

THE POISONOUS, SUSPECTED, AND MEDICINAL PLANTS OF NEW ZEALAND.

(Continued.)

B. C. ASTON, F.I.C., F.N.Z.Inst., Chemist to the Department.

FILICES.

THE common bracken-fern of New Zealand (*Pteris aquilina* var. *esculenta* Hook. f.*), which in some of its varieties is almost cosmopolitan, has long been suspected of causing the death of stock in various countries other than New Zealand. If some of the other genera of this large family are examined it will be found that they are known to be poisonous. Pammel (1911) ("Manual of Poisonous Plants," p. 317) remarks that *Adiantum pedatum* (maiden-hair fern) is probably poisonous. "Male fern" (*Aspidium (Dryopteris) Filix-mas.*) is used as an official remedy in the British and United States Pharmacopœias, the rhizome "not kept more than a year" being the part employed as a vermifuge. In overdose it is a distinct poison, there being five fatal cases recorded with symptoms of vomiting, diarrhœa, vertigo, headache, tremor, cold sweat, dyspnoea (laboured breathing), cyanosis (blueness of skin), mania, coma, convulsions, amblyopia (impaired eyesight), or even amaurosis (loss of sight) with dilated fixed pupils often present. The loss of sight is usually temporary, but has proved permanent. Animals poisoned with male fern show parenchymatous nephritis (inflammation of kidney-tissue).

A case in which sheep were apparently poisoned by fern in the Auckland District is recorded in Volume i of this *Journal*, p. 215. Mr. A. J. Hickman, Veterinarian, reported visiting the locality of the mortality (on 9th March, 1910), and that out of a mob of seventy ewes and three hundred lambs, twelve ewes and eighteen lambs had died. No symptoms were observed during life; the animals were simply found dead, having apparently died without a struggle. The owner suspected anthrax. The deaths occurred about forty-eight hours after the sheep had been put into a paddock that had twice been sown with turnips. No roots had, however, matured, and there was nothing to be had but fern-shoots and sorrel. Post-mortem examination showed the visible mucous membranes pallid; no discharge from nostrils, mouth, or anus. Carcasses were in good store condition. Decomposition was fairly advanced throughout, and there was much post-mortem staining on both pleura and peritoneum. The rumen was normal and distended with gas, and full of semi-digested fern-fronds, and apparently nothing else. There was no detachment of the mucous membrane, and no signs of inflammation. The other three stomachs—reticulum, omasum, and abomasum—all normal. Spleen normal. Liver very pallid and softened, but not enlarged. The large and small intestines were normal, the colon containing a few free parasites (strongyles). The lungs were engorged with blood, and dark in colour.

* It should be noted that *Pteridium* is the more modern generic name used by botanists to denote the genus to which the common bracken belongs, though *Pteris* is perhaps as frequently used.