

Oriental Nature, its Friends and its Enemies: Conservation of Nature in Late-Colonial Indonesia, 1889–1949

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SUMMARY

Deforestation of mountain slopes in Java began to be perceived as a problem around 1850. This led to the establishment of a colonial Forest Service and, from c. 1890 onwards, to the creation of protected forests. Forest Service personnel were also heavily involved in the organised conservation movement dating from the 1910s. This organisation, in turn, urged the colonial government to take legislative action regarding the protection of nature, thus stimulating the creation of nature and wildlife reserves. Although the conservation movement was almost entirely a Dutch affair, its character was, not surprisingly, 'Orientalist' and colonial, and therefore quite different from the movement in the Netherlands. Too little was done too late, but the measures taken preserved some 'nature' that otherwise would have been lost, and created a framework that is still being used today.

INTRODUCTION

The forest fires which raged in Indonesia in 1997, destroying perhaps over a million hectares of forest cover, have led to a heightened concern for conservation of nature. Neither the fires, nor this concern are without precedent. Droughts and forest fires have hit the Indonesian Archipelago frequently during the last four centuries, the period for which we have fairly reliable written and printed records. In this article, however, I deal mainly with nature conservation. Droughts and fires, though, function as a counterpoint to the description and analysis of early attempts, dating from the late-colonial period, to preserve (elements of) the 'natural' environment of the area.

After familiarising the reader briefly with the differences in population density and forest cover in the Indonesian Archipelago, I deal with hunting and forest use prior to the late nineteenth century, trying to establish whether some kind of nature conservation *avant la lettre* might be encountered. Two sections

on colonial legislation are presented, followed by a discussion of the conservation movement in the Archipelago. In separate sections on reserves and protected (or unprotected) plants and animals, typical features of late-colonial conservation measures are highlighted.

BACKGROUND

Around 1910, the Netherlands Indies government finally succeeded in establishing its authority over the area of present-day Indonesia. It now held sway over a collection of islands large and small with enormous differences in population densities. Dutch presence on the islands was more or less proportional to these densities, with a high concentration of Europeans in heavily populated Java and negligible numbers in 'empty' Borneo [Kalimantan] and Dutch New Guinea [Irian Jaya].

These differences in Dutch presence and population densities also roughly corresponded to proportions of the total surface area of the islands taken up by forests, as presented in Table 1.

Data on forest cover for the so-called Outer Provinces or Outer Islands (all territories outside Java) are approximations. Furthermore, they do not include non-forested 'waste' lands, which also applies to Java. Nevertheless, they give a good impression of the proportions of uncultivated and largely uninhabited areas characteristic of these regions.

Region	% under forest cover	population density (per km ²)
Java	24	316
Lesser Sunda Islands [Bali & Nusa Tenggara]	18	47
Sumatra	61	17
Borneo [Kalimantan]	82	4
Celebes [Sulawesi]	56	22
Moluccas [including New Guinea/Irian Jaya]	76	2
Indonesia	66	32

TABLE 1. Proportion of forested area (1941) and population density (1930) by region¹

The combination of very low population densities and high proportions of forest cover in the Outer Provinces is nothing out of the ordinary. What is amazing, though, is the relatively high percentage of forested area in densely populated

Java. The Netherlands, with a lower population density around 1940 (268 persons per km²), had a much lower proportion of forest cover, viz: 8%. This can be explained largely by the fact that Javanese peasants had much smaller holdings than Dutch farmers, which, in turn, was caused by higher potential yields due to higher temperatures. One needs much more land to grow sufficient wheat or rye in order to feed one family than is needed for the production of rice for one household. Java, therefore, had more 'nature' left at the beginning of this century than might have been expected, given its high population density.

HUNTING

Generally speaking, hunting as such can hardly be regarded as an activity undertaken in order to preserve nature. However, the establishment of hunting reserves and the implementation of game laws have led, in many countries, to the preservation of more or less large areas where agriculture was forbidden and where hunting was carefully regulated.

