



Leatherback turtle. Drawing by D.W. Ovenden. From *A Field Guide to the Reptiles and Amphibians of Britain and Europe*. By kind permission of W.M. Collins Sons and Co. Ltd.

## The turtle that needs protection in Britain

From time to time leatherback turtles *Dermochelys coriacea* are seen in the waters around the British Isles; sometimes they are caught in fishing gear and less often they are stranded on beaches. The long-held assumption that these turtles, the largest known existing reptiles, are merely strays, is being challenged by Gabriel King, who has spent several months collecting information on turtle occurrences. His preliminary findings suggest that leatherbacks occur frequently in the Atlantic waters of the British Isles. There have been 75 reported occurrences since those listed up until late 1971 by Brongersma (1972); 33 of these off Ireland. Careful checking has revealed that there may be repetition in a few of the records, but it appears certain that 71 individual turtles were involved, the majority either captured accidentally in nets and observed at sea. More information is coming to light and the final numbers may be higher than this.

The belief that all turtles in British waters are on a one-way journey northwards, having been carried there by the North Atlantic Drift to end up eventually dying in arctic or subarctic waters is much open to question. It is difficult to believe that a healthy energetic turtle of 250–500 kg, reputed to be one of the world's most powerful swimmers, could be helplessly subject to drift. Leo Brongersma (1979) stated that the leatherback is a regular visitor to the waters of northern Europe during the summer months, returning to warmer southern waters at the onset of winter. It

is quite probable that leatherbacks migrate northwards following the jellyfish brought by warm currents in summer; sightings have often been at times of large concentrations of jellyfish, the adult leatherback's main prey.

Perhaps one of the difficulties in accepting that these turtles are a part of the British fauna, albeit migratory, has been the belief that the sea is too cold, even in summer, to sustain a 'cold-blooded reptile'. However, recent research has shown that leatherbacks are quite able to live in temperate waters. They have well-developed thermoregulatory adaptations; vascular counter-current heat exchangers in their flippers; a thick fibrous oil-saturated layer beneath a thick insulating cartilaginous shell; and an ability to maintain a body temperature several degrees warmer than that of the environment, probably the large size favouring heat retention from muscular activity. In possessing these characteristics, leatherbacks are unlike other species of marine turtles.

Little is known of the life-history of turtles at sea; intermediate sizes between hatchling and adult leatherbacks have almost never been found anywhere in their vast range, which covers the three middle oceans between approximately 60°N and 40°S and the Mediterranean Sea. Nevertheless, the temptation to conduct research on leatherbacks captured in British waters must be resisted. Captured leatherbacks never survive the ordeal, however large the container. A tagging programme too must be avoided; fishermen might otherwise be encouraged to tow turtles back to

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port to await tagging by a scientist and the very poor returns from a tagging programme would not justify the high mortality rate involved.

Both Ireland and the UK have a commitment to protect these migratory turtles under the Berne Convention. In addition, they are protected in Irish territorial waters under the Irish Wildlife Act 1976. At present turtles that are caught in fishing gear are sometimes towed ashore to satisfy human curiosity. The practice subjects the turtle to unnecessary and often fatal trauma. In the summer of 1983 a leatherback was taken alive in a drift net off Quilty, County Clare, and was only released after Gabriel King's intervention; it had been suggested that it be killed as an act of kindness. Such well-meaning but misguided acts will continue to occur unless people are made aware that the leatherback is part of our regular migratory fauna. The two Governments should urgently implement measures to ensure that the turtles are indeed actively protected. They should make it known that they are taking their responsibilities seriously as their contribution to the conservation of the world's declining populations of turtles.

