

A concise review of the potential utilization based on bioactivity and pharmacological properties of the genus *Gelidium* (Gelidiales, Rhodophyta)

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Abstract	Being an agarophyte, <i>Gelidium</i> is extensively exploited for its agar-producing capacity. However, the food value and medicinal importance of this red alga are not to be underestimated. The pharmacological properties of <i>Gelidium</i> species have potential for the pharmaceutical, nutraceutical and cosmeceutical industries. This review collects, identifies and analyzes comprehensively the studies that deal with the bioactive properties of <i>Gelidium</i> species in the last decade. The principal bioactive compounds of <i>Gelidium</i> include R-phycoerythrin, R-phycoerythrin, alkaloids, terpenoids, tannins, flavonoids, saponins, coumarins, cardiac glycosides, and steroids. <i>Gelidium</i> in the form of extracts or isolated compounds have been reported to show antibacterial, antioxidant, anticancer, anti-inflammatory, anti-obesity, immunomodulatory, neuroprotective, and antidiabetic properties. Most of the evidence has been reported in various in vitro models. Therefore, further experiments using appropriate animal and human subjects are necessary to develop the preclinical findings into clinical use. The main challenge in developing bioactive compounds on a commercial scale is the sustainable supply of <i>Gelidium</i> biomass that requires integrated seaweed aquaculture through employing biotechnological approaches and effective utilization of industrial byproducts.
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