Game laws in the Netherlands have an ancient pedigree (Dam 1953). Written game laws, however, did not exist in Indonesia prior to 1900. The Netherlands Indies government and its predecessor, the Dutch East India Company (*Vereenigde Oost-Indische Compagnie*, VOC for short), had never felt the need to regulate hunting. I can see two reasons for the absence of game laws. In the first place, game was relatively abundant, even in Java, up to the late nineteenth century. Secondly, with some notable exceptions, the Dutch in Indonesia were neither the hunters they were back home, nor the passionate hunters the British were in India, perhaps because even the higher echelons of the Dutch in the Indies lacked the aristocratic background that is usually associated with hunting. It is no coincidence that one of the above-mentioned exceptions, J.F. van Reede tot de Parkeler, Governor of Java's Northeast Coast around 1800, came from the landed Dutch aristocracy (Haan 1910-12, IV, 244). Another reason may have been that the possession of large landed estates – another factor conducive to hunting – was restricted to a rather small number of families. After 1870, when it became easier for Europeans in Java to lease large uncultivated tracts for 75 years, the number of hunters went up.

But what about indigenous hunting? We can distinguish two forms, namely subsistence hunting and hunting as a pastime.² The first type could be found in most areas of the – thinly populated – Outer Provinces. Even in Java, cultivators in many areas occasionally killed wild animals to supplement their diet. In most of these cases 'hunting' has to be interpreted in the broad sense of the word, thus including trapping.

Hunting as a pastime was, and had been for a long time, the privilege of rulers and noblemen. There is a hunting-scene in the fourteenth-century Javanese epic *Nagarakertagama*, where the king of Majapahit (Eastern Java) goes after wild

boar, deer and wild cattle. The early sixteenth-century Portuguese writers Tomé Pires and Duarte Barbosa praised the Javanese kings as great sportsmen and hunters and skilful horsemen, who spent most of their time hunting.

Around 1600, the princes of West and Central Java were all mentioned as hunters. In the seventeenth century, the rulers of Mataram (Central Java) had game – particularly deer – parks (*krapyak*) and game reserves (*larangan*) laid out for hunting purposes.³ Such reserves could also be found in the seventeenth and eighteenth centuries in western Java. Many of these reserves survived into the nineteenth century. In the Priangan (West-Java), deer hunts became a favoured pastime of the local aristocracy as well as a mark of status (Bie 1888). In 1867, there were still five large game reserves in the Priangan, together taking up some 12,000 hectares. Here, the aristocracy went after deer, wild boar, rhinoceros, and, occasionally, tiger. Sometimes, hundreds of deer were killed during a hunt, but there seems to have been an unlimited supply of them. Between the 1870s and the 1910s these game reserves disappeared, largely because the Priangan aristocracy had lost its special status by then, but also because the pressure of alternative indigenous and European claims to these areas was mounting. From that time onward, game was no longer abundant.

Royal hunts also took place in seventeenth-century Sumatra, where we encounter the various princes in pursuit of elephants, but I have seen no evidence of separate royal hunting grounds in Sumatra. Deer hunting was also an aristocratic occupation in Southwest Sulawesi in the seventeenth century, and this time we do find reports on special hunting reserves (*ongko*). The hunting grounds were still there in the nineteenth and twentieth centuries, as were the deer hunts. It is possible that both the deer and the hunting technique – although in a slightly different form – were imported from Java at an early stage. In the 1930s it was suggested that the existence of these reserves may have kept the local deer population from becoming extinct. In the nineteenth and twentieth centuries, similar deer hunts in large game reserves could be found in Kalimantan, Halmahera, Lombok, and Timor. Again, the deer and the deer hunt may both have been introduced from outside.

It is not easy to judge the net 'conservational' impact of hunting and the creation of deer parks and game reserves by the Indonesian rulers and aristocracy. On the one hand, we seem to encounter cases of over-hunting which may have nullified the attempts to keep arable farming and poaching at bay. On the other hand, some game reserves and deer parks survived into the twentieth century.

