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Role of Natural Products in discovery of Novel Medicinal Agents: A Historical Review

Sunil Kumar T.K.*¹ and Geeta Pandey²

1. Research Scholar, CMJ University, Shillong, Meghalaya, **INDIA**

2. Assistant Professor, Department of Applied Sciences (Chemistry), F.G.I.E.T, Rae Bareli, **INDIA**

Email: t.kumarsunil@gmail.com

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ABSTRACT

Historically, natural products have been used since ancient times and in folklore for the treatment of many diseases and illnesses. Classical natural product chemistry methodologies enabled a vast array of bioactive secondary metabolites from terrestrial and marine sources to be discovered. Many of these natural products have gone on to become current drug candidates. This brief review aims to highlight historically significant bioactive marine and terrestrial natural products, their use in folklore and dereplication techniques to rapidly facilitate their discovery. Furthermore a discussion of how natural product chemistry has resulted in the identification of many drug candidates; the application of advanced hyphenated spectroscopic techniques to aid in their discovery, the future of natural product chemistry and finally adopting metabolomic profiling and dereplication approaches for the comprehensive study of natural product extracts will be discussed.

Keywords: natural products, secondary metabolites, drug discovery, bioactivity, metabolomics, dereplication, plants, sponges, algae; fungi.