## References

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## Berne Convention—Britain's insect conservationists hope for butterfly listings

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The Convention on the Conservation of European Wildlife and Natural Habitats, usually known as the Berne(e) Convention, was drawn up by the Council of Europe in 1979. Member and non-member states have the opportunity to become contracting parties to the Convention, and many European countries, including the UK, have done so. The Convention aims to conserve wildlife and natural habitats, to promote co-

operation between countries and to give particular attention to endangered and vulnerable species. Such species are listed in a number of appendices to the Convention and include more than 100 plants, over 30 mammals and 175 birds, 35 reptiles and 17 amphibians, but not a single insect or other invertebrate.

Nevertheless, the Council of Europe has recognised the need to conserve and protect invertebrates, and commissioned an enquiry specifically to examine the conservation status of European butterflies. This was published by Heath in 1981. The conclusion of the report was that 96 of Europe's 380 butterflies are threatened, 15 of these being in danger of extinction in Europe and 51 vulnerable to extinction. This is an appalling state of affairs and clearly some of these species should be protected under the Berne Convention. That, after all, is what it's there for.

The Joint Committee for Conservation of British Insects (which represents all Britain's entomological bodies) and its umbrella organisation, Wildlife Link, have requested the British delegate (from the Department of the Environment) to propose an amendment to the Convention, listing Europe's 15 endangered butterflies. This request has been turned down on the grounds that the Standing Committee is concentrating on persuading more member states of the Council of Europe to become parties to the Convention, and is unlikely to consider amendment of the species listings until some more states have done this. Council of Europe member countries not party to the Convention include West Germany, Turkey, Spain, Malta, France, Belgium, Norway, Iceland and Cyprus. Is the inclusion of a number of endangered butterflies likely to make the Convention less attractive to any of these countries? Would such an amendment really take up so much of the Committee's time? I suggest that the answer is no on both counts. Why was the butterfly report commissioned if no one is prepared to act upon its recommendations?

We in Britain have already lost four species of butterflies: the mazarine blue *Cyaniris semiargus*, the black-veined white *Aporia crataegi*, the large copper *Lycaena dispar*, now reintroduced, and most recently the large blue *Maculinea arion*, in at

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least this last case because conservation efforts were too late to be effective. The last two are now seriously endangered on the European mainland along with up to 13 others. The Netherlands has lost eight species since 1946. Admittedly there are problems in deciding which species to list; some of those categorised as endangered require re-assessment, others are threatened only over part of their world range. But one thing remains certain, the Council of Europe's Standing Committee on the Bern Convention should take all possible steps to ascertain the butterfly species most in need of conservation action, and should then propose those species for listing. Such a laudable move would give much-needed impetus to the conservation action that such listing implies and requires.

## Reference

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## Farming and the countryside

John A. Burton

Farmers are not anti-conservation but the true guardians of the countryside, or so we are often told. The truth is that all too many can best be described as vandals. Those few who are genuinely trying to preserve the traditional landscape give credence to the belief that farmers are the rightful custodians of the countryside and that they should be left unfettered by restrictive legislation. The facts are rather different. The vast majority of the most damaging uncontrolled changes to the British countryside have been at the hands of farmers, often forced into vandalism by the policies of MAFF and the EEC. If an industrial speculator wants to tear down a 400-year-old building he will have to seek planning permission, and the views of all others with an interest in the site will be considered. If a local authority wants to flatten countryside to build a new road the chances are there will even be a public enquiry. But if a farmer wants to bulldoze a landscape hundreds of years old in order to speculate with EEC agricultural subsidies, not only can he do it without consulting any of his neighbours, he will also probably get a grant from the Ministry of Agriculture to help him do it! He can cut down trees, bulldoze hedges, alter water

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levels, let nutrients and pesticides seep into ditches, allow herbicides to drift across gardens and the wind to whip across the hedgeless landscape, and yet there is almost nothing that can be done, other than take him to court. The latter is costly, time-consuming and probably unlikely to produce any real compensation, even if actual substantial damage could be proven.

