Pomelos with six beaks

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The family of Douady shaddocks (=pomelos), \( \{S_t\} \), is a one parameter family of polyhedra which are combinatorially equivalent to the icosahedron. They are all rigid as well as infinitesimally rigid, except for the so called Jessen icosahedron, \( \{S_{1/2}\} \), which is rigid, but infinitesimally flexible. However, any physical model of \( \{S_{1/2}\} \) exhibits significant deformations.

The objective of this MQP is to build models of several members of the pomelo family \( \{S_t\} \) and to study recent papers trying to provide an explanation for the apparent motion of \( \{S_{1/2}\} \), which mathematically does not exist.