21. THE RED ALGAL GENUS *CHAMPIA* IN THE GULF OF MEXICO AND THE CARIBBEAN

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Desvaux (1809) is a hollow thallus member of the Rhodymeniales and is well characterized based on a long history of developmental and morphological studies conducted on *Champia parvula* (C. Agardh) Harvey, and on the type *Champia lumbricalis* (L.) Desvaux from South Africa. This study investigates *Champia* samples from the Gulf of Mexico and the Caribbean Sea and other pertinent worldwide samples using both morphological and chloroplast-encoded *rbcL* sequence data. The results will help to clarify two taxonomically problematic members of the genus, *Champia parvula* var. *prostrata* L. G. Williams, and *C. compressa* Harvey, and include a comparison of the newly described monoecious *Champia*, *C. puertoricensis* Lozada-Troche & D.L. Ballantine, with another monoecious specimen from the Caribbean *Champia monoica*.

22. MOLECULAR DATA RESOLVES DISPUTE IN THE GELIDIALES (RHODOPHYTA)

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In 1987 Maggs and Guiry described Gelidiella calcicola, a diminutive creeping member of the Gelidiales apparently confined to maerl beds (loose-lying coralline algae) in Europe. It was assigned to Gelidiella on the basis of lateral stichidia forming tetrasporangia in long chevron-like rows and the absence from the medulla of internal rhizines, considered characteristic of all genera of the Gelidiales except Gelidiella. Anomalous features of G. calcicola, including the formation of internal rhizines at the peg-like holdfasts, led the authors to suggest that the families Gelidiellaceae Fan and Gelidiaceae Kützing should be merged. However, this was not accepted by other workers and the Gelidiellaceae acquired a second genus, Parviphycus Santelices, and Pterocladiella Santelices & Hommersand was placed in the Gelidiaceae after its separation from Pterocladia (Pterocladiaceae) for its triangular unilocular cystocarps and peg-like holdfasts. During comparatives studies on Gelidiales of Europe and South-East Asia, the systematic position of G. calcicola was re-examined using *rbcL* sequences. G. calcicola is a member of a large Pterocladiella clade including a new species from Indonesia, and should be transferred to this predominantly Pacific genus.