Finally, a brief note on a much rarer phenomenon, namely European game reserves, of which I have found only two examples, both in Java. The first one was created by the above-mentioned Van Reece tot de Parkeler, who was, as we have seen, an unusual hunting enthusiast. It disappeared in 1801, when Van Reece was dismissed. The second and more interesting one was Cikepuh, a forest

reserve in the southwestern Priangan (West Java), that had been leased in 1899 to an association of European hunters, Venatoria by name. Hunters were interested in this area because it still contained large numbers of banteng. It was claimed that, under the management of the association, the stock of banteng had increased from 150 in 1899 to 700 in 1906. In the 1930s, it was still such a game-rich area that plans were drawn up to turn it into a wildlife reserve. It has survived as such until the present.⁴

FORESTS

Regulations concerning forests in the Netherlands can be traced back to the Middle Ages, but in the long run their effect had been negligible. In the nineteenth century there was not much forest legislation, there was no Forest Service, and there were hardly any forests left standing.⁵

This contrasted sharply with the situation in nineteenth-century Indonesia.⁶ In the first place, forests still covered large parts of Indonesia's surface area, as I have shown earlier. Secondly, at least in Java the Dutch had tried several times throughout the century to establish a Forest Service. The first two attempts had been short-lived (1808-1811, 1816-1826), but in 1865 a Forest Service was created that is still in existence, although it was of course 'Indonesianised' in 1949. In 1908, the first forest officer for the Outer Provinces was appointed.

After 1865, government also issued a number of Forest Regulations, which brought an increasing proportion of the forests under the authority of the Forest Service. Around 1890, the Forest Service had acquired sufficient experience and personnel, and a legal framework conducive to the appropriate execution of its main task, namely sustainable exploitation of Java's teak forests (*Tectona grandis*).

However, from a conservationist point of view, it is more interesting to study the varying fortunes of the so-called junglewood forests (*wildhoutbossen*), the collective name for all non-teak forests. Around 1890, the junglewood forests of Java covered an area four times as large as the teak forests. The Forest Regulations of 1865 had mentioned the junglewood forests without giving them any protection, but the fact that they were mentioned at all was important in itself. The 1874 regulations, in principle, gave protection to the junglewood forests, and in 1876 the first junglewood forests were actually brought under Forest Service control. Finally, in 1884, an Ordinance was published which formulated criteria for the creation of junglewood forest reserves.

Why this increasing interest in junglewood forest preservation? Interest in teak forests clearly had been inspired by the fear that teak would run out in the foreseeable future. In some non-teak areas, the junglewood forests were also rather degraded, and this was certainly a reason to try and preserve what was left. However, hydrological concerns were no doubt paramount.

Ever since the 1840s, scientists and civil servants alike had warned the central authorities in Batavia (now Jakarta) and in the Netherlands that deforestation of the hill slopes was becoming a serious problem, because it led to a diminished supply of irrigation water and, at the same time, increased the danger of flooding (*banjir*). In his 1846 annual report, the Resident⁷ of Buitenzorg warned the Governor-General (GG for short) that continued deforestation would eventually lead to a less humid climate, a drop in rainfall, and therefore less water for irrigation of the rice-producing lowlands. He referred to experiences from elsewhere, but did not specify names or places. In a letter to the Minister of Colonies, dated October 1847, GG Rochussen, perhaps inspired by the Resident's remarks, voiced similar concerns. According to the GG, the annual rains did not come as regularly and as abundantly as they used to do, which was attributed by naturalists to the disappearance of the forests. Franz Wilhelm Junghuhn, a German naturalist who had travelled all over Java in the 1830s and 40s, was more specific. In his *magnum opus*, published between 1853 and 1854, he stated that only three Javanese volcanos were almost entirely deforested, namely Merbabu, Sumbing, and Sundoro, around the Kedu plain. According to him, this had led to a lack of water on the higher slopes of these mountains. A few years later the agricultural chemist, P.F.H. Fromberg, employed by the Netherlands Indies government, published a booklet on the influence of deforestation on the climate. Apart from citing Junghuhn, he also mentioned earlier writers, such as Alexander von Humboldt and Boussingault, whose theories were largely based on experience in Latin America. Their writings had influenced 'proto-conservationist' thinking in the British Empire, and it is likely that it was to these theories that the Resident of Buitenzorg and the GG had been referring.⁸

