Distribution: Abundant in North, South, and Stewart Islands from sea level to 3000ft.

General: Instances of poisoning are frequently attributed to this plant, which is the most toxic of the known poisonous native species of *Ranunculus*. Most losses of stock are reported from the northernmost part of the North Island, where cattle are most frequently poisoned. Waoriki has been shown to be lethal when experimentally dosed to sheep. The whole of the plant is toxic and is suspected to be more so in spring. Toxicity is lost on drying. Losses among stock also occur in Australia from this species.

Symptoms of poisoning: The ante-mortem symptom is colic. Post-mortem examination of sheep shows a fair degree of congestion and ulceration of the wall of the rumen and marked ulceration on the wall of the fourth stomach. Inflammation extends down into the small intestine.

Poisonous principle: An irritant toxin is present in the plant.

Celery-leaved Buttercup. *Ranunculus sceleratus* **L. (Fig. 2, B and C)**

Botanical description: Habit—Annual herb with erect stems up to 30in. high. **Leaves**—On long petioles, blades 3-lobed. **Flowers**—Petals yellow, a little longer than the reflexed sepals. **Fruit**—Achenes, hardly beaked. (Eurasia and North Africa.)

Habitat: Ditches and waste places.

Distribution: Rather plentiful throughout New Zealand.

General: Celery-leaved buttercup is regarded as the most toxic of the buttercups, but in New Zealand is not responsible for as many deaths as waoriki. It is poisonous to all stock, though more dangerous to cattle. Celery-leaved buttercup has been suspected of poisoning sheep in the Christchurch district. The whole of the plant is poisonous. The toxin is destroyed on drying, so that celery-leaved buttercup included in hay is non-toxic.

Symptoms of poisoning: The first ante-mortem symptoms are those of gastro-enteritis, colic, nausea, vomiting, salivation, blackened faeces, and sometimes haematuria. Symptoms include retardation of pulse, slow and stertorous breathing, difficulty in mastication and drinking, and blindness. If large quantities of the plant are eaten, there may be convulsions; when these occur death usually follows within 12 hours. Post-mortem symptoms consist of inflammatory lesions of the alimentary tract, particularly of the intestines.

Poisonous principle: A volatile, acrid, bitter, irritant substance, protoanemonin, is present in all parts of the plant except the seeds.

Polygonaceae

Sour Dock. *Rumex acetosa* **L. (Fig. 3, F to I)**

Botanical description: Habit—Herb with stems up to 30in. tall; stipules united to form an elongate tube. **Leaves**—Oblong, arrow shaped, and rather thick. **Flowers**—Unisexual; enlarged tepals, roundish, heart shaped, and with minute wart-like growths; outer tepals reflexed. (Eurasia.)

Habitat: Waste places and pastures.

Distribution: Occasional in both islands.

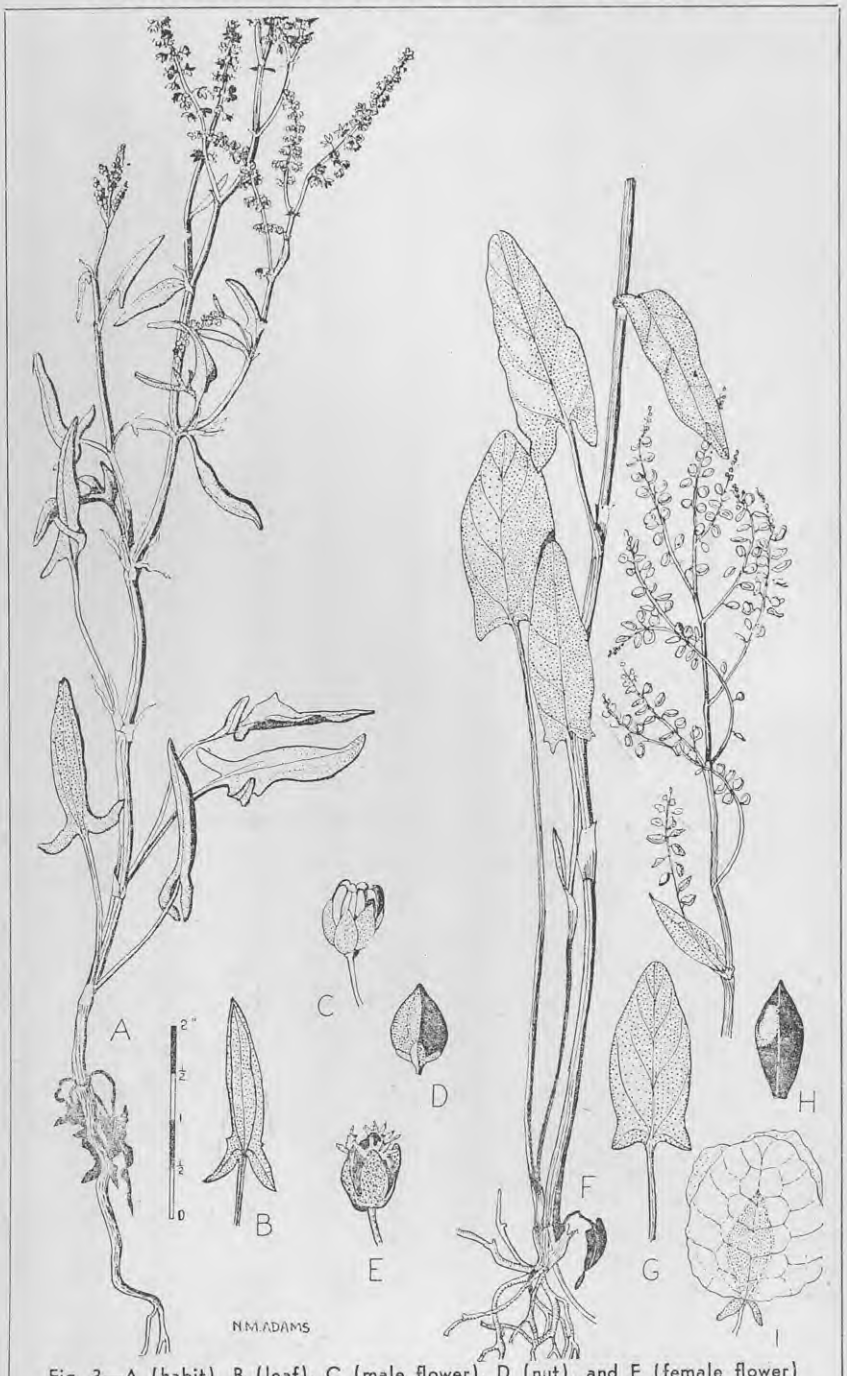

Fig. 3—A (habit), B (leaf), C (male flower), D (nut), and E (female flower) of sheep sorrel (*Rumex acetosella*). F (habit), G (leaf), H (nut), and I (nut enclosed by persistent tepals) of sour dock (*Rumex acetosa*).

General: Sour-dock poisoning is not common either in New Zealand or abroad, but isolated losses were reported in New Zealand before 1936. In Canterbury during the spring of 1936 ewes with lambs 5 to 8 weeks old were poisoned by sour dock; about 10 per cent. of the ewes affected died, the others being treated and recovering. Poisoning usually occurs only in spring and summer. Lactating ewes are especially affected. Symptoms of poisoning result from a reduction of blood calcium caused by its precipitation by soluble oxalates. A solution made by heating 20oz. of calcium gluconate, 5oz. of boric acid, and 100oz. of water, given in injections of about 100 c.c., proved effective in the 1936 outbreak. This remedy confirms the type of poisoning. The lambs grazing with the ewes are not affected.