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Occurrence of antioxidant polyphenols in Indian coastal plants

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India has a vast coast line covering over 7,500 km and numerous plants occur along the coastal region. The coastal plants usually include the mangroves and halophytes and they are found in salty coastal habitats. Some of the coastal plants are widely used to treat a wide range of human diseases inflicted by bacteria, fungi and virus. This study analyzed the antioxidant potentials in the commonly-occurring salt-tolerant plants along the coastal areas of Tamil Nadu state, Southern India. We analyzed 13 plants that include *Arthrocnemum indicum, Suaeda monoica, S. maritima, Sesuvium portulacastrum, Ipomoea pes-caprae, Avicennia officinalis, Bruguiera cylindrica, Ceriops decandra, Rhizophora apiculata, R. mucronata, Aegiceras corniculatum, Excoecaria agallocha and Acanthus ilicifolius and determined the total polyphenol content and antioxidant activity. The total polyphenol content ranged from 23.5 to 384.2 mg/g dry weight and the highest free radical scavenging activity was found in <i>E. agallocha* (30.3 µg/mL). Moreover, higher DPPH radical scavenging activity was also found in species such as *B. cylindrica* (42.9 µg/mL), *C. decandra* (51.9 µg/mL), *R. apiculata* (64.9 µg/mL), *A. corniculatum* (74.3 µg/mL), *R. mucronata* (79.7 µg/mL) and *I. pes-caprae* (83.7 µg/mL), respectively. The results indicate that India's mangrove plants have the potential in scavenging free radicals and can be a vital source of antioxidant phytochemicals.

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