

being so often the main source of pertinent expertise and hoped-for support, and apparently ignoring all of Australasia-Oceania.

The WCED Secretariat is led by Mr James MacNeill, who is responsible to the Chairman of the Commission and is himself an ex-officio member hailing from Canada. Financing of the World Commission is on the basis of voluntary contributions of funds or of services-in-kind from governments or other institutions and sources. Its accounts are subject to external audit. Japan, Sweden, Switzerland, Canada, Netherlands, Norway, Denmark, and Finland, were the first to pledge resources to WCED and their contributions were sufficient to assure the Commission of the resources to start its work on a realistic scale.

Establishment of WCED reflects a conviction that a future can be built which should be more prosperous or at least secure than the present—if only it can be made to depend on policies and practices that are both ecologically and economically sustainable. But what can such a Commission do that other agencies cannot? Among the advantages of the 'Commission approach' to such prospects we may cite the personal independence of its members, the stimulation of international processes of deliberation, and active mobilization of leading scientific and other specialists for guidance and advice with a focus on emerging or foreseeable challenges rather than on the short-term preoccupations of national governments.

The Commission aspires to draw on the best obtainable

scientific and other advice for help in performing 'its principal task, namely: to re-examine the critical issues of environment and development and formulate new and concrete action proposals to deal with them; to assess and propose new forms of international cooperation that can break out of existing patterns and foster needed change; and to raise the level of understanding and commitment everywhere'. It intends to perform its work in as open and visible a manner as possible, holding meetings in many different parts of the world in order to 'permit good regional access'; and 'it will call on the world's media both to popularize contributions received and the Commission's own work and, wherever practical, to provoke and gather new ideas and sound out public opinion'.

It is most ardently to be hoped that the Commission will take a firm stand on over-population, and also be effectively outspoken in dealing with military threats to the environment and to properly sustainable development.

In view of the close coincidence of many of our own efforts and hopes for the future, it is especially gratifying to welcome this large-scale operation alongside our primarily educational WCB-ISEE voluntary 'shoestring' ones which were featured widely in our last issue. The address of the World Commission on Environment and Development is: Palais Wilson, 52 rue des Paquis, 1201 Geneva, Switzerland—Tel. (022) 32.71.17; Telex 27910 csen ch, where it is understood all serious contacts will be welcomed.

NICHOLAS POLUNIN

Our Change of Address: But Not of Office, Abode, or Telephones

Whereas the many from among our friends and collaborators who have graced our abode or visited our office since we moved in from the country more than a dozen years ago will, we sincerely hope, remember where we are usually to be found and will soon visit us again, we warn them that, although our abode and office remain the same, the name of the street on which we are situated, and also the number, have been changed by the authorities to 7 Chemin Taverney.

Our telephone numbers remain the same ([022] 98 23 83 and 84) and so, we hope—with a benevolent 'assist' from

Father Time—do we. So for once (and for visitors and correspondents) I'll record our full address in these columns, hoping that any remaining confusion among would-be visitors and even dinner-guests will soon cease:

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Threatened Plants and Animals of the World

A nutritious nut that could help to save Ethiopia and Somalia from future famines, the world's smallest mammal, the largest butterfly, and the largest flower, have been chosen as representative of the world's most endangered species. They were among 12 plants and 12 animals identified as among the world's most endangered species by the International Union for Conservation of Nature and Natural Resources (IUCN) at its General Assembly in Madrid on 14 November 1984.

The Yeheb Nut-bush (*Cordeauxia edulis*) grows in the arid lands of the Horn of Africa. In 1929 it constituted up to half of the woody vegetation in many areas of Somalia, but it is now much reduced and its existence is threatened by drought, overgrazing by goats, and war, although the Somali National Range Agency has now set aside reserves. Heavy harvesting of seed and browsing by goats severely reduce the chances of natural regeneration, though great interest has been expressed in its potential as a source of food.

The Bumblebee Bat (*Craseonycteris thonglongyai*), the world's smallest mammal, only became known to science in 1974. It weighs only two grams and really is only as big as a large bumblebee. It lives in remote limestone caves in Thailand, and its existence could be threatened by museum and zoo collectors. Moreover, proposed hydroelectric projects menace this tiny Bat's cave habitat.

The Giant Rafflesia (*Rafflesia arnoldii*), a metre-wide parasitic flower, is threatened by destruction of the rain-forest in Sumatra, while the world's largest butterfly is now severely threatened by expanding oil-palm and logging industries. It is Queen Alexandra's Birdwing (*Ornithoptera alexandrae*), of Papua New Guinea.