Why do we continue to tolerate it? In the first six months after I moved house in Suffolk, on the land *immediately* adjacent I have seen one farmer incorporate a well hedged three-acre meadow (and fill in a pond) into his already vast flat prairie, adding yet more to Britain's cereal mountain. Although grants are no longer given for grubbing out the hedges we, the taxpayers, subsidised the laying of hundreds of metres of land drains and it just so happened that the cost of putting in the drains would have included the grubbing out of the hedges. No doubt we the taxpayers will buy the grain he produces at well above the world market price, and we will also pay for its storage until it is sold off at a loss. On the opposite side of my garden another farmer bulldozed out an even larger hedge during the second week of May when it was full of breeding birds. It was an act of unmitigated vandalism, but will no doubt enable him to produce a few more gallons to add to the milk lake, when he re-seeds the old meadow with grass and puts in land drains. I am now waiting to see my ponds dry out as the water levels are dropped. By the middle of June the same farmer had moved a quarter of a mile away to grub out yet more hedges, chop down more trees in order to gain a little over one acre, killing nesting birds such as turtledoves, yellow-hammers and many others in the process no doubt. An ordinary citizen who did this would be rightly prosecuted by the RSPB.

Why do we, the British public, tolerate such selfish behaviour? Why do we continue to finance it? A large proportion of the farmers doing the greatest amount of damage are already wealthy. The subsistence crofters and smallholders rarely get a fair share of the subsidies.

It is time that we, the British public, demanded our rights, our right to a reasonable environment. We should not allow farmers systematically to destroy a countryside that has taken several

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hundred years to evolve. Even if those farmers rapaciously ripping out copses and hedges and filling in ponds, were, in a moment of remorse, to try to re-establish the landscape they bought or inherited, it is doubtful if their efforts would bear fruit even by the time their grandchildren were adults.

It is time that farming was subject to exactly the same type of controls as any other industry, with or without subsidies. If we must give subsidies let us give them not for destruction, but for amenity, so that the subsidy is used to give pleasure to the majority not excessive wealth to the minority.

## Most devastating fire in history

The largest forest fire in recorded history has devastated 13,500 sq miles (35,000 sq km) of forest land in East Kalimantan, Indonesia. The fires were at their peak in April and May 1983, but until early 1984 it was difficult to assess the full extent of the damage in such remote and inaccessible country. Indeed, it was several months after the forest fires started that the smoke cleared sufficiently for aerial surveys to take place. Researchers from the West German Institute of Forestry said that the area destroyed included 8000 sq km (3090 sq miles) of primary tropical moist forest, but it is still not known how serious the damage is. The coastal third of the Kutai Nature Reserve, which was to be made a national park, is said to be completely destroyed. In that region there were reports of slow-burning peat and soft lignite below the soil surface re-igniting repeatedly and thus prolonging the fires.

The chief causes of the 1983 fires are likely to have been human carelessness: burning of rice stubble and grassland, untended cooking fires, fires at logging camps and burning to clear forests for farming. Under normal conditions intact moist forests are not vulnerable to fire, but the region had been suffering from abnormal drought due to the effects of the 1982–83 El Niño. A similar drought occurred in 1976–77, coinciding with the last pronounced El Niño.

It is unlikely that the 8000 sq km of primary forest were destroyed in the sense of being razed to the ground. Some large trees survived and these were

evidently sufficient to support the populations of arboreal gibbons, macaques and leaf monkeys that have been seen since. It is likely that fire damage in primary forest was patchy. In the logged forest, however, where the canopy is broken and the ground littered with tinder-dry debris from logging operations, the fires could have burnt much more easily. Although a very large proportion of animals and plants died, it is impossible at present to estimate the long-term effects of the fires on wildlife. With the return of the rains plant regeneration has begun, but it will take very many years indeed for a return to anything approaching the content and structure of the primary forest, even if this is possible. The most serious long-term effect of the fires is likely to be in easing access and further land clearance of burnt forest areas. The Indonesian Government will have to guard carefully against encroachment if the country is to regain its lost forests.