It is also likely that this rather sudden interest in deforestation and climate was inspired by a series of weather anomalies that had hit Java around that time. In 1844, the normal monsoon pattern was reversed (a very dry East monsoon followed by a wet West monsoon), which had led to serious rice harvest failures. This was followed by a series of dry to very dry years (1845/6-1849/50), during which only the year 1847/8 could be regarded as normal. 1848/9 had been the driest year since 1827/8, resulting in a bad rice harvest, and one wonders whether the by now famous El Niño (or ENSO) phenomenon, the scourge of 1997, may have been involved.⁹

Be that as it may, the 1884 Ordinance referred to mountain forests, junglewood forests above the 5,000 feet limit in Western Java and above 4,000 feet in Central and Eastern Java, clearly reflecting the increasing preoccupation with hydrological effects of deforestation. The first reserves according to these regulations, the so-called *schermbossen* (watershed protection forests), were created in 1890. In contrast to the teak forests, which were protected in the sense that only sustained production under Forest Service supervision was allowed, all cutting was prohibited in the protected mountain forests. One could argue that this was one

of the first conservationist measures in Indonesia to be implemented by the colonial government, although the regulations of 1874 had been a first step in this direction.

Just one year before, in 1889, a nature reserve of 240 ha had been created in the 'primary' montane forests adjacent to the Botanical Mountain Gardens of Cibodas (Priangan), a subsidiary of the famous Botanical Gardens of Buitenzorg. This reserve was dedicated exclusively to scientific research.¹⁰ If forced to name one event that symbolised the beginning of Dutch conservationism in Indonesia, my choice would be the creation of the Cibodas reserve.

Again we should ask the question whether there were any indigenous forest regulations or attempts at forest preservation. Alas, we know next to nothing about indigenous forest management. We do know, however, that in many areas of the Archipelago the rulers levied a tax – usually 10% – on all forest products sold at the local market or for export, which included valuable species of wood, such as eaglewood, sandalwood and teak.¹¹ Occasionally this may have led to an exploitation monopoly regarding certain forests in the hands of the rulers and their aristocracy. There are indications that this applied to some forests in Southern Sulawesi, teak in Java (before it came under Dutch control), and the sandalwood forests of Timor. In the case of teak it might even be supposed that some replanting took place.¹² Nevertheless, one hesitates to call this conservation. At best, it can be regarded as an attempt at sustainable production. This also applies to some examples from the late nineteenth century of Javanese villages where the felling of trees on the wooded commons was forbidden by village by-laws in order to avoid deforestation. In one case even the grazing of cattle in the village forest was prohibited. Other villages restricted felling-rights to their own inhabitants.

There is, however, another phenomenon that should, indeed, be regarded as 'conservational' in its outcome, though perhaps not in its design.¹³ I am referring to wooded places which the Javanese called – and still call – *angker*. This term conveys several notions, such as haunted, sacred, and forbidden. An area that is *angker* cannot be inhabited, or sometimes cannot even be entered by humans; it is unapproachable, and it is certainly forbidden to cut timber or even to pick fruit there. One could only enter these places for devotional purposes and with the purest of intentions.

Areas could be *angker* for various reasons. Perhaps one of the most important reasons was the presence of ancient tombs or other antiquities. As people tended to avoid these areas, their vegetation recovered from former clearing activities and they became refuges of wild animals of all descriptions, which then reinforced the inclination to leave these now reforested areas alone. In some cases the area that was regarded as 'sacred' was the 'land of the souls', often a mountain where the spirits of the ancestors dwelt. If a place had been inhabited by hermits or other holy men, it could also be taboo to enter or to fell trees.

Haunted or sacred forests were not restricted to Java. I have seen references to similar areas in Sumatra (often called *keramat*), Bangka, Kalimantan, Buru, Bali, Sumba, and Timor.¹⁴

In 1908, the forester J.S. Ham argued that without the influence of the Dutch, many more forests would have been preserved, given the fact that so many places had been regarded as 'sacred' by the indigenous population. This was now no longer the case. He seems to imply that the notion of *angker* had disappeared or was about to disappear. It is, indeed, highly likely that the Dutch were instrumental in the destruction of many a sacred forest. An early example, dated 1675, can be found in the Residency of Jepara, where the VOC had found a 'sacred' teak forest to be felled. In the early nineteenth century we find the Dutch trying to convince the Priangan population to plant coffee in certain 'haunted' places.¹⁵ Nevertheless, it will presently be shown that not all *angker* places had gone by the twentieth century.

