

## Taxonomic summary

Taxonomy. Eukaryota; SAR Burki et al. 2008, emend. Adl et al. 2012; Alveolata Cavalier-Smith 1991; Dinoflagellata Bütschli 1885, emend. Fensome et al. 1993, emend. Adl et al. 2005

*Eleftheros* n. gen. Tikhonenkov, Hehenberger, and Keeling

Etymology. Generic epithet means ‘free’. From Greek ‘Eleftheria’, freedom, liberty

Diagnosis. Naked and solitary eukaryovorous protist with two heterodynamic longitudinal and transverse flagella, large alveoli beneath the plasmalemma, bowling pin-shaped trichocysts, and rhoptry-like structures near the plasma membrane. Two basal bodies lie at an acute angle to each other or almost parallel. Large mitochondrion with tubular cristae.

Taxonomic remark. Free-living and fast swimming cells outwardly resemble biflagellate dinospores of syndinian parasites (e.g. *Ichthyodinium*, *Amoebophrya*).

Zoobank Registration. urn:lsid:zoobank.org:act:xxxxx

Type species. *Eleftheros xomoi*

*Eleftheros xomoi* n. sp. Tikhonenkov, Hehenberger, and Keeling

Diagnosis. Cells 3.6-4.8 µm long, 3.0-4.1 wide, bean-shaped or oval with wider anterior end. Longitudinal flagellum straight, lies in the longitudinal groove and directed backward, 1.5 times longer than the cell. Transverse flagellum about 2 times as long as cell, undulates in the transverse groove, which descends down the cell and widens. Coming out of the transverse groove below the cell, transverse flagellum makes an undulating loop around the cell, while the tip of the flagellum is directed downward.

Type Figure. Fig. 1a.

Gene sequence. The SSU rRNA gene sequence has the GenBank Accession Number xxxxx.

Type locality. Coastal waters of Curacao

Etymology. Species epithet means 'phantom' in Aboriginal language of Curacao population.

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*Eleftheros karadeniz* n. sp. Tikhonenkov, Hehenberger, and Keeling

Diagnosis. Cells 4.2-5.5  $\mu\text{m}$  long, roundish or wide-oval. Longitudinal flagellum straight, lies in the longitudinal groove and directed backward, 2 times longer than the cell. Transverse flagellum about 2.5 times as long as cell, undulates in the transverse groove.

Type Figure. Fig. 1k.

Gene sequence. The SSU rRNA gene sequence has the GenBank Accession Number xxxxx.

Type locality. Near shore bottom sediments in the Black Sea.

Etymology. Species epithet means 'Black Sea' in Turkish and Crimean Tatar languages.

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