
A MIRACLE IN VIETNAM

BY FRANCESCO NARDELLI

It is a miracle that any Javan rhinoceroses survive in the world. The lesser one-horned Asiatic rhinoceros (*Rhinoceros sondaicus*) is probably the rarest large mammal on earth today. There is not one individual to be found in any of the world's zoos - only ten are thought to have been held in captivity over the past 150 years.

So we were already holding our breath, wondering whether the tiny population of about 50 Javan rhinos on the western tip of the island of Java, at Indonesia's Ujung Kulon nature reserve, could be preserved, when another miracle occurred, early in 1989: despite decades of war and chemical defoliation devastating the forests of Vietnam, a small population of Javan rhinos, estimated at ten to fifteen animals, was reported from the eastern part of Song Be province, not too far from the Vietnamese capital, Ho Chi Minh City.

This startling fact was announced in April last year by Dr George Schaller, Director of Wildlife Conservation International, a division of the New York Zoological Society, and a zoologist already well known for his pioneering work, most recently with the giant panda in China. Schaller was in Vietnam to conduct the first wildlife survey of that country's southern forests, together with Vo Thanh Son of the University of Hanoi and Le Dinh Thuy of Vietnam's National Research Council.

Up to this point, the Javan rhino had been believed extinct in Vietnam since the 1960s. Records of the species in Indochina suggest it had previously been present there since antiquity. A relief sculpture at the Cambodian temple of Angkor Wat, dating from the twelfth or thirteenth century, clearly depicts a single-horned Javan rhinoceros. In the first half of the nineteenth century, the Javan rhinoceros was still found in Malaya, Burma, Thailand, Indochina, possibly south-western China, and parts of northern India - from eastern Bengal to Assam and Bhutan - as well as in Java and Sumatra. It has since been exterminated over most of that range, and is now certainly extinct in India and China. The last authenticated records of Javan rhinos outside Indonesia date back to the 1930s. There have been unconfirmed recent reports from locations in Thailand close to the Malaysian border, in Krabi and Trang provinces, reports as recently as the 1980s from the Malaysian side of the border, and several sightings claimed in the 1960s from Vietnam and Burma.

But, until now there had been nothing as concrete as Schaller's report from Vietnam. Ironically, it was not a live animal which alerted him to the animal's survival, but rather a corpse, with fresh tracks just next to it. This new find should prove to be the subspecies *Rhinoceros sondaicus annamiticus*, whose historic range was Vietnam, Cambodia and Laos, as opposed to the true Javan *R. s. sondaicus*.

Just how great a miracle this discovery was, can best be gauged from an account of the lamentable state which the Javan rhino has been in up to this point. It is in a far more serious plight than the approximately 800-strong Sumatran, or the third Asian species, the Indian rhino, let alone the black and white rhinos of Africa. The Vietnam discovery notwithstanding, the Ujung Kulon population in Java is probably the only remaining viable group of the Javan species, numbering approximately 50 individuals. The concentration of these animals in the 30,000 hectare National Park constitutes a threat in itself. For one thing, the Park area may be close to its ceiling in terms of carrying capacity for the species – one estimate puts this capacity at about 60.

Moreover, a single population concentrated in one location in this way is extremely vulnerable – to natural disasters, drought or flood, demographic instability, inbreeding depression, human developments and overpopulation pressures, poaching etc. The accelerating loss of genetic diversity in a small population can also cause a downward spiral into what has been called 'the extinction vortex'. This vulnerability was highlighted dramatically in 1982 by the mysterious deaths of five rhinoceroses in Ujung Kulon. The facts that there are distinct vegetation changes, and also a burgeoning, potentially competitive, banteng (*Bos javanicus*) population, are surely significant.

In particular, any country with a resident Chinese population – there are four million Chinese in Indonesia – presents a ready market for rhinoceros horn products, because of the beliefs about the medical/magical power of such products entrenched in Chinese traditional culture. We must worry that the publication of the new finding in Vietnam may well prompt poor Vietnamese, particularly the many Vietnamese of Chinese descent, to go looking for these Javan rhinos, which they must regard much like a gold mine sitting in the forest, waiting to be exploited.

