



gas de Chile

Rescuing Chile's algae

Since antiquity, humans have incorporated seaweeds into their daily diet. These plants provide high quantities of important nutrients such as iodine and potassium, due to which they still remain a part of people's diets today. Thanks to its extensive coastline, Chile is a recognized player in the algae production industry, with artisan fishermen as the primary beneficiaries.

To support this important industry, Dr. Loretto Contreras Porcia, investigator from the Department of Ecology and Biodiversity, Faculty of Ecology and Natural Resources at Universidad Andrés Bello, is carrying out research that proposes a new characterization of Chilean "luche," or nori, one of the algae present along the Chilean coastline. This research will facilitate the identification, laboratory reproduction, and establishment of cultivation centers for this algae.

This initiative, financed by project grants from Fondecyt and UNAB, responds to the ecological and economical need, in terms of algae extraction, for fully understanding the traits of endemic algae species, including tolerance to environmental stress.

The work by Dr. Loretto Contreras Porcia has already produced results. In fact, a new taxonomic model was defined, resulting in the classification of a new species termed *Pyropia orbicularis*, this which is distributed from the central coast to Punta Arenas.

Moreover, continued research aims to determine the genetic characteristics of this species and to understand how it reacts to different stimuli. In regards to this, Dr. Contreras highlights that information obtained over the last years has allowed for clearly defining patterns and ecological responses associated with other organisms as well as of physical factors such as temperature and environmental humidity.

"Our current investigations consist in understanding, from a genetic perspective, the responses that regulate why some algae exist in certain areas but not in others," explains the investigator.

"The amazing thing about this algae [*P. orbicularis*] is that when it faces environmental stress, it produces compounds that have antibacterial and antioxidant effects. We have even discovered some compounds that could be used in cancer therapy," comments Dr. Loretto Contreras Porcia.