COLONIAL LEGISLATION: THE FORMATIVE YEARS

The Government Decrees (*Gouvernements Besluit*), dated 1889 and 1890, which created the Cibodas forest reserve and the hydrological reserves respectively, can be regarded as the first conservational measures taken by the Dutch. They were followed – after more than ten years of preparation – by the Protection of Wildlife Ordinance, dated 1909 (*Staatsblad*, Nos. 497 and 594).¹⁶ The origins of this Ordinance can be traced back to 1896, when two amateur naturalists, P.J. van Houten and M.C. Piepers, wrote alarming accounts of a number of locally threatened species of plants and, particularly, animals.¹⁷ They both mentioned orchids, birds of paradise, the Javan peacock, the argus pheasant, rhinoceros and *banteng* (wild cattle), the latter two in Java, and the orangutan.¹⁸ These publications had reached the Minister of Colonies in the Netherlands, who sent them on to the GG in Batavia.

Earlier attempts to elicit protective measures from the central authorities in Batavia, undertaken in 1886 and 1887, had come to naught (Piepers 1896, 46). One is left to speculate as to why these petitions were turned down, whereas the 1896 publications led – albeit with a considerable time-lag – to legislative action. My guess would be that the petitions of 1886/7, formulated by two groups of Dutch estate-owners, were too clearly serving the rather narrow private interests (hunting and agriculture) of these small groups.

Be that as it may, the Ordinance was a long time coming, because the matter to be addressed was rather complicated. In the first place, one could not simply enumerate all the species that were to be protected and those that were not, as had been done in the Dutch Game and Bird Laws, dating from 1857 and 1880 respectively. In most areas of the Archipelago, zoological research had hardly started. Even the presence of a large carnivore, such as the leopard in Sumatra,

was still hotly debated, and it would have been quite impossible to draw up lists of smaller mammals and birds. Secondly, for one animal there could be as many local names as there were local languages. In the third place, the conditions that obtained for the various species varied enormously from one end of the Archipelago to the other. Even within one island a certain animal could be ubiquitous in one part and threatened in another. Therefore, years were spent gathering information and reaching some sort of common ground.¹⁹

When the Ordinance was finally issued, it gave protection, in principle, to all 'wild' mammals and birds, but excepted so many categories of animals, namely all animals that were deemed harmful, that its effect was practically nil. Among the exceptions were all apes and monkeys, including the orangutan. Besides, local authorities could temporarily lift the protection for game, such as male *banteng* in Java and birds of paradise and elephants in the Outer Provinces. The latter clause had been written into the Ordinance because of the above-mentioned differences between regions (Houten 1905, 17-8; Koningsberger 1910).

The next legislative step was taken in 1916, when a Decree (*Staatsblad*, No. 278) enabled the GG to give the status of nature reserve to such areas belonging to the domain lands of which the preservation, given their aesthetic or scientific value, was deemed desirable.²⁰ This Decree had been issued in response to a petition, dated 1913, presented to the GG by the Netherlands Indies Society for the Protection of Nature (*Nederlandsch-Indische Vereeniging tot Natuurbescherming*, founded in 1912). This association had been established by representatives of the *Nederlandsch-Indische Natuurhistorische Vereeniging* (Netherlands Indies Society for Natural History, founded in 1911), in order to take care of more practical matters. The Society for Natural History had also started the publication, in 1912, of a periodical, entitled *De Tropische Natuur* (Tropical Nature).

The timing of these events, and the names chosen for the associations and the periodical, reflected developments in the Netherlands. There, in 1896, the publication was started of the periodical *De Levende Natuur* (Living Nature). It was an immediate success, and soon (1901) its readers founded the *Nederlandsche Natuurhistorische Vereeniging* (Netherlands Society for Natural History). Conservation of nature was one of its explicitly stated aims, but more as an ideal than as a concrete programme of action. Basically, the Society consisted of nature lovers who wanted to share their experiences. For more practical purposes, the *Vereeniging tot Behoud van Natuurmonumenten in Nederland* (Society for the Preservation of Monuments of Nature in the Netherlands) was founded in 1905. In 1906, this Society bought the Naarder Lake, thereby creating the first nature reserve in the Netherlands.²¹

