoding Norwegian water bears (Tardigrada)

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Background

Tardigrades are microscopic animals inhabiting the great majority of ecosystems throughout the world. Essentially they are aquatic, since they need water to move and reproduce. In terrestrial habitats they are particularly numerous in moist moss and lichens. Many species are able to survive extreme conditions by temporally suspending their metabolism thanks to an adaptive strategy called cryptobiosis.

Methods

We tested a protocol to retrieve DNA and COI barcodes from single specimens, while at the same time recover vouchers:

Conclusion

Although time consuming, single-specimen DNA barcoding of tardigrades can contribute significantly to the Barcode of Life reference library. The small size of the animals makes recovery of voucher cuticles difficult and lowers sequencing success. Therefore, it is crucial to preserve paragenophores from the same population and analyse more specimens from each species than normal for macroinvertebrates.

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