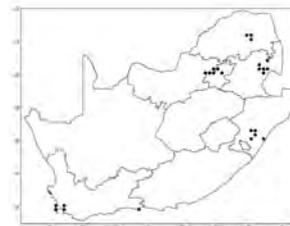


ARC-PPRI FACT SHEETS ON INVASIVE ALIEN PLANTS  
AND THEIR CONTROL IN SOUTH AFRICA

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The stem-galling fly, *Procecidochares utilis* Stone, from Mexico, only breeds on Crofton weed (*Ageratina adenophora* (Spreng.) R.M. King & H. Rob.) and impacts on its growth. It was, therefore, released as a biological control agent against the weed in 1984 in Pretoria. Since then, they have been redistributed to other areas, and are now established wherever the plant is known to occur.

#### DESCRIPTION

This fly is a member of the Tephritidae (fruit-fly) family. Adults (i) are 2.75mm to 4mm long, and males are generally slightly smaller than females. They are glossy black, with white bands on each side of the abdomen and thorax. The wings are transparent with conspicuous dark markings. The flies move slowly across surfaces of the plant, characteristically moving their wings independently.



#### LIFE CYCLE

Females lay elliptical, translucent-white eggs, about 0.5mm long on terminal and axillary buds of *A. adenophora* plants. Eggs hatch 3 to 4 days later and the larvae pass through 3 instars (growth stages between moulting). Full-grown larvae tunnel to the edge of the gall to form a window, for the adults to emerge from later, and then transform into whitish pupae, contained in 3.5mm shiny blackish ovoid puparia (ii). Usually 3-7 flies develop in a compound gall. Development from egg to adult is completed in 40-60 days depending on temperature. Adults live approximately two weeks, during which the female lays as many as 170 eggs. The flies disperse well, and are adept at finding hidden, single plants many kilometres away.



#### FEEDING DAMAGE

Newly-hatched larvae tunnel into young undifferentiated plant tissues, where they evidently secrete a substance that causes accelerated cell division and growth, causing a gall to form in the shoot tips (iii), or sometimes in petioles or leaf veins. The swelling becomes visible within a week after the eggs were laid. Older galls may be found lower down on stems, as not all shoots are killed by the galling, and several galls may occur on a single shoot. The gall tissue provides the larvae with nutrition, a stable, protected environment, and some safety to complete its development.



#### IMPACT ON CROFTON WEED

The galls are nutrient sinks for the plant, and often stem growth ceases, or stem die-back occurs, especially after second generation galling on the same plants. This effect is enhanced on seedlings with little reserves (iv). Repeated galling of plants in the field reduces the plant's competitive advantage. Unfortunately, parasitic wasps may develop on immature stages of the flies, reducing the fly numbers in the field to varying degrees at different localities. This limits the fly numbers and reduces their impact.



environmental affairs

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Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