The Javan species was not distinguished from the Indian *Rhinoceros unicornis* until late in the eighteenth century. It is in fact similar in size to its Indian relative, but is more lightly built, with a smaller head: the 'armoured' look of its skin is reminiscent of the Indian species. Field studies suggest that the Javan rhino may be more vulnerable than the Sumatran, since the latter seems more adaptable to mountainous retreats when lowland forest has been disturbed or logged by humans, while the Javan rhino tends to stick to low ground. The best possible habitat for a Javan rhinoceros appears to be 'a mosaic of glades interspersed with patches of forest', as Hartmann Amman of Basel University has put it (1985). Ujung Kulon fits this bill perfectly. Clearly, parts of southern Vietnam do too. The animal's eclectic appetite – for at least 190 plant species, as observed in Ujung Kulon – may also have helped it to survive in Vietnam's damaged forests.

Despite attempts officially to protect the animals in Java since 1908, about 42 rhinos were taken between 1930 and 1970. Thanks to concerted efforts on the part of Professor Rudolf Schenkel, Professor R. Geigy and WWF, and the Indonesian guards, however, poaching has been virtually eliminated since 1967, except for a few isolated cases. Nonetheless, recent computerised demographic simulation exercises suggest that the rhinos at Ujung Kulon have perhaps a fifty per cent chance of survival for another 200 years, but little hope of really long-term viability. Their chances for the shorter term – the next hundred years – are better at 80 to 90 per cent.



Javan Rhino in Ujung Kulon.

With this gloomy prognosis in mind, the Asian Rhino Action Plan Meeting in Kuala Lumpur, October 1987, was the first group to agree in principle that a captive-breeding programme for the Javan rhinoceros should proceed. These plans will continue, despite the new hope that a second population in Vietnam does give the species. The Vietnamese finding is in fact not strictly relevant to the survival of the Ujung Kulon animals, since it would be inadvisable to interbreed individuals from two different subspecies.

The Population Viability Analysis Workshop and Report of June 1989, organized by the IUCN SSC Captive Breeding Specialist Group and Asian Rhinoceros Specialist Group, took these plans one step further. The meeting recommended that captive breeding of the Javan rhino begin in 1990, with the initial aim of expanding the total population to 150-200, and the long-term objective of establishing about 20 wild sanctuaries, with a total population of around 2,000 rhinos, throughout the animal's original historical range. This recommendation was made taking into account the IUCN's 1988 pronouncement that captive propagation is justifiable wherever the world population of a species has dropped below 1,000 individuals.

Captive breeding has certain merits as opposed to other conservation options. It is far safer than natural gene-pool arrangements etc. from the point of view of monitoring diseases, poaching and territorial competition, among other likely problems. It is a conservation method not intended to replace management in the wild, but rather to complement it with more accurate information, and by maintaining a diverse gene bank suitable for reintroduction into the wild.

The current captive breeding proposal envisages the removal of 18 to 26 Javan rhinos from the Ujung Kulon park. (The remaining wild population could be expected to return to its present level within a decade, if it were to react to the reduction in numbers by breeding at the rate it did from 1971 to 1981.) It is proposed to set up two, or maybe three, captive groups, one near a possible reintroduction site in Sumatra, another at a zoo in Java, and possibly a third at a location outside Indonesia. The more such centres there are, and the more widely dispersed they are, the better will be the chance of survival for the species in the long term.

The current choice of captive breeding sites covers Way Kambas, Barisan Selatan, Pulau Panaitan (a 12,034 hectare island just off the Ujung Kulon peninsula) and Kalimantan. This writer favours Pulau Panaitan in particular; it is not inhabited by any rhinos at present, but it offers suitable habitat and could easily be protected for maximum security. A proposal submitted in 1987 also provides for limited tourism to help support the project.

The combination of this proposed captive breeding scheme with the new find in Vietnam certainly makes the prospects for the Javan rhino look a lot rosier than they did a few years ago.

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