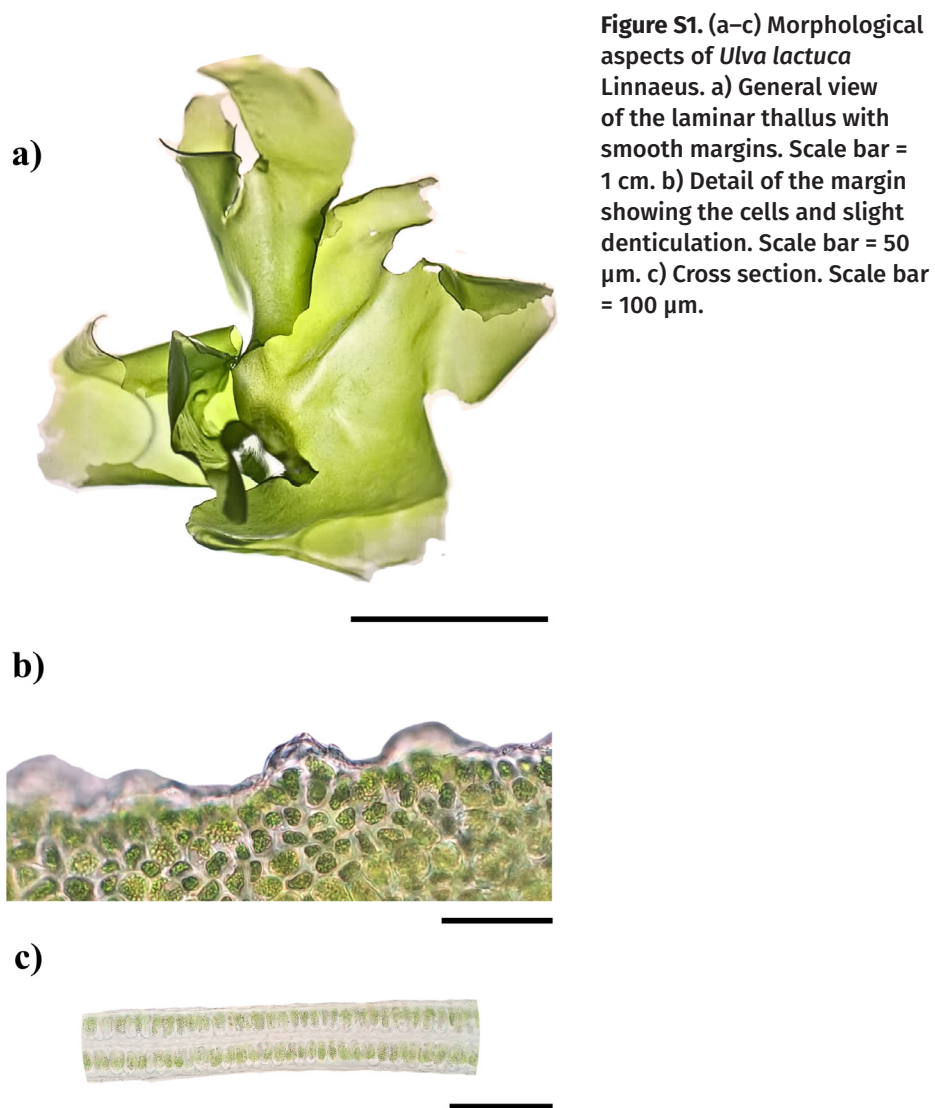


SUPPLEMENTARY MATERIAL



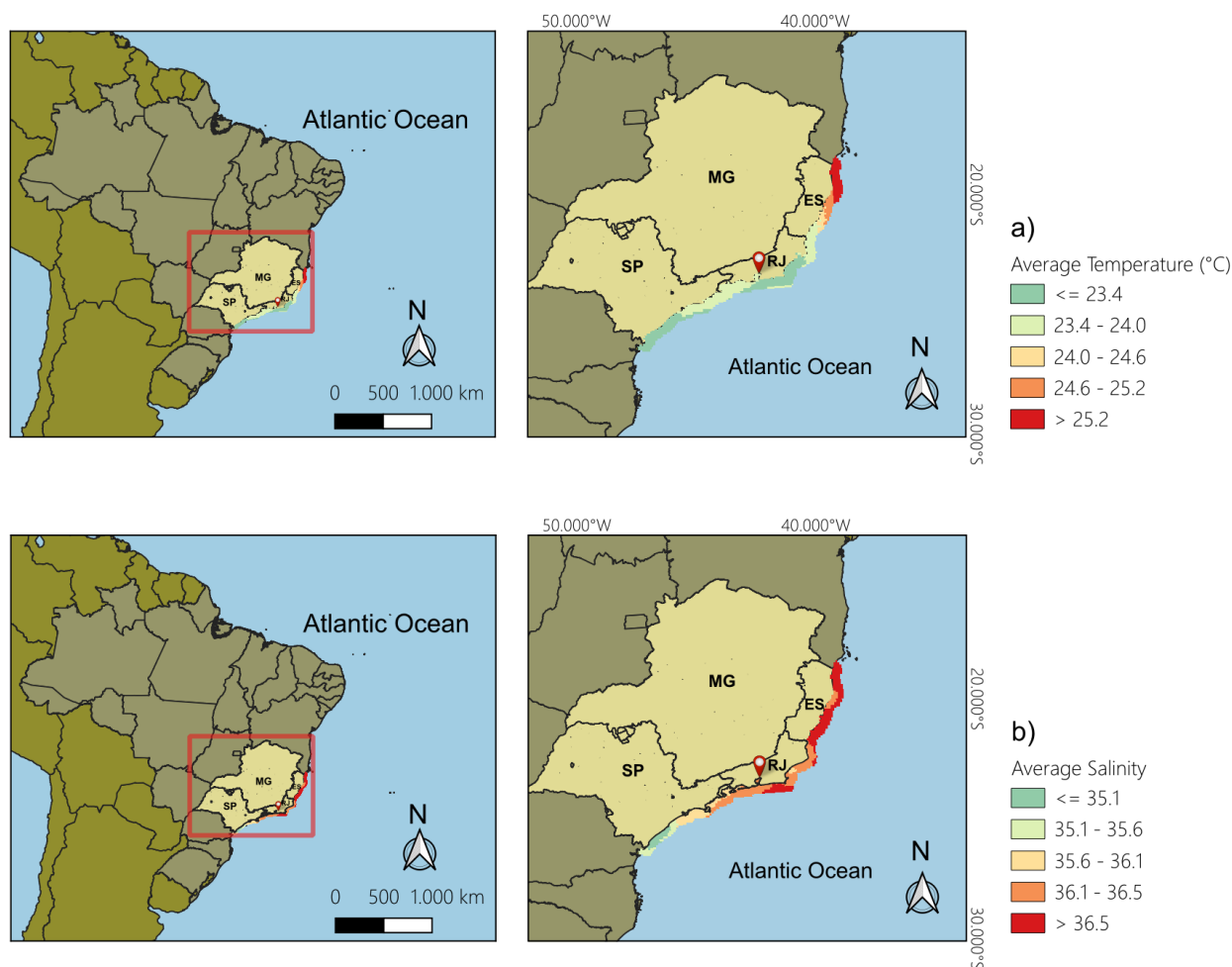


Figure S2. Environmental maps of the southeastern region of Brazil. State abbreviations (SP – São Paulo, RJ – Rio de Janeiro, MG – Minas Gerais, ES – Espírito Santo) are indicated for geographic reference. The rectangle highlights the area corresponding to the southeastern coast, including the *Ulva lactuca* Linnaeus collection site at Praia Vermelha (Urca), in the state of Rio de Janeiro (RJ). a) Mean sea surface temperature (°C). b) Mean surface salinity (PSU).



Figure S3. Herbarium sheet of *Ulva lactuca* Linnaeus (voucher no. HUNI – 8054, Herbarium HUNI – UNIRIO). Specimen collected at Praia Vermelha, Rio de Janeiro, Brazil, in March 2025, used in the experiments of this study.