

## Weevils causing damage to commercial pomegranates, *Punica granatum* (Lythraceae), in South Africa

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New *Punica granatum* (Lythraceae) varieties were introduced from India and Israel to South Africa in 2003 (Venter, unpubl.). *Punica granatum* material imported into South Africa is subject to the terms of the Agricultural Pests Act (Act 36 of 1983) of South Africa and must be certified free of various pests and diseases before entering the country. In order to determine a phytosanitary risk profile of the crop under local conditions, Alternafruit SA (Pty) Ltd conducted a pest and disease survey, spanning two seasons, on selected pomegranate orchards. In September 2007, during the second season, damage to young growth tips was recorded from Heidelberg in the Western Cape Province.

Apodous insect larvae were recorded embedded in the succulent pomegranate shoots. The larvae were bred through to adult stage and identified as belonging to the weevil genus *Nanophyes* (Coleoptera: Apionidae). According to Proche (2008) adult nanophyines bore holes into the tip of young shoots with their rostrum for egg deposition. They feed on soft plant tissue, hollowing out shoots and damaging young leaves (R. Stals, pers. comm.). Weakened shoots of pomegranates usually break in the slightest breeze and as a result, subsequent growth is stunted. No fruit damage was recorded, as the firm pomegranate skin is unsuitable for feeding or egg deposition by this species.

Infected shoots were collected and kept in a laboratory environment at approximately 26 °C with a relative humidity of 60 %. Additional adults were collected with the help of a beating sheet and, together with the emerged specimens, sent for identification to the Biosystematics Division of the Plant Protection Research Institute, Agricultural Research Council, Pretoria. The major pomegranate-growing areas of South Africa were spot-surveyed during spring 2007 and summer 2007/2008 for presence of these weevils, whereas selected orchards in the Western Cape were inspected at monthly intervals until spring 2008.

The nanophyines were confined to the Western Cape, southwest of the Groot Winterhoek and south of the Langeberg mountain ranges, a small location in the Kammanassie valley and two locations near Burgersfort and Groblersdal in the Limpopo Province. Their large abundance in the Western Cape Province could possibly suggest the presence of natural hosts within the fynbos biome. In addition to the nanophyines a large number of beetles of *Sibinia* sp. of the tribe Tychiini (Coleoptera: Curculionidae) were collected from all major pomegranate growing areas, i.e. the Swartland, Breede River valley and Kammanassie (Western Cape), near Kotzenshoop on the Namibian border, Augrabies (Northern Cape Province) and Groblersdal (Limpopo Province). Specimens collected from Saron, near Porterville, were identified as *Sibinia bruchoides* (Caldara). No damage symptoms could be ascribed to *Sibinia* spp., nor were they reared from damaged shoots. *Sibinia* hosts include Caryophyllaceae, Paronychiaceae, Plumbaginaceae, Santalaceae and Thymelaeaceae of the Old World and Fabaceae in the New World, while they are known occasionally to reside on plants other than their hosts (Clark, 1978). In the Breede River valley, near Worcester, both above-mentioned genera were found coexisting on the same trees.

Two distinct pomegranate types are grown in South Africa, the deciduous cultivars of Israeli origin and evergreen cultivars from India. Under ideal ambient climatic conditions the latter can grow and flower throughout the year. Nanophyines of various life stages were found on evergreen cultivars throughout the season, with the highest infestation in October, shortly before the main flowering period. Under conditions of serious nanophyine infestation, as observed in a single orchard near Piketberg, complete flower-loss was sustained. A second flush of flowers and fruit-set was obtained post-application of insecticides with subsequent weevil population reduction.

The taxonomic status of *Nanophyes* spp. and Tychiini spp. world-wide is unclear, given their intricate phylogenetic relationships (Oberprieler

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