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Editorial

Journal of Phytomoleculs & Pharmacology: 'Why a new journal?'

'Because around 80% of registered medications come from plants or were inspired by natural products.' In other words, nature is still the best organic chemistry laboratory, and to cure ourselves we must safeguard the Earth biological diversity. Biodiversity and human health are interconnected in various ways, including food and water security, sustainable agriculture, ecosystem resilience, climate change mitigation and, not least, drug discovery. Indeed, plant and microbial diversity has been an irreplaceable resource of active ingredients for medicines and health products. Hundreds of thousands of plant species populate the planet, of which only a fraction has been investigated for their pharmacologic potential. These limitless and still largely unexplored natural resources have been used extensively for healing practices throughout human history and across cultures. Such valuable traditional knowledge is often specific to particular human groups living in specific environments and is usually passed down from generation to generation with a long history of use in maintaining health and preventing and treating disease. In this context, great importance should be given to bioprospecting (also known as biodiversity prospecting), i.e., the exploration, extraction and screening of biological diversity and indigenous knowledge for the search for natural products from plants, fungi and microorganisms to develop commercially valuable products for pharmaceutical, agricultural, nutritional, cosmetic and other applications (Convention on Biological Diversity, UNEP/CBD/COP/5/INF/7) [1].

However, the appropriation of biological resource and traditional knowledge must be ethical, lawful and not incur biological theft and biopiracy. In other words, the dependence on biodiversity for new drugs continues today in almost all areas of medicine. Not less important, combining natural products (i.e., plant extracts, phytochemicals, or essential oils) with conventional drugs offers another field of application and should be pursued extensively. This has been previously investigated with natural products used in combination with anticancer drugs and antimicrobials. This therapeutic approach can chemosensitize chemoresistant cancer cells, fungi and bacterial strains by, for instance, inhibiting the cellular active efflux system, a conserved drug resistance mechanism that pumps xenobiotics out of the cell [2-12].

Professor Dr. Marcello Iriti
Professor of Plant Biology and Pathology
Department of Biomedical, Surgical and Dental Sciences, Milan State University, Italy
Tel. +39 02 50316766
E-mail: marcello.iriti@unimi.it

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