The representative threatened species were selected by scientists under the aegis of IUCN's Species Survival Commission, who declared that priority action was required to save them from extinction. Mr Grenville Lucas, Chairman of the Commission, declared: 'More than 1,000 vertebrate species are in danger of extinction, including many specta-

cular animals, [such as] big cats, elephants and rhinos, cranes and crocodiles, as well an unknown host of invertebrates, whose [total] number of species is counted in ... millions.* Then there are the plants, of which there are over a quarter-of-a-million flowering species. Ten per cent or more of those plants, including giant trees and many species of potential use to mankind for food and medicine and other services, are under threat, often because of ill-considered and careless development. There are also tragic situations where people are being forced to destroy the resources that sustain them merely to stay alive from day to day. The animals and plants we are highlighting face many threats within these two areas. They are not necessarily the most threatened, although several are on the very brink of extinction. We hope they will act as standard-bearers to alert the world to the grave situation facing the complex web of life on Earth for which we humans are responsible.'

In addition to the Giant Rafflesia and the Yeheb Nut-bush, the 12 chosen threatened plants (listed with their scientific names in Appendix A) include the popular African Violet, the Mexican Neogomesia Cactus, the Indian Drury's Slipper-orchid, timber trees from Algeria and Ecuador, a hibiscus from an Australian island, the Hawaiian Kau Silversword, and a relative of the wild pomegranate which is endemic to Socotra island, where 'only four ancient trees of this species remain'.

Besides the Bumblebee Bat and Queen Alexandra's Birdwing, the other ten of the dozen threatened animals listed by IUCN are the Northern White Rhino (now numbering only about 10 in Zaire's Garamba National Park), the Sumatran Rhino, the Muriqui Monkey from southeast Brazil, the Kouprey (a wild ox in Indo-China), the Mediterranean Monk-seal, the Pygmy Hog from the Indian sub-continent, the heron-like Kagu from New Caledonia, the Madagascar Tortoise, the Orinoco Crocodile, and a group of small multicoloured tree-snails in Hawaii.

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APPENDIX A

IUCN'S CHOICE OF 12 THREATENED PLANTS

African Violet, *Saintpaulia ionantha*—the African Violet, the world's most popular house plant, is almost extinct in its wild home in the tropical forests of the mountains in Tanzania. Only three plants were found by a recent expedition.

Bamboo Cycad, *Caratozamia hildae*—commercial collectors have removed one of the two known wild populations of this recently described Mexican Cycad.

Drury's Slipper-orchid, *Paphiopedilum druryi*—an Indian slipper-orchid, well known in horticulture, but not seen in the wild since 1972.

Flor de Mayo Lenoso, *Senecio hadrosomus*—an attractive florists' plant whose wild population, numbering only 60–100, is threatened by overgrazing in its only home in the mountains of Central Grand Canary Island.

Giant Rafflesia, *Rafflesia arnoldii*—the largest flower in the world—is in danger from destruction and disturbance of its rain-forest habitat in Sumatra.

* See the present Author's 'The World's Endangered Invertebrates', published in *Environmental Conservation*, 10(3), pp. 268–9.—Ed.

Kau Silversword, *Argyroxiphium kauense*—an endemic silversword of Hawaii—is threatened by grazing sheep. It is one of 822 endangered plants in Hawaii—the highest number for any country of island group in the world.

Neogomesia Cactus, *Ariocarpus agavoides*—a Mexican endemic cactus that is threatened by excessive collecting in its only habitat.

Philip Island Hibiscus, *Hibiscus insularis*—only four bushes were left in 1964 because of grazing animals, which have now died out from starvation. Rabbits are still a problem, which is being attacked.

Palenque Mahogany, *Persea theobromifolia*—a few specimens of this valuable timber tree, related to avocado, survive in Ecuador's lowland Andean forest.

Socotran Pomegranate, *Punica protopunica*—only four ancient trees of this species remain on Socotra island because of overgrazing. The species is probably an important genetic resource to produce disease-resistance in cultivated pomegranate.

Tarout Cypress, *Cupressus dupreziana*†—more dead than living trees exist in Algeria, its last refuge, because of overgrazing and firewood collecting. A valuable tree for arid areas as it is extremely drought-resistant. Old trees may be 2,000 years old and could provide information on past climates and serve as a standard for dating woods.

Yeheb Nut-bush, *Cordeauxia edulis*—the nutritious nuts of this endangered bush of Ethiopia and Somalia could be a valuable food-crop for arid lands, but it has been reduced to dangerously low levels, along with most of the vegetation of the Horn of Africa, because of heavy harvesting of nuts and browsing by goats.

APPENDIX B

IUCN'S CHOICE OF 12 THREATENED ANIMALS

Bumblebee Bat, *Craseonycteris thonglongyai*—only becoming known to science in 1974, this tiny bat, weighing only two grams, could be threatened by museum and zoo collectors and by proposed hydroelectric projects which would flood its cave habitat.

Kouprey, *Bos sauveli*—hunting and wars have reduced this large wild ox of south-east Asia, which is believed to be resistant to rinderpest. A small herd was sighted in eastern Thailand in July 1982.

