GOLD-FISH ON PROTISTS:
COMBINING IN SITU HYBRIDIZATION AND SCANNING ELECTRON MICROSCOPY FOR IDENTIFICATION

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BACKGROUND

Most protists are uncultured, and many are known only from environmental sequencing. Initial visualizations of these taxa combined fluorescence in situ hybridization (FISH) and scanning electron microscopy (SEM) (Stoeck et al. 2003, Kolodziej & Stoeck 2007). While providing highly-detailed images, this technique is complicated and time-consuming and relies on the detection of a fluorescence signal.

In a first step to simplify this procedure, I am trying to initiate the use of Gold-FISH (Schmidt et al. 2012) in protists for the first time. In this technique, a specific probe activates a reporter molecule; this reporter molecule then binds to a gold-labeled molecule. The gold complex is then detected with energy-dispersive X-ray spectroscopy (EDX) in SEM. Further simplification in the future could be the usage of directly gold-labeled probes.

METHODOLOGY

**RESULT**

- deformed cells
- lots of debris
- few details
- detection of Au

**GOAL**

- well preserved
- detailed
- directly labeled Au probe

**REFERENCES**

