

Javan Rhinoceros in Vietnam

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A Remarkable Ability to Survive

The Javan rhino *Rhinoceros sondaicus* was once widely distributed in northern and southern parts of Vietnam. Although even as early as 1969 there was scepticism as to whether Javan rhinos occurred in Vietnam, there were sporadic reports of their presence in the south from hunters and tribal people. Then, in 1988, one animal was killed by a Stieng tribesman and the skeleton taken to Hanoi, where it rests today at the Ministry of Forestry. That the animal outlived the war and the destruction wrought on its habitat by bombardment and defoliation is proof of a remarkable ability to survive.

Lam Dong province is about 150 km northeast of Ho Chi Minh City, once Saigon. In March 1991, a survey was made there along the Dong Nai river in the area where the four provinces of Lam Dong, Dong Nai, Song Be and Dac Lac meet. This area of 35,000 ha of lowland forest represents the last stronghold of the Javan rhino in Vietnam and it is estimated that between eight and twelve animals may still survive there.

It is a shy animal that often retreats to dense forests to avoid disturbance and escape poachers. While this characteristic is of survival value and therefore to be welcomed by conservationists, it also makes it an extremely difficult species to study. Much of the information about the number, range and food habits of the rhinos is derived indirectly from footprints, trails, wallows and dung. What is known of its biology is mainly gleaned from incidental observations by tribal people and poachers.

The altitude range of the mountains of southern Vietnam is such that most of the area in Lam Dong province along the Don Nai river is a rich habitat for rhinos. Among the plants eaten by the Javan rhino in Vietnam, and identified from

undigested material found in their dung, were *Acacia pennata*, *Calamus poilanei*, *Calamus tetredactylus*, *Combretum* sp, *Barnbusa procera*, *Bambusa bluemeana*, *Plectococia elongata* and *Daemonorop nigro-ciliata*. In addition rhinos may be feeding on

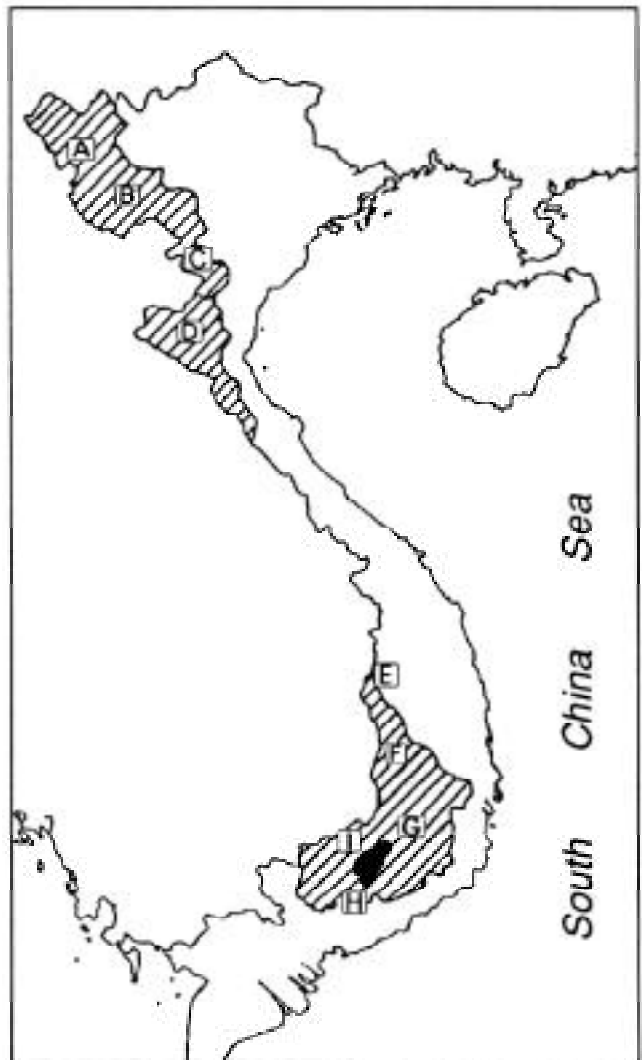


Figure 1 : Map of Vietnam showing the extent of the past (cross hatching) and present (solid shading) distribution of the Javan rhino. A: Lai Chau; B: Son La; C: Thanh Hoa; D: Nghe Tinh; E: Gia Lai-Con Tun; F: Dac Lac; G: Lam Dong; H: Dong nai; and I: Song Be provinces

Song Be



wood fern (*Cyathea* sp). Rhinos can breakdown toxic plant material in their stomachs and so it was not surprising to find also a highly poisonous species, *Strychnos nux-vomica*.

Unpleasant Legacy of War

The most serious threat facing the Javan rhino population of Vietnam is poaching. An unpleasant legacy of the prolonged war with the USA is the ready availability of guns and rifles. Many minority tribal people carry guns to hunt wildlife for meat. Given the high price rhino horn fetches in the international market, the Javan rhino in Vietnam is worth more dead than alive to those Chinese middlemen in Ho Chi Minh City who trade in rhino horn.

Logging in itself is not a serious direct threat to Javan rhinos although their territory is rich in commercially important timber species of the Dipterocarpaceae family. The Vietnamese system of timber extraction stipulates the removal of only those trees that are over 80 cm in diameter at breast height, and a cutting cycle of 35-40

years. Logged areas actually offer some of the best habitats for rhinos and other large herbivores. The threat to rhinos from logging is indirect, and is attributable to logging roads providing people and poachers with easy access to hitherto inaccessible places.

Another threat comes from the slash and burn agriculture practised by almost all the tribal people resident in the area. The fires set by the farmers could easily spread into the core area of the rhinos, especially during the dry season when there is so much combustible plant material around. Shifting cultivation is identified as a prime agent of forest destruction.

Not All Small Populations are Doomed

Much emphasis is placed on inbreeding depression in small populations. While the effects of inbreeding—depression are real, they are often transitory in nature and not all small populations are doomed, contrary to what some zoos would have us believe. The effects of inbreeding depression can be minimised if numbers

recover quickly from bottlenecks. The population of about 40 wild cattle at Chillingham in northern England is fit and thriving after some 800 years (about 120 generations) of continuous inbreeding, which has included bottlenecks of one female and one male in 1760 following an epidemic, and eight females and five males in 1947 following an arctic winter. Equally striking is the case of the collared lizards of the Ozarks where colonies of about 40 animals have experienced 4,000 years (about 2,000 generations) of inbreeding.

Protection and Punishment

The priorities for conservation of Javan rhinos in Vietnam are to protect the habitat and to eliminate the threat of poaching. It is proposed to link the 35,000 ha rhino area with the adjoining 45,000 ha Nam Bai Cat Tien National Park, provide a buffer zone around the rhino area to increase the total area to about

100,000 ha, and declare the entire unit a 'Man and Biosphere Reserve'.

More detailed surveys of adjoining areas are planned, which should determine the range and number of Javan rhinos in Vietnam. Stricter penalties need to be imposed on persons killing rhinos or trading in their products. The conservation of the Javan rhino, if it is to succeed, must have the support of the local people, especially those who live along the fringes of the rhino habitat and whose livelihood depends on the rational use of forest resources.

The Javan rhino in Vietnam is well adapted to respond to a 'Sanctuary Strategy'. The small rhino population in Lan Dong province can remain viable, and so must be protected and not abandoned on the hypothesis that genetic degeneration will set in and automatically eliminate it.

