

The original paper was published in the *Journal of the Society for the Preservation of the Wild Fauna of the Empire* (1903-1925 and 1926-1950) or in *Oryx*, the journal of Fauna and Flora International (from 1951).

The website of the journal is (from 2008): http://www.oryxthejournal.org/

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Oryx - The International Journal of Conservation, is now published quarterly by Cambridge University Press on behalf of Fauna & Flora International. It is a leading scientific journal of biodiversity conservation, conservation policy and sustainable use, with a particular interest in material that has the potential to improve conservation management and practice.

The website, http://www.oryxthejournal.org/, plays a vital role in the journal's capacity-building work. Amongst the site's many attributes is a compendium of sources of free software for researchers and details of how to access Oryx at reduced rates or for free in developing countries. The website also includes extracts from Oryx issues 10, 25 and 50 years ago, and a gallery of research photographs that provide a fascinating insight into the places, species and people described in the journal.

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THE THREAT TO RARE ANIMALS IN BORNEO

By Tom Harrisson

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In Borneo and the surrounding islands competition by introduced faunas has not proved a significant factor affecting the survival of endemic species. Without exception, any threat has, in the past century and more, been invariably and directly attributable to human agency. Man, for instance, is the only predator of the Sumatran rhinoceros, Orang-utan, Clouded leopard, Argus and Bulwer's pheasant, White-bellied Sea-eagle and Island Megapode, which are among the forms most severely threatened at the moment.

Human predation in Borneo operates in four main ways:

- (1) For food: this mainly affects the smaller mammals, all birds and fish. In much of the area tracts of remote virgin jungle have insured large resources of the endemic species until recently. But now, the huge increase in availability of firearms and explosives (e.g. in Sarawak one shotgun for every five heads of population in 1961) is sending hunters far afield, slaughtering everything edible they see.
- (2) By land use: rapidly increasing population (over 8 per cent per annum in most of Malaysia now) is pushing people back into previous natural reserves, so that it is now possible to travel for days in some parts even of Borneo without encountering untouched primary habitat—upon which well over 90 per cent of all endemic species depend.
- (3) Native exploitation: the killing of animals for saleable products (e.g. rhino-horn, bezoar stones of leaf monkeys, pangolin scales, crocodile skin), or capturing alive for sale (notably Orang-utan, Gibbon, a few birds) has been going on for a long time—see below for effects.
- (4) Planned external exploitation: outside businesses or government interests are now exercising a major influence on the fauna and flora, particularly through massive timber exploitation, which involves cutting out the valuable woods, particularly in misleadingly termed "forest reserves"; with consequent disturbance of fauna and destruction of habitat, now tending to encroach even into remote hinterland.
- (5) Sport: a negligible factor until recently as it was in the hands of a few Europeans shooting migrant waders and duck. Many Chinese and others now acquire guns, rifles

and catapults, shooting at almost anything (e.g. around towns, along roads) not necessarily for food but for "fun".

Even ten years ago extensive reservoirs of unspoiled habitat ensured that there was little serious threat to most of the surviving fauna and flora. But the tempo of technical change and economic development, right through South-East Asia and the Western Pacific, has so accelerated that this view is no longer tenable. Moreover, new developments into the remoter areas (such as outboard motors on dug-out canoes up the rivers and airstrips into the far uplands) leave no corner, even of a great island like Borneo a sure sanctuary for the next decade.

At present only the larger or more valuable species are seriously and immediately threatened, notably the Orang-utan and the Sumatran Rhinoceros. The main reason for the serious situation of these is that they are cash-exploitable rather than merely edible. This exploitation is native and not entirely recent. Animals that have only recently attracted attention usually still have a large capital of numbers in reserve, as yet unslain.

Archaeological evidence from the Sarawak Museum excavations in the great Caves of Niah show that the rhinoceros was being hunted as a ritual animal, and Orangs probably kept as pets, far back into the Stone Age. Moreover, though Orang bones are among the most abundant remains in these caves, no living Orang has been reported within 200 miles of them in the past century. The Niah Stone Age evidence also shows that other animals no longer found in Borneo but still existing in small pockets in Malaysia, once occupied the island; notably the Tapir and the Tiger; neither have been known in Borneo in historic times.

Man has therefore been influencing the fauna in more than a casual way for thousands of years. But it is only within the last fifteen that the pressure has become so great as to be potentially tragic. If we ignore unreliable or sensational records, it is difficult to believe that at the present time there are more than ten Sumatran rhinoceros left in North Borneo, probably not more than thirty in the whole island. Each of these is a separate individual, without contact with a potential mate.

The situation of the Orang is in some ways even more serious, since a secondary major decline has been very rapid, and also obscured both by wishful government reports and the fact that there are at present still plenty left alive in the world's zoos. A major source of error here has also been the case with which the Red Leaf-monkey (*Pygathrix rubicundus*), common in parts of Borneo, is mistaken for the Orang by the inexpert.

