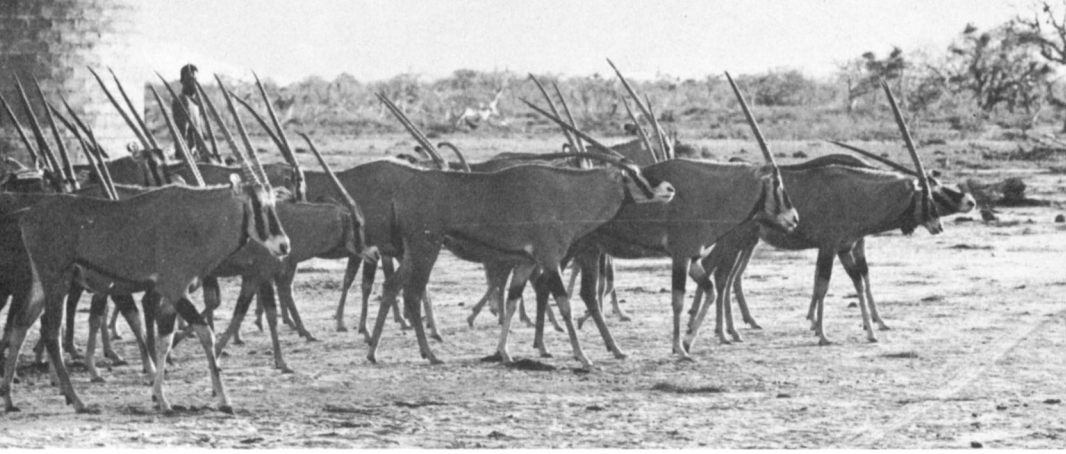

# Fringe-eared Oryx on a Kenya Ranch

*Mark Stanley Price*

**Experiments in domesticating fringe-eared oryx on a Kenya ranch suggest they could be an economic proposition in semi-arid areas, where domestic cattle can only be kept for a few months each year. Oryx have also proved superior to eland, at one time believed to be the most promising wild ungulate for domestication, largely because they feed by day, whereas in this climate eland feed at night, a time when domesticated animals have to be penned to protect them from predators, notably lions.**

In 1970 a pilot project to ranch large ungulates by domesticating them was started on the Galana Ranch in south-east Kenya. The object was to combine cattle and wildlife in one area and find out whether domestication could provide another use for wildlife besides hunting. Most of the development and research costs of the project have been borne by the African Wildlife Leadership Foundation, supported by Galana Game and Ranching Ltd and the Kenya Game Department.

The ranch covers 5000 sq km, about one per cent of Kenya, between the coast and Tsavo East National Park. The land is classed as arid bush, with maximum daily shade temperatures of 34°C. Annual rainfall in the coastal bush on the eastern boundary is 600mm but drops sharply to only 250mm in the west, where it adjoins the Tsavo National Park. Early experience showed that the drier, western third of the ranch could support cattle for only a few months each year, following rain, so this seemed the best area in which to evaluate the potential of wild species as alternatives to cattle. Aerial censuses show good wildlife populations, estimated at 4000-6000 elephant, 6000-8000 fringe-eared oryx *Oryx beisa callotis*, 50 black rhinoceros, 3000 buffalo, 3000 zebra, 1500 eland, 400 giraffe and imprecisely known numbers of gerenuk, lesser kudu, waterbuck, impala, Peter's gazelle and ostrich. Lion density is high; cheetah and leopard occur in smaller numbers. Currently, 17,000 head of cattle are kept.

So far, buffalo, eland, gazelle, ostrich and oryx have been captured on the

Above: *RELEASE IN THE MORNING*



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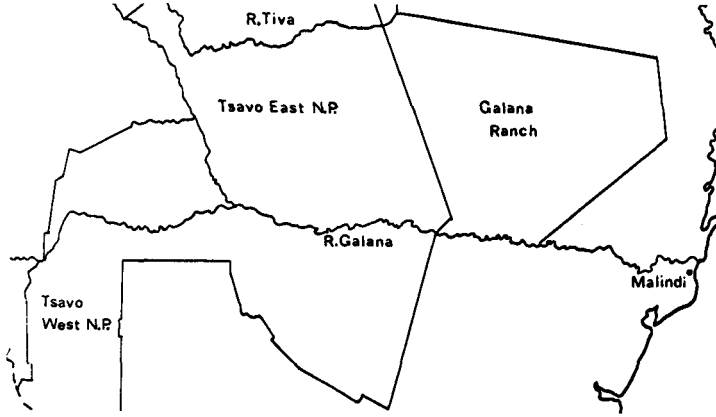


ranch and tamed, but all except the oryx have had overriding disadvantages for ranching, due either to temperament or performance under domesticated conditions. Much had been expected of the eland on the basis of other herds' performance in Africa, but their productivity was low. Moreover, domesticated eland have to be confined to pens at night to prevent scattering and predation by lions, but in this extreme climate wild eland feed largely by night to reduce their exposure to daytime temperatures, and they wander in their search for browse. Their adaptations to this environment are thus behavioral, whereas those of the oryx are physiological, and for this reason oryx appear to be the most promising domesticants in this environment.

The domestic oryx herd numbers about 150, with animals of all ages. Increases in numbers are mostly due to the capture of wild oryx within a few miles of the ranching area. Trapping is done with three vehicles which work like sheepdogs, driving the oryx into a funnel trap with a mouth 400m wide and wings 500m long that narrow to an apex where there is a holding pen; each animal is then put into a crush for inspection. Only those between weaning (about six months) and two years old are kept, and put into pens in groups of 10-12 of the same age. Taming proceeds gradually as they become used to being provided with cut grass containing species in their normal diet, supplemented with lucerne to maintain their condition.

