

Red Root Floater – *Phyllanthus fluitans* husbandry and growth monitoring

Background

- Red Root Floater specimens were purchased from a Sydney-based online seller in March 2020 at a cost of \$15 for five plants that were approximately the size of a 20 cent coin
- The Red Root Floater was kept at Bowen Mountain NSW 2753, elevation – 416 metres above sea level. Pond water ph. Level = 8.7
- The Phyllanthus plants were housed in a pond with a capacity of 350 litres
- The pond was facing a northeasterly aspect and receiving full day length light exposure. The pond also contained free-floating filamentous algae (unknown species) and Narrow leaf Ribbon weed (*Vallisneria nana*) that was potted in a clay/cow manure mix.
- Water temperature ranged between 12.7 degrees Celsius and 24.1 degrees Celsius,
- The pond contained approximately 12 White cloud mountain minnows that were used to control mosquito larvae and fed flake food three times per week.
- By the end of May 2020 the five plants had matured and trebled in size but had not divided or released daughter plants. Leaf colour was variable from light green to deep pink across all plants,
- By June 2020 the pond was home to a population of Striped Marsh Frog tadpoles (*Lymnodynastes peronii*, approximately 40 tadpoles) that began to forage on the aquatic plants and algae within the pond,
- By the second week in July 2020, the tadpoles had eaten all vegetation within the pond (including the red root floater) with the exception of a small quantity of filamentous algae and needed to be supplementary fed through to the commencement of metamorphous.



Red root floater (*Phyllanthus fluitans*), young plants in green leaf colour phase growing under artificial lighting in an aquarium.

Observations

- Red root floater was slow to acclimate to the pond conditions at Bowen Mountain NSW
- Vegetative propagation was apparent but not successful in creating independent plantlets by the end of April 2020.
- Red Root Floater did not compete well amongst filamentous algae growth that impacted the red root floater's root zone and also grew across the leaf surface – submerging the red root floater
- Rate of growth slowed markedly when cooler autumn temperatures set in by mid-April 2020.
- Red Root Floater was cultured for a relatively short time frame due to predation from Stripe Marsh Frog tadpoles,
- Tadpoles grazed on Red Root Floater preferentially to the other aquatic plants in the pond



Striped marsh frog (*Lymnodynastes peronii*)

Weed threat posed by red root floater

Although the assessment of this plant was incomplete, observations of the plant from the time it was in care showed that Red root floater does not exhibit the same weed potential as other invasive aquatic species such as *Salvinia molesta* or Amazon frogbit (*Limnobium laevigatum*). Another batch of red root floater will be purchased in the coming weeks and the experiment started again.