Beware the Alligators?

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Are we too careless about the dangers of accidental introductions? Were the first Colorado beetles taken seriously? What about insect introductions in the waterweeds that come with tropical fish?

The accidental introduction of plants and animals to areas in which they were previously unknown has been going on since man first started travelling. Introductions by other animals, perhaps of small creatures stuck to the fur of migrating mammals or the seeds which are supposed to have travelled the world on birds' feet, are, I suppose, accidental in a sense, but man has created the potential for accidental transfer on a global scale. Improvements in transport and the speed of travel (assuming it is an improvement to go faster!) have increased the chances of the animals surviving the journey and escaping alive at the other end. I am not considering man's deliberate attempts to establish animals or plants in new areas.

Size is an important factor in accidental transportation. It is difficult to imagine that accidental transport has ever happened to elephants, but for insects and other small creatures it is a daily event. Insects have always travelled as man's uninvited guests. Transport of food, timber and even people has vastly increased the number of insects intercepted at quarantine. How many more of the smaller creatures are missed?

Many animals accidentally caught up in man's transport web will die before reaching a new country. More must arrive in unsuitable areas or be in unsuitable stages; a single male insect arriving will not establish a new dynasty, although a single hermaphrodite snail might. The numbers introduced may be too small for a viable breeding population to be built up or their niche may be already occupied. So many factors operate against accidentally transported animals that it is surprising any survive.

However, many do survive, and unfortunately we notice them only when they reach pest proportions. Until then we do not consider them seriously, and by then it is usually too late. The introduction of ten new insect species into Britain, all living in the same type of habitat, is surely news! Some of these introductions have been documented,[1,2,3,4] but have produced surprising little response from environmentalists. None of them is harmful (we think) and none could become established (we believe).

Perhaps the time is ripe to look a little closer at the problem. What are these insects, where do they come from, what other things are coming in by the same means? The group to which I refer all have aquatic larvae. At first sight this is an odd group to be getting around the world but they are travelling under special conditions. They are the insects which have hatched from waterweed brought in through the trade in freshwater fish, both tropical and cool-water ones. With the increased interest in Britain in water gardens and tropical aquaria, large quantities of waterweed are brought in from all over the world, including Sri Lanka, Philippines, South-east Asia and North America. Since the weed is not cleaned or treated at source, it must carry a large amount of freshwater life with it. When you consider the more spectacular insects which

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have come in by this means, it makes you wonder about the less spectacular ones which are overlooked.

Probably much of the wildlife from the tropics would not survive in the waterways of northern Europe, but in southern Europe the story might well be different. Nowadays with the addition of various effluents to the water which raise the temperature (providing these are non-toxic) more will survive. Already the common aquarium plant *Vallisneria spiralis* is well established in some British waterways; its distribution is normally tropical and subtropical. In particular sections of the Manchester ship canal, where hot-water discharges from factories raise the temperature of the water, exotic water plants have been found.

There are now at least two species of dragonflies *Anax gibbonsulus* and *Orthetrum sabina,* seven species of aquatic moths[1,3,4] and at least one caddis fly which have been bred from introduced water plants. These are the ones we have found; what else is coming in? What about Mollusca, especially those which can transmit diseases? Some freshwater molluscs are already established in small areas and are not regarded as a threat at present, but then probably the first few Colorado beetles were not taken seriously . . . Perhaps it is a bit far-fetched to think of introduced freshwater snails getting into our river systems, and, by shedding cercariae into the water, causing bilharzia; our cold water would presumably kill them. But what about heated aquaria? Could bilharzia become the tropical aquarist's disease? There are many water-borne diseases which could be brought into Britain with imported water plants.

There are enough problems in waterways without us bringing in further potential ones. Treatment of the weed at source would probably be practical and is surely desirable. Without overstressing the danger it is well to be aware of potential threats to our environment and to take action in time. There are many plant and animal pests, apart from the Colorado beetle, where the early understanding of the potential problem might have prevented them from developing.

References

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No Przewalski's Horses Seen

A joint Soviet Mongolian expedition in the summer of 1979 made a thorough search of the West Gobi desert, where Przewalski's horses were last sighted in 1968, and found no trace of them. Jane Blunden reports that Dr V. Sokolov, leader of the expedition, has confirmed Mongolian interest in establishing a Przewalski's horse reserve in the Bogdo Ula region of Mongolia, near the capital Ulan Bator, to which the Soviet Wildlife Department will present six Przewalski's horses from Askania Nova, the 10,000-ha reserve in the Ukraine.