

**E1-43: Breaking of right-left symmetry in leaves of *Agalonema pseudo-bractetum***

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Right-Left asymmetries are frequently observed in living organisms at the microscopic and macroscopic levels. The macroscopic right-left asymmetries in plants and animals seem to be spontaneous in origin and in some cases result from relieving of instabilities in the morphogenetical process. In this work we present our observations on peculiar right-left symmetry properties of the ornamental plant *Agalonema pseudo-bractetum* which is indicative of spontaneous breaking of the right-left symmetry with equal bias for right and left. To determine symmetry the right and left halves of the leaves were weighed by cutting out the midrib. The data was analysed by the paired t-test and Z-statistic.

Plants were of 2 types: right-half of the leaf larger than the left half and Left-half of the leaf larger than the right half. The t-statistic of the paired t-test was highly significant for both the right and left handed plants. The mean ratio for the right handed plants was 1.132 and for the left handed was 1.134. The ratios were highly significantly different from 1. The difference between the mean ratios of left and right handed plants (i.e. 1.132 and 1.134) were not significantly different.

Observation shows that *Agalonema* occurs as either right-handed or left-handed plants of opposite spiral phyllotaxis and the 2 types are mirror images of each other. Each type, is right-left asymmetric with respect to leaf lobe size and phyllotaxis. However the species preserves right-left symmetry because all attributes of each type seem to be numerically identical. This is clearly suggestive of a spontaneous breaking of right-left symmetry during the developmental process.