## A Convention for the Protection of Animals

Bill Clark

We hold dominion over all life on earth. Whether we take the biblical perspective of Genesis, which makes us divinely-appointed stewards of nature, or the perspective of secular evolutionary theory, which makes us self-appointed stewards of nature, the ultimate conclusion is inescapable. *Homo sapiens* holds the upper hand.

Through nearly all of human history the exploitation of wildlife had been essentially unrestricted. Then, about a century ago, people started to develop radical new ideas. Perhaps our sovereignty over the animal kingdom also carried the intrinsic burden of responsibility?

In the USA, expression of this new attitude was found in the establishment of national parks such as Yellowstone and Yosemite, a new concept in land management. In Britain, a group of 'penitent butchers' realised the implications of destroying entire populations of species just for the 'sport' of the chase. And while prevalent attitudes were that the only good tigers were dead tigers (preferably skinned and laid before the fireplace), the British group organised an association that was to become the Fauna and Flora Preservation Society.

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This early work set the foundations of conservation practice, which is now expressed in many ways around the world. Few thinking people approve of the extinction of any species. Indeed, desperate efforts are made to rescue many endangered animals and it is hard to find anyone who will endorse the total annihilation of even the ferocious tiger.

New 'radical ideas' take this line of thought further. Rather than being content only with the ecological well-being of individual species, some people are also concerning themselves with the physical well-being of individual animals. This attitude is not necessarily one of humanitarian empathy for the beast. It is much more profound than mere sentiment and is at the core of a philosophy that addresses the fabric of our relationships with nature.

Some people are now seeking to create a new treaty, a Convention for the Protection of Animals, which would extend to wildlife the same basic protections afforded soldiers by the Hague and Geneva Conventions. These conventions protect soldiers from unnecessary cruelty on the battlefield and unnecessary cruelty when they are taken prisoner. At present there is no truly international accord to protect wildlife from the most barbaric weapons. Cold steel harpoons, gin traps and seal bludgeons are still common. Some of the world's zoos confine animals in conditions that are inhumane. Pumping poisons into coyote dens in the USA has not made many headlines, however. And although civilised nations now condemn dum-dum bullets in warfare against their hardened enemies, hollow-point ammunition (virtually the same thing) is freely available to hunters nearly everywhere.

To date, officials from 41 countries have expressed interest in a treaty that would extend the precepts of the Geneva and Hague Conventions to wildlife. Of these, 22 are already participating as members of drafting committees, translating preliminary documents and generally encouraging the effort. These countries represent a diverse cross-section of our planet. In Europe, the West Germans, Swedes, Danes, Italians, Portuguese, Dutch and Swiss have entered into varying degrees of involvement. The Swiss are prepared to serve as neutral repository government if that is

the will of the countries negotiating the treaty. Across the seas, Africans in Liberia, Kenya, the Gambia and other states are participating. In Latin America, the Costa Ricans, Argentinians, Uruguayans and others are also lending a hand. A share of the effort has also been picked up in Malaysia, India and Papua New Guinea.

The British, whose radical ideas of a century ago helped launch international conservation, remain aloof. A.D. Cory of the British Home Office wrote to me on 28 September 1983, 'we would like to see animals treated as well abroad as they are here. I must, however, make it clear that we do not intend to get involved with an international convention at this stage and I must therefore decline your invitation to participate in establishing the Convention'.

Somehow, the work of organising a Convention manages to proceed without British encouragement. The Israeli Foreign Ministry has agreed to serve as diplomatic channel for the effort because, although Israel does suffer from a certain isolation, its diplomatic offices are highly regarded and extraordinarily effective. And the other countries are helping, little by little. A third draft of the proposed Convention is complete and is being studied by foreign ministries around the world (minus the UK of course).