In 1913, the Netherlands Indies Society for the Protection of Nature acquired control of its first – and, as it turned out, its only – nature reserve, namely a small forest (6 ha) in Depok near Batavia. Depok had been a private estate, owned by



FIGURE 1. This is the cover of the first annual report of the Netherlands Indies Society for the Protection of Nature, founded in 1912. It reflected the Society's concern with the birds of paradise, to be found in New Guinea and on some of the adjacent islands. The feathers of these birds were very popular in Europe and the U.S., where they were used for ladies' hats.

the high VOC official, Cornelis Chastelein (d. 1714), who had freed his slaves by testament and made them the collective owners of his estate. It could be argued that Chastelein had established the first Dutch-created nature reserve, *avant la lettre* to be sure, because he had decreed, also by testament, that the Depok forest was not to be alienated or cut down, and that the inhabitants were to be allowed to cut timber and firewood solely for their own use, not for sale. Thus he had ensured the survival, up to the early twentieth century, of a rare remnant of lowland rain forest, in an area that otherwise had been taken up entirely by arable land (*Verslag* 1912/3, 48-55).

The Society had evidently been unimpressed by the Ordinance of 1909. S.H. Koorders, one of the founding members, who wrote a brochure introducing the Society to the public at large, did not even mention it. What they wanted was the preservation of a large number of relatively unspoiled areas, most of which had been visited by Koorders, a forester and botanist, in the course of his many tours of duty, undertaken between 1888 and 1903, in order to register the indigenous trees of Java. The blueprint, developed by the Society in the first year of its existence, envisaged the creation of three kinds of nature reserves. In the first place, a number of sites in the forests, which would be managed by the Forest Service. Secondly, certain areas within private estates which would be looked after by their owner or manager. Finally, the Society would petition the GG in order to obtain leaseholds or at least rights of usufruct over large tracts of domain land not under the sway of the Forest Service, for the creation of nature reserves.²²

As regards the last type of nature reserve, the Decree of 1916 came as a nasty surprise to the Society. Although this Decree made the creation of nature reserves possible, the Society was also given to understand that Government preferred to take matters into its own hands, though cooperation with the Society would be appreciated. The highest local civil authority would be responsible for the upkeep of nature reserves outside the domain of the Forest Service. It took another three years before the GG made use of the rights bestowed on him by the 1916 Decree. In 1919 (*Staatsblad*, Nos. 90 and 392), 33 nature reserves – some outside Java – were created, most of which featured on the list of the Society drawn up in 1913 (*Verslag* 1917/9). From then on new reserves were created regularly until in 1949, the last year under Dutch rule, the grand total of c. 120 nature and wildlife reserves was reached, together measuring some 2.5 million ha. We shall have a closer look at these reserves later.

In the mean time it had become increasingly clear that the Wildlife Protection Ordinance of 1909 left too many endangered species without protection and allowed the local authorities too much leeway. Conservationists were particularly eager to obtain protection for a number of 'popular' animals, such as the orangutan [Sumatra, Kalimantan], and the relentlessly hunted birds of paradise and crested or crowned pigeons (of the genus *Goura*) [Irian], the feathers of which were in enormous demand for ladies' hats in Europe. In 1922, a Govern-



FIGURE 2. This photograph was taken in Ujung Kulon (Southwest Banten, Java) in 1895. Here we see the Eurasian hunter Charles te Mechelen who had just shot a young Javan rhinoceros. Ujung Kulon became a nature reserve in 1921, and the Javan rhino would obtain the status of protected species in 1924. [from *Nederlandsch Indië Oud & Nieuw*, 2 (1917/8), p. 308]

ment Decree forbade the hunting of birds of paradise (except the yellow ones) and crested pigeons, but a more general revision of the 1909 Ordinance took another two years.

