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## The past, present and future potential applications in natural product genomics and bioengineering of the medicinal desert shrub *Rhazya stricta*

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*Rhazya stricta* has recently acquired a strong reputation in the scientific media that have interest with pharmaceutical and biotechnology applications, this was first refer to its therapeutic properties along history in folkloric medicine used by many nations to treat diseases, inflammations and some abnormal conditions. This was proven later by many studies and researches that showed the magnificent potential curative effects against MDR's, cancer, inflammations, diabetes and obesity. With the development of the scientific tools, bionanotechnology applications are invading the *R. stricta* research area. In the other hand, while studying the medicinal properties of the plant, another field of investigation was added to complete the series of its novel discoveries depending on its marvelous properties in resisting many biotic and abiotic stress conditions. This was noticed when founding that the plant was always evergreen all year and sometimes flowering and fruiting when the rain season was absent for two years ones in some areas of Arabia desert with all its harsh conditions. From here, studying the genome of this plant and the metagenomics of its community including all its lifestyles started. The expected results of these investigations will be very useful in the industrial and commercial biotechnology of pharmaceuticals, food, agriculture, biofuels and environmental applications.

### Biography

Mohammed N Baeshen is an associate professor in the section of genomics and biotechnology, department of biology, faculty of science, University of Jeddah (UJ) – Saudi Arabia since 2016 until now. Also he is the vice dean of the faculty of science (UJ). He had his Ph.D in thesis 2010 from king Abdulaziz University (KAU), department of biology in molecular medical microbiology then been assigned as an assistant professor at the department of medical laboratories at the faculty of health sciences. He was also assigned as a visiting fellow in the period of Nov 2011 – Oct 2013 in the department of biology, university of Essex (UE), UK as a Post-Doc in joint research work of *Rhazya stricta* metagenomics between KAU and UE.

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