the males. One of these had received tissue from another male and the other from a female. The sex of the donor, therefore, has no particular bearing on the success of non-sibling homotransplants. The sex of the recipient seems to be significant, since over 71 per cent. of the females regenerated homotransplants, whereas only 20 per cent. of the males did so.

Successful homotransplantation of adrenal cortical tissue between non-siblings of the same strain is possible. Obviously, if a large number of "takes" is desired in such experiments females should be used. We have evidence, which will be published elsewhere, that the growth of transplanted cortical tissue in rats is determined and limited by the available adrenotropic hormone from the anterior lobe of the hypophysis. The larger percentage of "takes" in females reported here may depend on a greater amount or greater availability of adrenotropic hormone in females. Such an explanation is consonant with the well-known facts that female rats have larger adrenal cortices than males, and that females regenerate more cortical tissue in transplants or "accessories" than do males.

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IMMUNITY OF CERTAIN INSECTS TO SELENIUM POISONING

A LOW concentration of selenium in foodstuffs is a quick-acting lethal poison for mammals and birds, and small quantities of this element absorbed from the soil are responsible for toxicity of grains and forage plants to live stock.[1] Insects also are regarded as very sensitive to selenium. Aphids are killed by concentrations in wheat plants too low to injure the plants themselves,[2] and red spiders are quickly destroyed by commercial insecticides containing selenium.[3]

We were surprised, therefore, to find weevils and seed-chalcids completing their life cycles in the seeds of one of the most poisonous of the range plants, *Astragalus bisulcatus* (collected near Laramie, Wyoming). Analysis showed that the seeds contained 1,475 parts per million of selenium. The weevils were identified by Mr. H. S. Barber as *Acanthoscelides fraterculus* (originally reported from Kansas, Nebraska and Colorado) and the seed-chalcids—small wasp-like insects—were identified by Mr. A. B. Gahan as *Bruchophagus mexicanus* or a closely related species. A second hymenopterous insect, *Amblymerus bruchophagi*, less numerous than the first, was present as a parasite of the seed-chalcid.

The high toxicity of the seeds to mammals was shown in an experiment in which five white rats were fed on a mixture containing ground pods and seeds of a similar *Astragalus* plant. Although the selenium content of the food was reduced by dilution with ground wheat to only 65 ppm, the rats were killed within from 4 to 11 days. Even 22 ppm of selenium in the diet is lethal to young, developing rats;[4] and grains and fodder containing less than 50 ppm of selenium absorbed from the soil have been reported to cause the death of hogs, cattle and horses.

The *Astragalus* plants, though rooted in soil with a selenium content of only about 3 ppm, are able to accumulate from 1,000 to 9,000 ppm.[5] The developing weevil larvae present a striking contrast: Although their food contained 1,475 ppm of selenium, the larvae either did not absorb it readily or they eliminated it effectively, perhaps through their respiration. Analysis of their bodies showed the presence of only 65 ppm of selenium.

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