The Wildlife Protection and Game Ordinance, dated 1924 (*Staatsblad*, No. 234), was a renewed attempt to save a number of endangered species and to keep other, 'useful' species (particularly insectivores) from becoming endangered. This time, the ordinance listed, for the entire Archipelago, the animals to be protected by name (and not the exceptions): eight species of mammals – among them the orangutan – and 53 species or groups of birds. In addition, it granted protection in Java only to the Javan rhinoceros and the Javan or silvery gibbon, and in the Outer Provinces to 11 additional species or groups of animals, among which was the elephant.²³ In Java, a closed season was introduced for the hunting of rusa deer, barking deer, lesser mouse deer, and banteng.²⁴ The same restriction

applied to a number of birds throughout the entire Archipelago. The 1924 Ordinance also introduced shooting licences. For the time being, the Ordinance was promulgated for Java alone, and was meant to be implemented later in the Outer Provinces. As this never happened, the 1909 Ordinance remained in force there until 1931, and partly even to the end of the colonial period. The orangutan, for instance, was therefore still not protected, an oversight that was to be corrected in 1925 by separate Decree.²⁵

COLONIAL LEGISLATION: COMING OF AGE

Three new ordinances – two in 1931 and one in 1932 – were promulgated in order to improve the hitherto rather poor legal conservation framework. In various ways, their publication had been influenced – but also partly delayed – by the interventions of the *Volksraad* (literally: People's Council) and the *Nederlandsche Commissie voor Internationale Natuurbescherming* (Netherlands Commission for the International Protection of Nature).

The *Volksraad* was the quasi-house of representatives in the Indies, partly consisting of – Dutch and Indonesian – members elected by local councils and partly of members appointed by the GG. It had rather limited powers. Nevertheless, after 1925, ordinances could only be published with the Council's approval, which gave it a say, or at least a voice, in the legislative process. This caused some delay in the conservation legislation, but it also turned conservation into more of a public issue. Apart from this, the Council was largely supportive of sterner measures. In 1930, the *Volksraad* passed unanimously a motion urging the government to create more wildlife reserves, to restrict or even prohibit hunting in certain cases, and to put a total ban on exports of protected animals, dead or alive.

In 1937, a close connection was to be forged between the *Volksraad* and the conservation movement because three members of the Council, J. Verboom, Jhr. G.F.H.W. Rengers Hora Siccama, and R.T.A. Surianataatmaja, were elected chairman, secretary, and member of the Board respectively of the Netherlands Indies Society for the Protection of Nature.²⁶

The second body mentioned, the Netherlands Commission for the International Protection of Nature, was established in the Netherlands in 1925. It was a group of influential people, predominantly interested in conservation in Indonesia. They were rather vociferous in their criticism of the Netherlands Indies government, which in their opinion was doing too little too late. The Commission wanted the colonial government to establish large nature reserves, particularly in Kalimantan and Sumatra. Their influence was felt in the creation of the Indrapura Peak/Kerinci Reserve (now part of the large Kerinci-Seblat Reserve) and the Gunung Leuser Reserve (now the Gunung Leuser National Park), both in Sumatra.²⁷

Of the two ordinances entered on the Statute Book in 1931, the Protection of Wildlife Ordinance, followed by Regulations for its implementation (*Staatsblad*, Nos. 134 and 266), was the most important one. It listed 22 protected animals, species or groups of species for the entire Archipelago, and seven additional animals or species/groups for the Outer Provinces only, among which was the elephant. This list was shorter than that of 1924, because some of the animals itemised in the 1924 Ordinance did not appear to be endangered. Some choices were decidedly odd, such as the place of the banteng on the Outer-Provinces-only list. The all-Indonesia list contained for the first time a reptile, namely the Komodo dragon. The Sumatran rhinoceros was also new on the list, which now contained both Indonesian rhinos.²⁸ Protection for one or more of the seven animals or species listed for the Outer Provinces only, could be lifted for half a year or a year by the local authorities.

The most salient feature of the Ordinance was the total ban on exports of dead or living protected animals or of parts of them. Although the 1909 and 1924 Ordinances had forbidden the possession of protected animals, and therefore by implication their export, customs officers had not been adequately instructed to render this clause effective. Rapidly mounting export figures of protected animals and their products plainly demonstrated that protection without an export ban was virtually meaningless (Dammernan 1929, 4-18).

