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book of abstracts



PS 5. RONS IN PLANTS

**PS5-11**

**ROSA MICRANTHA AS A POWERFULL SOURCE OF ANTIOXIDANTS**

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Reactive oxygen (ROS) and nitrogen (RNS) species production inevitably occurs during normal cell metabolism both in animals and plants. An excess of those species lead to oxidative and nitrosative stresses, resulting in damage for some cellular molecules such as DNA, proteins and lipids. Natural antioxidants have become a safety option to avoid biological oxidations involved in cellular damage and deterioration of food quality. *Rosa micrantha* is one of the rose species that grow feral in the northeastern Portuguese region so called Nordeste Transmontano. Beneficial-health and cosmetic properties of its flowers and hips have been transmitted and tapped by natives for decades. In the present work, we present quantitative data on the antioxidants constituents (ascorbic acid, tocopherols, carotenoids, phenolics, flavonoids and sugars) and antioxidant properties, measured by four *in vitro* assays, of *Rosa micrantha* (petals, fertilized flowers, unripe, ripening and over ripe hips). Fertilized flowers and petals revealed the highest antioxidant activity ( $EC_{50} > 152 \mu\text{g/mL}$ ), phenolics, flavonoids and tocopherols ( $> 35 \text{ mg/100 g}$ ) contents. Furthermore, petals, ripening and over ripe hips showed to be important sources of carotenoids ( $> 64 \text{ mg/100 g}$ ). This study contributes to increase the cultural and economic value of *Rosa micrantha* and its utilization for any related industries such as food, cosmetic and pharmaceutical industries, due to the antioxidant and pigmenting properties.