Domestication is, therefore, no more than the habituation of oryx to the close proximity of humans, and their associated sounds and smells—cars, wheelbarrows, voices, radios. After a month in the pens they can be moved into a one-ha paddock where food is still provided, and then into a 40ha enclosure where they can forage, and are actively herded by one person who moves them around as a group and brings them back into the pen in the evening. After two weeks they can be integrated into an existing, larger herd ranging over unenclosed land. Their daily routine is then one of being penned at night, and feeding and watering by day under the supervision and protection of herders.

Oryx breed well under domestic conditions. With a gestation period of nine months, each breeding female unfailingly produces a calf every 10½-11 months; a higher reproductive rate would seem to be almost impossible physiologically. The ranch cattle, on the other hand, with the same gestation period, calve only about every 15 months. The oryx calve in pens without any human interference, and the mother is content to leave the calf 'lying-out' by day in the open while she feeds with the herd, and it is she who decides when the calf is ready to venture outside, usually at about three weeks old; by then it has been ear-tagged.

Oryx require no routine veterinary treatment, apart from the two doses of worm drench at three months and at weaning. No trypanosomiasis antibodies have been isolated from them, so that not only are they resistant to the disease themselves, they are probably not reservoirs of the parasite by which tsetse flies could infect cattle. The ranch cattle, however, require frequent prophylaxis and treatment against trypanosomiasis, and they are also susceptible to a range of tick-borne diseases that in some seasons and areas necessitate dipping as often as every five days. The oryx rarely carry ticks and are never dipped.

In conditions of normal rainfall and food abundance oryx and cattle seem to have similar growth rates. Oryx eat as much each day as would be predicted on the basis of their body size, but under closely controlled conditions, using a 10-per-cent protein diet, they digest protein and crude fibre significantly better than do cattle, which is perhaps to be expected of an animal that has evolved in arid lands covered with tough, fibrous grass of low nutrient content. Preliminary results suggest that this digestive superiority is achieved by a much faster rate of coarse food fermentation in the rumen than in that of a cow. This is remarkable in view of the oryx's low water consumption, which makes it such an attractive proposition in these dry lands. The domestic oryx are walked to water only on days when their herders see that they want to drink, which for most of the year, with shade temperatures of 25-32°C, is every 2-3 days; in the cool weather, when the grass is green, they may not drink for a month. An adult male (150kg) will drink 7 litres, whereas a cow (300kg) drinks 35-40 litres every day. Compared on a metabolic basis, to eliminate the difference in body size, the oryx male's water requirement is 15-20 per cent that of a cow, which in arid lands, where water may have to be pumped a long way or lifted from a well, represents a considerable economy. Moreover, because the oryx need not visit water every day, which cattle must usually do to maintain weight in the dry months, their grazing range covers the area between night pen and watering point much more evenly and, hence, more efficiently.

The Galana project has already shown that oryx can be ranched successfully in arid rangeland. In their low water consumption, resistance to disease and



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high breeding rate they outpoint the cattle; their disadvantages are that each herd needs more herders, and losses are higher due to accident or return to the wild. The priority now is to increase the total numbers of oryx by 120 annually for the next two or three years to see whether the herd can be run as a commercially viable enterprise. Projections suggest that under the right conditions an oryx ranch can be worthwhile economically. Breeding animals are already available for commercial ranches or pastoral areas, and when total numbers have increased a programme of selective breeding will begin.

The ungulate species which have been tested as potential domesticants have provided enough comparative information to predict which wild species could in future be domesticated successfully. Experience with eland on Galana and further studies on their social behaviour in the wild[2] explain why it is never likely to be a successful new domestic species, despite so much optimism a few years ago.[3] The oryx project has also shown that when domesticated and kept in herds which approximate the composition of those in the wild, the oryx breed at a rate which is probably the physiological maximum for the species. This information is relevant to the breeding programme of the related and highly endangered Arabian oryx, for which a high increase rate in the captive world herd must be a priority: the published breeding rates for some zoos are not as high as for Galana's fringe-eared oryx.[1] The Galana experiment has also found what constitutes a socially stable herd of domestic oryx, again information that is directly relevant for reintroducing the Arabian oryx into its former natural range.

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## Forests Need Protection Too

President Nyerere of Tanzania, opening the new Kilimanjaro National Park in July 1977, said: 'We should thank the colonialists for teaching us to care for our wildlife heritage in Tanzania. The people have understood the importance of protecting and preserving our wild animals. In fact now local leaders are asking that areas known to harbour a wild animal population should be set aside for conservation. This is good but not good enough because many have yet to understand the vital need to protect our forests in the same way.'

## Save Our Species—Especially the Wolf

BBC-Television's 'Nationwide' news programme mounted a weekly 'SOS' (Save Our Species) feature in conjunction with the WWF and FPS. Each week animals in various zoos were featured and the public invited to make donations—some of the money going to the zoos concerned, a proportion of it to conservation, through WWF and FPS, and the remainder to conservation projects in other zoos. Over £50,000 was raised, of which FPS received some £2,500. One of the interesting results of the Appeal was the relative popularity of the animals shown. Surprisingly, the largest amount of money raised was for the wolf. The remaining top ten, in order, were elephant, penguins, snow leopard, pygmy hippo, giant panda, cheetah, gorilla, tiger and Arabian gazelle.