

# Investigation of the influence of different water chemistries in inland waters on *Cyprideis torosa* (Jones, 1850)

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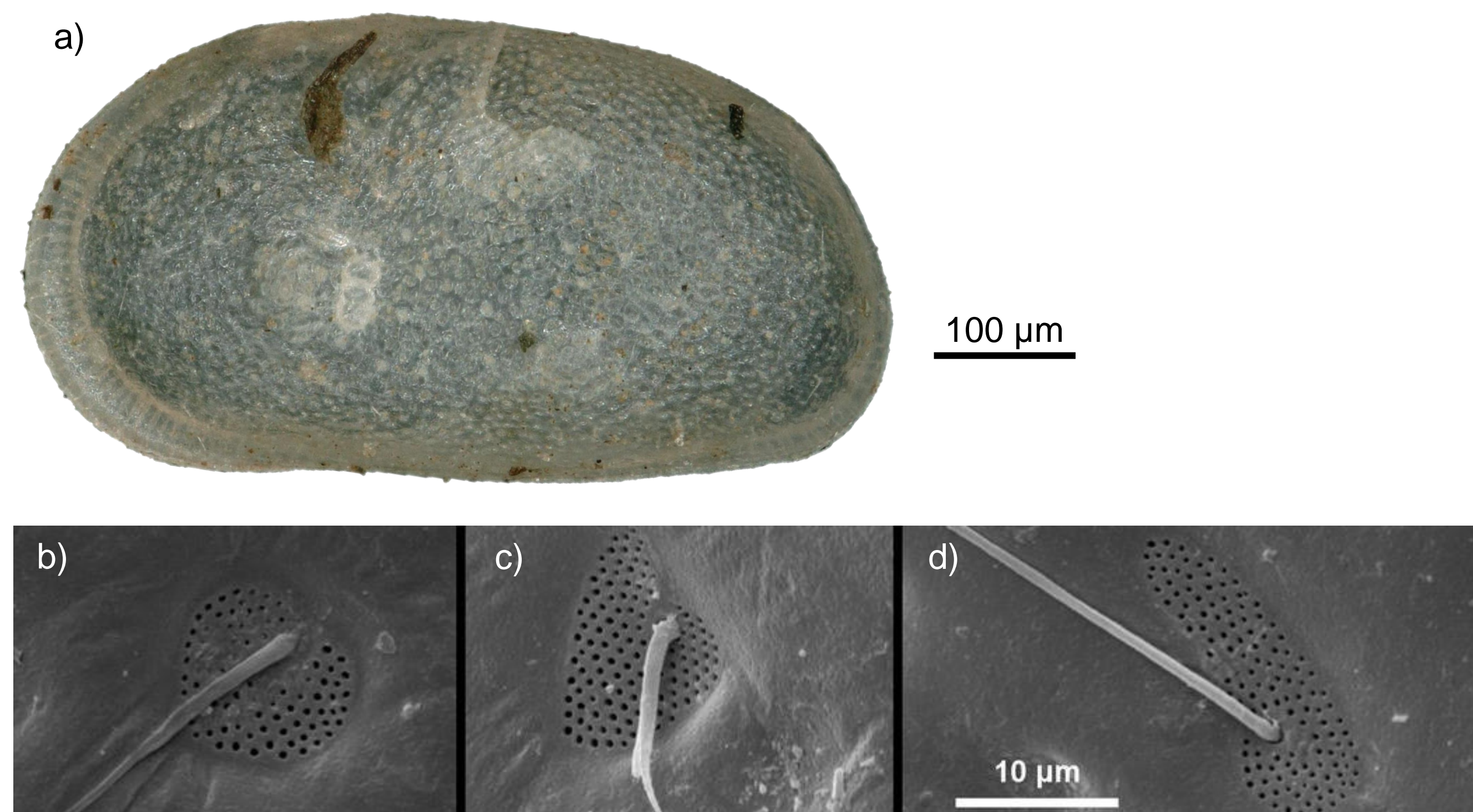


Fig. 1: a) *Cyprideis torosa*, photo taken with digital light microscope VHX-6000 (Keyence). b-d) Sieve pore shapes: b) round, c) irregular and d) oval. b-d) SEM pictures from Frenzel *et al.* (2016).

## *Cyprideis torosa* (Jones, 1850)

- common brackish water ostracod
- sieve pore shape in valve: oval, irregular or round
- Rosenfeld & Vesper (1977): correlation between percentage of round sieve pores and salinity of surrounding water in marine/brackish waters
- maybe underestimation of salinity of athalassic water bodies because formula was derived from marine waters mainly

## Study Area / Material & Methods

- 4 samples taken in April 2021 in different lakes in Central Germany (Bindersee, Teufe, Mittelgraben, Süßer See) with a hand net
- samples dried in alcohol at the Institute of Geosciences, Friedrich-Schiller-University Jena; picking of 30 valves per sample; counting of 30 sieve pores per valve



Fig. 2: Sampling location at the Bindersee.

