Milkweed is toxic and hard to get rid of. The answer? Train rabbits to like it

If human beings could have conversations with animals, many a conservationist would **bring up** the subject of **invasive** plants. "**Try** this one," they would plead with their fauna. "It's new, it may take some getting used to, but it's **nutritious**. And it really, really needs a natural enemy around here."

Such a meeting of minds has taken place, after a fashion, in Hungary. The animals in question are rabbits. A group of biologists **led** by Vilmos Altbäcker of Kaposvar University have **persuaded** these lagomorphs to add **common** milkweed to their diet.

Milkweeds are **native** to North America and they are famous there as **host** of the caterpillars of the monarch butterfly. Elsewhere, though, they can be **pests**, for they are **poisonous** to many grazing animals, **notably** cattle, sheep and horses. But not to rabbits, at least not the common milkweed, *Asclepias syriaca*, that has been **overwhelming** Kiskunsag National Park in Hungary. When **confined** to cages, and offered little other food, rabbits will eat it and **thrive**.

It is a very difficult task, however, to **persuade** wild rabbits of milkweed's virtues, but Dr Altbäcker thought it could be done, based on an earlier discovery of his—that the rabbits of Kiskunsag have dietary traditions. In one corner of the park, for instance, their **favourite** winter food is juniper. In another part, by contrast, they **avoid** that plant. Experiments he **conducted** with transplanted junipers **proved** the difference was not in the food. Rather, it was a matter of the local rabbits' culinary preferences.

Persuading animals to acquire a taste for a **previously** avoided plant is not unprecedented. Some farmers train their **livestock** to eat certain **weeds** as well as grass, and calves will even **pick up** the **habit** from the example of their elders. Dr Altbäcker's goal, though, was to perform this feat with a **species** in the wild, where such cultural transmission is much harder to engineer—particularly because rabbit kittens leave the nest as soon as they are weaned, and thereafter take care of themselves, giving them little chance to learn by example.

Observing their mothers is not the only way that kittens might learn what to eat. The chemistry of the milk they are drinking might give them **clues**, as might the edible faecal pellets all rabbits **produce,** as a way of **digesting** their fibrous vegetable food twice. Dr Altbäcker established that both milk and pellets from rabbits, which had **consumed** milkweed, would **cause** the next generation to prefer that plant to regular laboratory food.

This left one **obstacle** to milkweed's **introduction** into rabbit cuisine. Young rabbits are born in winter and early spring, whereas milkweed plants do not appear until May. Apparently, milkweed molecules thus have no way to get into rabbits' milk and **edible** faeces in the wild. Nevertheless, Dr Altbäcker proved that such molecules might **remain** in a mother's body long enough (perhaps stored in her fat) to carry a message from the previous season. He therefore tested the preferences of kittens born to mothers taken off milkweed three months beforehand (long enough to **mimic** the time between the end of the milkweed's growing season and the beginning of the rabbits' **breeding** season). He found that although these youngsters were not quite as happy to consume milkweed as those in the earlier experiment, they liked it better than control litters did.

The next step would thus seem to be to introduce milkweed-primed rabbits into Kiskunsag and see what happens. **Unfortunately**, Kiskunsag's **management** is not **keen** to accept an addition to the park's rabbit population. It may even have a point. In Hungary, rabbits are themselves an invasive species, brought from Iberia in Roman times. Why take the chance of introducing an advanced version?

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