fitness of the native populations we started a collaborative investigation between South Africa and Mexico. We specifically assessed the insect community associated with *A. adenophora* and the damage caused by herbivores on four populations in central Mexico. Preliminary results of herbivore damage show that there are significant differences ($p>0.05$) between populations and sites. Damage levels range from 20-45 %, these differences are probably related to individual size, as well as differences in the community of herbivores and predators ($p>0.001$), both of which are currently being evaluated. We hope to obtain suitable candidates for biocontrol of crofton weed.

Identifying the major invasive genotypes of one- and two-leaf Cape tulips in Australia and tracing their origins in South Africa

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One- and two-leaf Cape tulips, *Moraea flaccida* and *Moraea miniata* (Iridaceae) that originate from South Africa, are invasive across most of southern Australia. They are unpalatable and toxic to livestock and infestations in pastures can reduce carrying capacity by up to 50%. The rust fungus *Puccinia moraea* (Pucciniales), endemic to South Africa, is a promising biological control agent for both species. Previous research showed that intra-specific variation in plant resistance exists in this host-pathogen system, which means that knowledge of the genetic structure of the plant species is required to streamline the sourcing of suitable rust isolates for biological control. In this study, we determined the level of genetic diversity in populations of these two *Moraea* species in Australia and in South Africa using simple sequence repeat (SSR) and the trnL–trnF region of the chloroplast DNA (cpDNA) as markers. The cpDNA haplotype analyses showed that one-leaf Cape tulip is more genetically diverse in Australia than two-leaf Cape tulip. Several different haplotypes were identified among Australian one-leaf Cape tulip specimens, while only one haplotype was identified for two-leaf Cape tulip. Analyses of genotype data from SSR markers are currently being finalized and will assist with inferring the number of lineages that each species in Australia is derived from, and identifying the putative origin of these lineages in South Africa. Knowing the region(s) of origin will increase the chances of finding compatible rust genotypes, either by: (i) establishing an outdoor experimental garden of representative Australian Cape tulip genotypes in those regions and collecting rust accessions that develop on plants; or (ii) collecting and laboratory-screening of a large number of rust accessions from the identified region(s) onto representative Australian genotypes of Cape tulips.

Pre-release survey of *Myriophyllum spicatum* in South Africa with the aim of releasing the host- specific weevil *Euhrychiopsis lecontei*

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Milfoil, *Myriophyllum spicatum* (Haloragaceae) was first recorded in South Africa in 1829 in the Eastern Cape. Since then, it has spread throughout the country and into southern Africa, where it has been recorded in 21 river systems. Despite extensive recent surveys, it has only been confirmed in four of these systems, including the Vaal and Klipplaat Rivers, and Lake Sibaya in South Africa, and the Kafue River in Zambia. Pre-release surveys were conducted bi-annually during 2012-2013 in Lake Sibaya and the Vaal River to determine the presence of any herbivores and their potential impact in these systems. Plant biomass and invertebrate diversity and abundance was measured at 12 sites in each system. Biomass of *M. spicatum* was high when compared to North American infestations, averaging 376.9 ±102.1 g dry weight.m^{-2} for Lake Sibaya and 434.4 ±269.1 g dry weight/m^{-2} for the Vaal River. Plants in Lake Sibaya frequently grew at depths of more than 6m, while on the Vaal River they never grew at depths deeper than 2m. There were no signs of specialized herbivory on *M. spicatum* at any of the sites on either of the systems. The samples from Lake Sibaya were dominated by the invasive snail *Tarebia granifera* (Gastropoda: Thiaridae), followed by chironomid midges, but no feeding damage was ever recorded in this system. In the Vaal River, the invertebrate samples were dominated by chironomids, with a few records of generalist moth larvae (Lepidoptera: Crambidae). In conclusion, *M. spicatum* is depauperate in respect of both generalist and specialized invertebrate herbivores at these sites and biological control is required for sustainable control in southern Africa. *Euhrychiopsis lecontei* (Coleoptera: Curculionidae) a North American milfoil specialist is sufficiently host specific and recommended for release in South Africa.