Mediterranean Monk-seal††, *Monachus monachus*—widely scattered in small groups and persecuted by fishermen, but there is a good chance of improving its status.

Muriqui or Woolly Spider-monkey, *Brachyteles arachnoides*—numbers down from about 3,000 in 1972 to a few hundreds in 1981. Conserving them would also conserve the remnants of Brazil's coastal forests.

Pygmy Hog, *Sus salvanus*—a major dam project threatens a key population in the Manas reserves of India and Bhutan. Elsewhere, destruction of its grassland habitat in the Himalayan foothills has severely reduced numbers, which may be under 100. The rare Hispid Hare, *Caprolagus hispidus*, would also benefit from protecting the Pygmy Hog's habitat.

Northern White Rhinoceros, *Ceratotherium simum cottoni*—poaching for the horns has reduced the population to only about 10 in Zaire's Garamba National Park, with a few scattered in southern Sudan, Central African Republic, and Uganda.

Sumatran Rhinoceros, *Didermoceros sumatrensis*—reduced to only a few hundreds in Sumatra and continental south-east Asia, principally Malaysia, by poaching for its horn.

Kagu, *Rhynchoceros jubatus*—a ghost-grey, heron-like bird but which cannot fly. It stalks on the forest floor in New Caledonia and is seldom seen. Mining and logging threaten the Kagu's habitat.

Angonoka, *Geochelone yniphora*—a large Madagascar land-tortoise in imminent danger of extinction. It is collected as a pet in Madagascar. No nests have been found, and captive breeding experiments have not so far been promising.

† See also the illustrated account, by Philip Stewart, in our old Journal, *Biological Conservation*, 2(1), pp. 10–2 with 3 figs, 1969.—Ed.

†† See also the note by A. Rosser *et al.* in *Environmental Conservation*, 5(4), p. 198, 1978.—Ed.

Orinoco Crocodile, *Crocodylus intermedius*—severely depleted by the hide trade, so that a reserve and captive breeding are urgently needed.

Queen Alexandra's Birdwing, *Ornithoptera alexandrae*—the world's largest butterfly, restricted to a small forest area in Papua New Guinea that is seriously threatened by expanding oil-palm and logging industries.

Hawaiian, or Oahu, tree-snails, *Achatinella* spp.—a genus of 19 varied and beautiful small tree-snails, all endangered because of intensive collecting and the ravages of ants and of an introduced predatory snail (*Euglandina rosea*). Native Hawaiian trees which are their natural habitat are vanishing.

Proposed Danube Dam at Hainburg: WWF Protest and Upheld Injunction

In a formal protest to the Austrian Chancellor, the World Wildlife Fund has expressed indignation at the beating and forcible removal of journalists and demonstrators at Hainburg and der Donau, where the Government has begun cutting down the last-remaining Danube riverine forest in preparation for construction of a controversial power-dam. Accordingly the Director-General of WWF recently sent the following telegram to Austrian Chancellor Fred Sinowatz:

'Have learned that this morning police began evicting by force demonstrators from Hainburg site in order to proceed with cutting of trees before legal questions have been resolved. World Wildlife Fund herewith formally protests against this action, which is unworthy of a democratically elected government.'

WWF-Austria is suing the Government to block clearing of the forest and construction of the Hainburg dam, and HRH The Duke of Edinburgh, President of WWF, is leading international opposition to the project. Conservation groups say that it will pollute Vienna's drinking water, destroy a precious stretch of wetland forest, and only add to Austria's present surplus of electrical power!

Late last year, bulldozers completed clearing four hectares of forest after police had removed demonstrators who

clung to the machines. More than thirty persons received hospital treatment after police beatings. A majority of Austrians are against the dam, according to public-opinion surveys.

Subsequently, on 3 January 1985, WWF International was able to announce that a decision by the Austrian High Court to stop the Government from clearing the riverine forest and constructing the proposed hydroelectric dam at Hainburg on the Danube is 'a major victory for conservation'.

The court granted WWF-Austria an injunction to halt the cutting of trees which began before Christmas. The High Court injunction is for two months, but as Austrian law prohibits cutting forests between January 31 and December 1, all work on the Hainburg project is now effectively blocked until December 1985.

In the meantime, WWF hopes that negotiations will convince the Austrian Government to abandon the project altogether. 'The major victory for conservation has wide significance for two reasons'. WWF International's Vice-President Dr Lucas Hoffmann commented:

'Firstly, it underscores the principle that development must not proceed at the expense of natural resources which, once destroyed, cannot be recovered. Development and conservation are equally important human needs, and they



FIG. 1. Amid scenes of violent struggle that are visible at several points, Austrian police overwhelm demonstrators at Hainburg an der Donau. Photo: Karin Momen, by courtesy of WWF News.