

## **Insects against water hyacinth**

Pretty blue water hyacinth has been in the news quite a lot in recent months. In eastern Australia it has the authorities worried.

This South American water plant has become a most troublesome weed of water-courses and swamps in many

of the warmer parts of the world, particularly in Africa, North America, and South-east Asia.

It lives in still and sluggish fresh water, and it can grow with remarkable speed — in favourable conditions it can double itself every 12 to 15 days. This growth rate, combined with the ability of any piece that breaks off from existing clumps of the weed to take root and start anew, gives the plant its potency.

Two infestations of water hyacinth — which can sometimes still be bought over the counter as an aquarium or pond plant — have recently caused concern here. One is in the Fitzroy River at Rockhampton, Qld, and the other in the Gwydir River below Moree in New South Wales.

The Gwydir River infestation has received the most recent attention because of



**Water hyacinth in the Fitzroy River at Rockhampton.**

fears that flood-waters may wash the weed into the Darling River system. From there it could get into the Murray and, if uncontrolled, infest South Australia and Victoria.

Controlling the weed by hauling it out of the water mechanically or spraying with herbicide is very expensive and of limited use. Spraying may be effective in certain situations, but except where infestations are accessible and very small, it's a never-ending job requiring a large and continuing cash outlay.

Because of the costs and the hazards involved when

spraying herbicides, biological control may offer the best hope for economical long-term control.

Supported by funds from the Rural Credits Development Fund, Dr Ken Harley of the CSIRO Division of Entomology has for the past 2 years been studying insects that may bring about biological control of water hyacinth. To date, Dr Harley has been leaning on North American experience — the weed is a pest in rivers and other watercourses in the southern United States. The Americans have mounted an intensive research effort to find biological control agents.

So far, Dr Harley has imported for evaluation two insects that showed potential under American conditions. These are a weevil and a stem-boring moth.

First liberations of the weevil, *Neochetina eichhorniae*, began during September last year. The insect is surviving and breeding, so Dr Harley is hopeful it will establish itself. However, we may have to wait several years before its effectiveness can be assessed.

The weevil attacks the plants on two fronts. The adults eat the leaves; and the larvae tunnel through the stalks, causing these to col-

lapse and rot.

Up to now the insect has been liberated at four locations in south-eastern Queensland and at two in northern New South Wales.

The stem-boring moth remains in quarantine at Dr Harley's base at the CSIRO Long Pocket laboratories in Indooroopilly, a Brisbane suburb. It is still undergoing tests to make sure that, if released, it will not attack plants other than the water hyacinth.

Dr Harley hopes to introduce from the United States two other insect enemies of the water hyacinth for evaluation in the near future.