Despite their Government's reluctance to enter into this effort, many individuals in Britain, including several in government, and various internationally-respected professionals are participating. Others interested in learning more about this effort are invited to write: International Committee for a Convention for the Protection of Animals, PO Box 7274, Jerusalem 91072, Israel.

## A controversial cull

The emotional response to Australia's annual kangaroo cull, measured in thousands of letters to the Australian High Commission in London, the Australian Prime Minister, the US Government and the Press in Australia and elsewhere, has been exceeded perhaps only by the high feelings generated by the Canadian seal hunt. Emotions are easily aroused by the picture of helpless furred animals being bludgeoned to death or

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shot and left injured, as some say that kangaroos sometimes are.

It is, however, unfortunate that moral objections, as valid as they might be, have been the ones to dominate the arguments, at least those reflected in the Press, and to obscure other equally valid objections. Some conservationists who criticise the cull do not deny that a cull might in some cases be necessary; they criticise rather the basis on which the quotas are assessed and the means by which it is carried out. At present the annual kill quota might be seen as being set to satisfy the demands of the kangaroo industry rather than the needs of farmers. The kangaroo industry, according to Dr Peter Rawlinson, Vice-President of the Australian Conservation Foundation (ACF), is 'the world's largest commercial wildlife kill, yet no Australian Parliamentary Act has specific provisions for the establishment or maintenance of such an industry. The industry, therefore, has no legal or democratic mandate'.

When the 1984 quota, of 1,988,000 kangaroos of six species, was announced in April, the Director of the ACF, Dr J.G. Mosley, said that it was too high and should have taken a more realistic account of the 1982–83 drought, which caused an overall kangaroo mortality in eastern Australia of more than 40 per cent. As a result, kangaroo numbers dropped from the 1981 peak of 19 million to somewhere between 10 and 12 million. As it is, the 1984 quota will simply allow the industry to operate at its previous level; in 1983 it was only able to attain 1.8 million of its three million quota. In addition, the quotas include species whose populations are not accurately monitored and for which there is no information on population sizes and trends. This is a violation of the National Kangaroo Management Programme, approved by state and federal conservation councils, which states that the annual commercial quotas 'must be based on actual population sizes and trends, taking into account seasonal conditions such as drought'.

The Western Australian Conservation Council has objected to its 200,000 quota until a full survey is made, because actual kangaroo numbers in that state are unknown. The programme says that a species should not be harvested if its density falls below one per sq km

and in most of Western Australia densities are below this. Since hunting licences are issued regardless of the area of operation, the industry's claim that its primary function is to reduce excessively high populations is just not true. It appears that running a commercially viable industry has taken priority over the aims of the management programme. Although the cull probably does not threaten kangaroos with extinction, it could damage some populations under the present system; the 3000 licensed hunters may well make mistaken identifications, especially since the hunt is conducted at night, and accidentally kill endangered species.

It is true that kangaroos are a pest to agriculturalists and pastoralists in parts of Australia, and it is probably unavoidable that kangaroos are culled in cases where they are adversely affecting the livelihood of farmers. But the kangaroo cull in its present form does not do that, argue its critics, and any culling should be restricted to actual cases of need by farmers and be undertaken by skilled government employees who have no incentive to kill as many as possible.

As a result of all the protest, Australia's kangaroo industry may have to accept a cut-back eventually. The US, despite persistent lobbying by the Australian Government, has refused to remove the red, eastern grey and western grey kangaroos from its list of threatened species. Although it intends, for the time being, to continue to import kangaroo hides, keeping the kangaroos listed leaves the way open to banning imports without public hearings. The European Parliament is investigating the cull and, depending on its findings, could declare an EEC ban on kangaroo imports. European countries take a large proportion of Australia's kangaroo exports. A study on this trade, being undertaken by the Wildlife Trade Monitoring Unit in Cambridge, UK, was due to be completed in August 1984. Another importer, Japan, is also apparently considering a ban.

