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Chemical diversity of limonoids from Mangrove plants

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Mangrove plants are a large group of different salt tolerant plants growing in tropical and subtropical intertidal estuarine zones. Limonoids, which have been found mainly in plants of the families Meliaceae, Rutaceae, and Simaroubaceae, are modified triterpene derivatives originating from a precursor with a 4,4,8-trimethyl-17-furanylsteroid skeleton displaying four usually highly oxidized rings (designated as A, B, C, and D) in the intact triterpene backbone. The mangroves of the genus *Xylocarpus* are known to produce a variety of antifeedant limonoids, especially mexicanolides and phragmalins. During the recent ten years, my team has identified more than 150 new limonoids from mangrove plants of the genus *Xylocarpus* collected in south China, India and Thailand. More than 30 limonoids, such as xylogranatins F-R, andhraxylocarpins A-E, and thaixylomolins A-C, are compounds with new skeletons. These limonoids exhibited plentiful chemical diversity. It is suggested that environmental factors might play the leading role in the generation of structural diversity of limonoids from those mangroves. The study also demonstrates that mangroves of the genus *Xylocarpus* are a rich source for the production of limonoids with novel carbon frameworks.

Biography

Jun Wu has completed his PhD from Peking University in 2001 and won the National Natural Science Foundation of China award for Distinguished Young Scholars in 2011. He is the Director of Marine Drugs Research Center, Jinan University. His research interests focus around bioactive natural products from mangrove plants, mangrove endophytic fungi and marine dinoflagellates. His group has identified more than 100 new limonoids from mangrove plants of the genus *Xylocarpus* collected in India and Thailand. Some limonoids exhibited antifeedant, insecticidal, anti-tumor and anti-infective activities. He has published more than 120 papers which have been cited over 900 times.

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