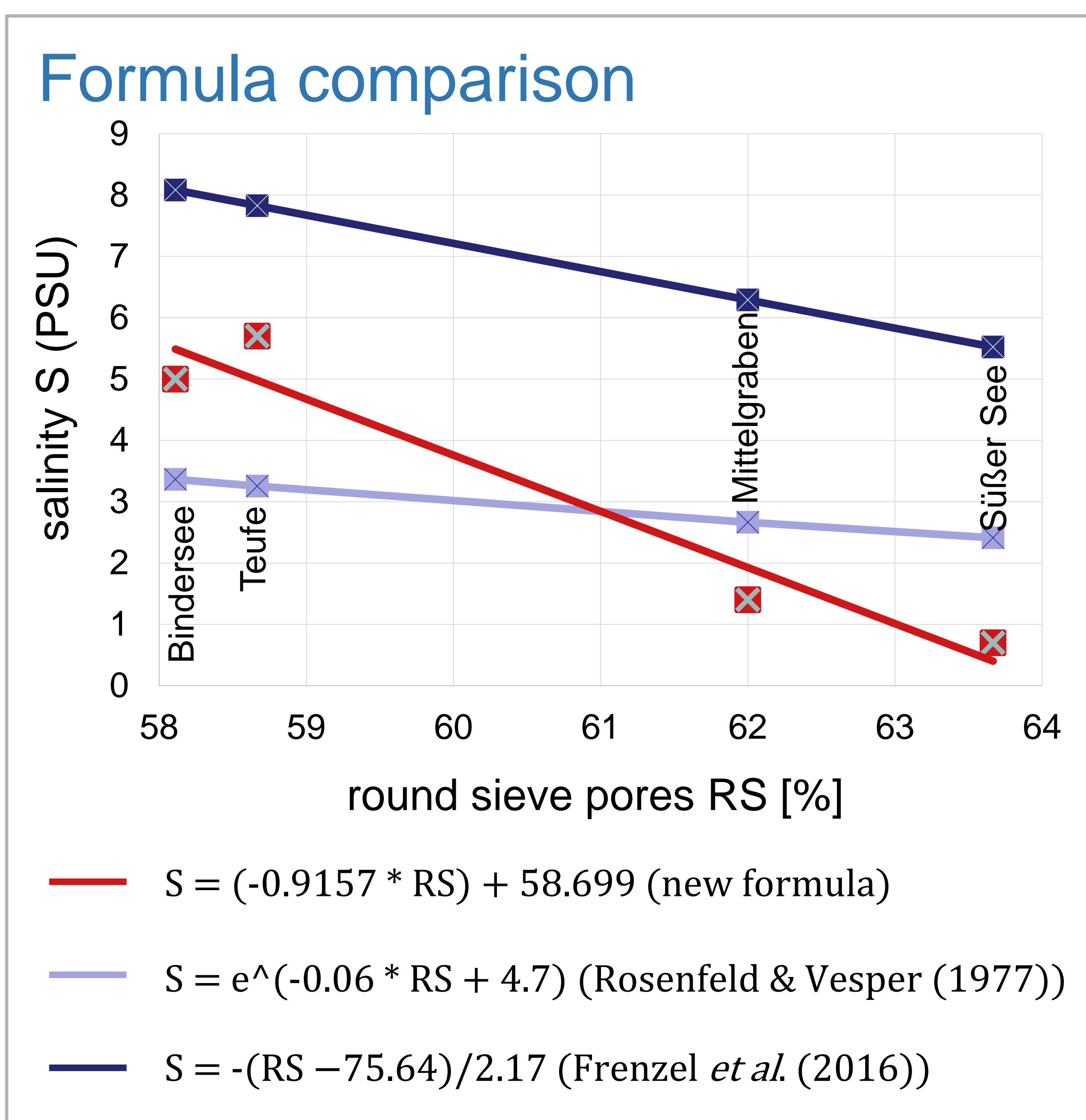


Fig. 3: Comparison of the three existing formulas: red is the newly found formula based on the data of the present poster, light blue is calculated from Rosenfeld & Vesper (1977) and dark blue from Frenzel *et al.* (2016) for the present sieve pore counts.

## Results

The following formula was calculated:

$$S = (-0.9157 * RS) + 58.699 \quad [R^2 = 0.9407]$$

(S: Salinity, RS: percentage of round sieve pores).

The calculated salinities using our new formula are slightly below the ones from Frenzel *et al.* (2016), who used diluted brackish sea water, and intermingle with the ones from Rosenfeld & Vesper (1977) relying on a mix of marginal marine and athalassic populations.

The new formula can be used to reconstruct salinities of continental water bodies.

## References

- Frenzel, P.; Ewald, J.; Pint, A. (2016): Salinity-dependent sieve pore variability in *Cyprideis torosa*: an experiment. *Journal of Micropalaeontology* 36 (1), 57-62, <https://doi.org/10.1144/jmpaleo2016-009>.
- Rosenfeld, A.; Vesper, B. (1977): The variability of the sieve-pores in Recent and fossil species of *Cyprideis torosa* (Jones, 1850) as an indicator for salinity and palaeosalinity. In: Löffler, H.; Danielopol, D. (Editors): *Aspects of ecology and zoogeography of recent and fossil Ostracoda*. Junk, Den Haag, p. 55-67.

