Aronia plants: a review of traditional use, biological activities, and perspectives for modern medicine.

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Abstract

The Aronia genus (Rosaceae family, Maloideae subfamily) includes two species of native North American shrubs: Aronia melanocarpa (Michx.) Ell. (black chokeberry) and Aronia arbutifolia (L.) Pers. (red chokeberry). The fruits of A. melanocarpa have been traditionally used by Potawatomi Native Americans to cure colds. In the first half of the 20(th) century, cultivars of black chokeberry were introduced to the Soviet Union and other European countries, providing fruits used by food industry. At present, it is used mainly for juice, jam, and wine production, as well as an ornamental plant. Among other substances, the berries of A. melanocarpa contain anthocyanins and procyanidins, possessing strong antioxidative potential. Numerous health-promoting activities—namely, antioxidative, antimutagenic, anticancer, cardioprotective, hepatoprotective, gastroprotective, antidiabetic, anti-inflammatory, antibacterial, antiviral, radioprotective, and immunomodulatory—have been demonstrated for black chokeberry extracts by both in vitro and in vivo studies. The presented review summarizes the information concerning botany, cultivation, chemical composition, and pharmacological activities of Aronia plants.

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