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# The Life Cycle of Entzia, an Agglutinated Foraminifer from the Salt Marshes in Transylvania

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The small salt marshes associated with Miocene salt domes in Transylvania are host to a variety of marine organisms, including communities of halophytic plants as well as an agglutinated foraminifer that is normally found in coastal salt marshes worldwide. Originally described as the species Entzia tetrastoma by Daday (1884), the foraminifer is more widely known by the name Jadammina macrescens (Brady, 1870). Because the genus name Entzia has priority over Jadammina, the valid name of this taxon is Entzia macrescens (Brady, 1870).
In 2007, we discovered a living population of Entzia inhabiting a small salt marsh just outside the town of Turda in central Transylvania, only a kilometer from the famous Maria Theresa Salt Mine. This is the first discovery of a living population of Entzia in Transylvania since the species was originally described in 1884.
To determine whether or not the specimens we found represent a breeding population, samples were collected from the marsh on a monthly basis over the span of a year. This species can be found among the roots of the halophytic plants, in the uppermost one or two centimeters of the mud. Sediment samples were preserved in Vodka with Rose Bengal to distinguish living and dead specimens, and examined quantitatively. To document the life cycle of the species the following metrics were carried out: test size, abundance, number of chambers, ratio between live and dead specimens, and the diameter of the proloculus.
An increase in the mean diameter of specimens was found from October to December. However the mean diameter decreased again in January, which suggests that asexual reproduction had apparently taken place. Small specimens again appeared in March, when sexual reproduction is presumed to have taken place. The median proloculus diameter was smallest in April and May, but the monthly changes in mean proloculus size within the population over the span of a year are not significant. However, specimens with largest proloculus diameters (up to 50 microns) are found in winter, and specimens with smallest prolocluli (11 microns) are found in spring. In this respect, the life cycle of Entzia macrescens resembles that of the well-known invasive species Trochammina hadai. We are taking measures to preserve the site containing the living Entzia population, as the area is located opposite a public swimming pool and is endangered by human activity.