

# Twenty New Briarane Diterpenoids from Taiwanese Gorgonian *Junceella fragilis* and *Junceella juncea*

廖家慶

Marine organisms are a fundamental part of Earth's environment and have been the focus of biological and chemical studies for their ecological impact and their remarkable ability to biosynthesize secondary metabolites of unique structures and potential medicinal and economic value. Since the first successful structure elucidation of briarenin A in 1977, a unique biocyclic diterpene isolated earlier from *Briareum asbestinum* the soft coral, more than 400 compounds have been reported from octocorals. Briaranes are a group of diterpenoids having a highly oxidized bicyclo[8.4.0] system with a  $\gamma$ -lactone ring. Apart from their novel structures, these compounds possess interesting biological properties such as cytotoxic, anti-inflammatory, antiviral, and antifouling activity. In our research on briarane type compounds from coral reef invertebrates, we recently examined the constituents of *Junceella fragilis*, and *J. juncea*, and isolated a total of twenty new briaranes Flajunolides A-P and Juncenolides H-K together along with nineteen known briaranes, Praelolide, Junceellin, Junceellolide K, Junceellolides A-E,<sup>11,20</sup> -epoxy-4-Deacetoxyjunceellolide D, Umbraculolide A, Junceellonoid A, Juncin Z, Juncin ZI, Juncin Y, Juncin P, Juncenolide A, Juncenolides C, Juncenolide D, Juncenolide F and a sterol, Ergosterol peroxide. Their structures and relative stereochemistry were elucidated on the basis of spectroscopic analyses including X-ray, 1D and 2D NMR ( $^1\text{H}$ - $^1\text{H}$  COSY, HSQC, HMBC, and NOESY) techniques. We herein report the isolation, chemical structure, and biological activity of these compounds. Flajunolides A-K have been published in *Journal of Natural Products* and *Helvetica Chimica Acta*; Flajunolides L-P and Juncenolides H-K already submitted.