What is needed, as the ACF has requested, is a national kangaroo inquiry; although the Australian Government has bypassed this suggestion, it has established a National Kangaroo Monitoring Unit to find out just how many kangaroos there are. A long overdue step, and a

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small one, that it is hoped will lead to a more rational examination of the whole kangaroo issue.

## Ecological consequences of a taste for frogs

Every year millions of frogs end up on the tables of Europe. Between 1975 and 1983 Switzerland imported 1,145,878 kg of live frogs, a figure that represents, according to a report by the Frankfurt Zoological Society, 32.4 million individuals with an average weight of 35 g. Most of the frogs came from Bulgaria, Egypt, Greece, Turkey and Yugoslavia. The official statistics also show that over this time period the trade increased, from 61,846 kg (1.7 million frogs) in 1975 to 152,450 kg (4.3 million frogs) in 1983. In addition, the imports of frozen frogs' legs in 1983 alone was estimated to be 199,636 kg—representing some 4.5 million frogs.

France, another major importer, is estimated to import the equivalent of 400 million frogs per year for human consumption—mainly from Bangladesh and Indonesia. The USA, the Netherlands, the United Arab Emirates, Belgium, UK, the Federal Republic of Germany and Australia also import frozen frogs' legs, but there are no import figures available. Bangladesh and India are major suppliers: in 1981 India exported about 79.1 million frogs.

Wild populations of Indian bullfrogs *Rana tigrina* are becoming rapidly depleted to satisfy the trade, especially in the Mymensingh and Sylhet Districts of Bangladesh, where 80 per cent of all bullfrogs taken in Bangladesh come from. Almost all of these are exported and the activity generates significant employment. At least one village depends on the capture and sale of bullfrogs and of freshwater turtles for its livelihood. According to a recently published report by Charles M. Fugler, a minimum of 9,744,559 pounds (4,420,131 kg) of processed frogs' legs were exported from Bangladesh between 1977 and 1981 inclusive, mostly to Japan, US and Europe. In terms of frog deaths this means about 19.5 million each year. In Bangladesh there is a ban on collecting during part of the breeding season—15 April–15 May—but this is frequently contravened. Professor Fugler makes several suggestions for

strategies to protect the stocks: to ban collecting in the Districts of Mymensingh, Sylhet and Chittagong, initially for two years and thereafter in alternate years; to divide the country into areas where collecting would be permitted in alternate years; or to ban collecting through two reproductive seasons, an approach similar to that already enforced in India. Another alternative, captive-breeding, has so far proved unsuccessful.

This trade in gourmet food is plundering the ecosystems of the exporting countries and having severe and measurable effects on their agriculture. In 1981 Humajun Abdulai, an Indian scientist, discovered that in rice fields where the frog population had been eliminated, the rice harvest was significantly lower than in areas where the natural frog population kept down numbers of insects. In China frogs are now protected in recognition of their role in controlling insect pests; in rice paddies that still support a healthy stock of frogs, an estimated 12,350 frogs per ha can devour 741,000 insects per day. The disappearance of frogs from exporting countries may not only upset ecosystem balance but may mean that chemical pest control becomes necessary—an alternative with many well-known attendant problems.

## Madras Snake Park: corrections

In *Oryx*, April 1984, we published an article on the Madras Snake Park. Unfortunately, the article stated that Dr Rajendran was the Director of the Park, which is not the case. Rom Whitaker, the founder and driving force of the Park since 1969, has always been its Director. When the author of the article visited the Park in 1980 Dr Rajendran was Acting Director while Rom Whitaker was in Papua New Guinea on a FAO consultancy.

We should of course have noticed and corrected this error before publication, and we offer sincere apologies to Rom Whitaker for the misunderstanding. We have also heard, contrary to the statements in the article, that the Madras Snake Park has never received any grant from the Indian Government and that there is no intention to move the Park. In the next issue of *Oryx* we shall publish an article describing the history and work of the Park in detail.