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Most governments and all thoughtful individuals in the area are growingly aware of the gathering urgency of the situation. But practical difficulties exist, notably of a political character. For instance, whatever the good intentions of a government, it is extremely difficult to implement an effective conservation policy, if there is civil disturbance or weak legal control in the relevant places. This can also complicate the situation elsewhere. For instance, there are four different political territories in Borneo. It has proved extremely difficult in practice to enforce even simple laws of animal capture, import and export, within these four.

Similarly, although there is extensive world concern about illegal traffic in Orangs, they are being regularly smuggled from Borneo and Sumatra to the Asian mainland and sold to reputable zoos in Europe and America. The latest publication of the London Zoological Society even carries an advertisement advertising the availability of Sumatran rhino; and indeed the advertiser has succeeded in obtaining not less than four during the last five years!

Many of the new and resurgent national ideologies throughout this area have to face so many problems and difficulties that the conservation of nature is only too easily pushed into the background. The trouble in the nature of this problem is that if it is pushed into the background, it will soon no longer exist! It is therefore for the 10th Pacific Science Congress to take strong action and produce realistic proposals—based on a proper understanding of local difficulties and prejudices—now, in 1961.

A further point (and warning of importance) is that Western governments in the east have tended to try to meet difficulties in conservation by enacting game laws and making them the responsibility of a Forestry Department. This only works on paper. Even where senior Forest officials are enthusiastic naturalists, the drive—and indeed the raison d'etre—of a Forest Department is to exploit the forests for revenue. It is therefore contrary to the non-disturbance of the native fauna and flora (cf. (4) above).

THE IMMEDIATE PROBLEM OF THE ORANG-UTAN By Barbara Harrisson

The Orang has been legally protected by law for a decade or more, in both Borneo and Sumatra. In spite of this protection, large numbers of baby Orangs are shipped out and sold to overseas zoos. High mortality rates in zoos and circuses generally, the increasing number of newly established zoos and particularly the insignificant number of Orangs bred in captivity create an ever increasing demand for young and adult wild Orangs, with ever increasing cash incentives both to dealers and trappers. As there is no *effective* control of the habitat jungle areas, particularly in Indonesian territory, the trapping and sale of Orangs will continue, unless drastic self-control on the part of the zoos themselves is executed.

A detailed survey of Orangs in captivity established an approximate number of 240 animals, 80 per cent originating from Borneo. The average life expectation of an Orang in captivity is about $3\frac{1}{2}$ years (since 1930). Consequently, a demand of about eighty animals per year exists. To produce this number, at least twice as many must be killed or die in transit, for the usual method of capture is by killing a mother Orang and taking her baby, often under a year of age. Several weeks, even months pass before a baby reaches the coast and gets proper care, resulting in serious disease, undernourishment and often death.

A demand of about 2,400 wild Orangs within the next decade may thus be calculated. Not even on the most hopeful estimate can there be that many catchable Orangs left in the wild. It may be there are not even that many free Orangs of all ages and in every degree of isolation, anywhere.

A Commission appointed in 1959 by H.E. the Governor of Sarawak submitted their report in December 1960, giving an estimate of under a thousand animals left in Sarawak, but widely scattered in small pocket jungle areas, especially along the Indonesian border. Both the Conservator of Forests and the present writers consider even this estimate too optimistic. No reliable figures exist from North Borneo and Indonesia, but it is probable that the situation is similar there. The rate of reproduction in the wild has declined considerably owing to the constant toll of breeding females (killed to take their young) and to the widely scattered areas into which split groups were forced.

The following measures must urgently be taken, now, to prevent complete extinction of the Orang within the next decade:—

The burden of export *control* must not be left simply to the countries which have wild Orangs (the Republic of Indonesia and the British Borneo territories).

Zoos must exercise more self-control, and less selfishness in acquiring ape exhibits "at all costs". Much higher standards

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must also be set for the care of apes in captivity, with particular reference to breeding. A specialist Committee should be appointed to discuss measures to promote breeding in captivity and an international research foundation be set up to pool all information on breeding and developing of further breeding and conservation techniques (in co-operation with responsible zoological societies).

An international research project should be sponsored to assist the Indonesian and other governments in ascertaining the present Orang population accurately and in devising practicable methods to preserve their status.

At least one proper sanctuary for Orangs should be estab-

lished before it is too late.

The Sarawak Museum has undertaken considerable research in all the above fields. A summary of results will be given at the Pacific Science Congress which is to be held in Hawaii during August and September 1961.

Note.—The above article refers to the future of the Orang-Utan and other species throughout Borneo. Readers will notice that the view presented here is pessimistic compared with that given by K. Stott and C. J. Selsor in Oryx, V, 6. There the position of the Orang in North Borneo only was considered.—Ed.