Folk Medicine, Pharmacological and Biological Activities

Bulb and leaf extracts of *Pancratium maritimum* have purgative effect (Berkov *et al*., 2004b). In Turkey, *Pancratium maritimum* has been reported asetic (Baytop, 1984). The methanol extract of the bulbs, though devoid of antibacterial activity, showed interesting antifungal activity against four *Candida* species (*Candida guillermondii, Candida krusei, Candida pseudotropicalis* and *Candida tropicalis*), being however, ineffective against *Candida albicans* (Sür-Altiner *et al*., 1999).

The alkaloid narciclasine-4-*O*-β-D-glucopyranoside, isolated from *Pancratium maritimum*, showed cytotoxic and antitumour activity very similar to narciclasine (Abou-Donia *et al.*, 1991). Both pancratistatin and 3-caffeoylquinic acid, isolated from the flowers showed potent cytotoxic activity against HeLa cells and moderate antituberculosis activity against *Mycobacterium tuberculosis* H37Rv (Youssef, 2003). The aqueous extracts of bulbs and aerial parts of the plant were found to possess cytotoxic activity (Kaya *et al*., 201ob). The anticholinesterease activity of *Pancratium maritimum* (due to its galanthamine content) has been reported (Orhan and Sener, 2003, 2005). There are several reports on other biological activities of the plant *viz*. antinociceptive (Cakici *et al*., 1997), analgesic (Almeida *et al*., 2001), antimalarial (Sener *et al*., 2003), antibacterial, antifungal (De Laurentis *et al*., 2004) and amoebicidal (El- Sayed *et al*., 2012) The sustainable use of the plant in Alzheimer's disease has been reported (Orhan and Sener, 2005).

The insecticidal, acarcidal and synergistic effects of soosan (*Pancratium maritimum*) and its constituents were studied. The actone/ethanol extract of bulbs was more toxic (LC_{50}: 25 ppm) than that of the leaves (LC_{50}: 75 ppm). The acetone/ethanol extract showed a strong aphicidal activity to *Aphis gossypii* with LC_{50} of 0.028% followed by lycorine, soosan oil and crude alkaloids with LC_{50} values of 0.07, 0.28 and 0.3% respectively. Also, the acetone/ethanol extract showed high toxicity to *Spodoptera littoralis* 4*th* instar larvae, with LD_{50} value of 2 mg/larva. In addition, the crude alkaloids, ethanol extract and the oil of soosan bulbs showed acaricidal activity against the two spotted spider mite, *Tetranychus urticae* with LC_{50} values of 0.2, 0.36 and 1.5%, respectively. Synergism studies on the *Aphis gossypii* indicated that lycorine, the principal alkaloid of soosan bulbs, strongly synergized, the OP insecticide cyanophos and reducing its LC_{50} values from 120 to 48 ppm. On the other hand, the aqueous extract of soosan bulbs synergized the toxicity of actellic and permethrin in *Tribolium castaneum* which reduced their LC_{50} values from 80 to 46 ppm and from 1000 to 550 ppm, respectively. Also, ethanol and petroleum-ether extracts synergized the toxicity of reldan and permethrin, respectively, in the same insect (Abbasy *et al*., 1998). The cosmetic use of an extract of the *Pancratium maritimum* as antioxidant cosmetic agent and/or inhibitor of the melanogenesis is claimed (Gedouin *et al*., 2009).