Also banned was the export of feathers and hides of all 'wild' birds and mammals, and elephant tusks under five kilogrammes. The number of non-protected mammals and birds that could be exported at any one time to one destination was also restricted. Excepted from the export-ban were the hides of predatory carnivores (tiger, leopard, wild dog) and wild pigs (but not the *babirusa*), both from the entire Archipelago, and of deer from the Outer Provinces.²⁹

At the same time, a new Game Ordinance for Java was published, with corresponding Regulations (*Staatsblad* 1931, Nos. 133 and 265). It contained various refinements of the 1924 Ordinance. It differentiated between big game, small game, migratory game, and noxious animals, introducing for each class of game a specific shooting-licence. The licence for hunting noxious game could be obtained free of charge. In comparison with 1909, a number of birds and mammals had been stricken from the list of noxious game, but crocodiles and snakes had been added. A bag limit was introduced for banteng, and a closed season for the big and small game categories. Finally, the Ordinance established hunting committees, to be consulted by the local authorities.

The third and final important conservational Decree of these years was the Nature and Wildlife Reserves Ordinance (*Staatsblad* 1932, No. 17). It modified the 1916 Ordinance by the creation of a new category of reserves, namely wildlife reserves, for the following reasons. Many nature reserves and reserves-

to-be were located inside the domain forests, which kept large areas from being exploited by the Forest Service. As some of these reserves had been created for the preservation of certain animals – and not so much for the preservation of the natural environment of the area as such – a moderate degree of exploitation by the Forest Service was not deemed harmful. Moreover, total absence of human interference could render a reserve less appropriate for certain species, as happened when grassy areas were no longer regularly burned, to the detriment of banteng and deer. It was, therefore, logical to establish wildlife reserves, where some interference was allowed.³⁰

This Ordinance facilitated the creation of a number of very large reserves with the status of wildlife reserve, such as Baluran in Java (25,000 ha), Gunung Leuser, South Sumatra, and Way Kambas in Sumatra (together 900,000 ha), and Kutai and Kotawaringin/Sampit – now Tanjung Puting – in Kalimantan (together 650,000 ha) (*Verslag* 1936/8, 50-154).

With the 1931/2 Ordinances and Regulations entered on the Statute Book and the actual creation of the large wildlife reserves (mostly in 1937), the legal framework for the preservation of Indonesian nature had been established. Apart from some revisions of the Game Ordinances and Regulations for Java in 1939/40, and some adaptations of the 1932 nature protection regulations in 1941,³¹ this framework would remain in force until the end of the colonial period. In fact, it would also remain intact during the first 30 years of Indonesia's independence, and parts of it would survive until 1990 (Cribb 1988; Whitten et al. 1996, 729).

This is not to say that Indonesia's nature was now being preserved effectively. Lack of personnel to patrol the reserves, in combination with economic pressures generated by depression, war, and revolution, made it very difficult, and at times downright impossible, to uphold the various regulations. In addition, the reports of the Society complained about large (forest) fires, particularly in Sumatra and East Java, between 1934 and 1937.³² Some reserves more or less vanished between 1942, when the war in the Pacific started, and 1949, and others disappeared between then and 1980. Even in the reserves that survived the onslaught, fires, agriculture, poaching and illegal felling caused considerable damage.³³ But it is also clear that without the colonial legislation even less 'nature' would have survived.

THE CONSERVATION MOVEMENT

Although a small group of conservationists had been actively petitioning government for the preservation of nature ever since the late nineteenth century, the entire conservation framework in Indonesia was a creation of the state. In the Netherlands, the citizenry had played a much more important role. The Society for the Preservation of Monuments of Nature in the Netherlands had established

– from its own funds – a large number of nature reserves. Although the state – particularly the State Forest Service – reluctantly followed suit, it certainly did not have a conservation monopoly comparable to that of the Indies government.

In Indonesia, the Netherlands Indies Society for the Protection of Nature controlled exactly one nature reserve during the entire period of its existence. That was the small Depok forest, of which the Society acquired control in 1913, the first year after it was founded. In the early years of the Society's existence, it had convinced a number of European plantation-owners – often members – to create reserves within the boundaries of their estates. Four of these reserves were recognised as such by Ordinance of 1919.³⁴ All other reserves were established on domain lands and were state-controlled. Nevertheless, the Society, although not the big land-owner that its Dutch counterpart was, merits our attention as the ideological force behind much of the colonial legislation.

The Netherlands Indies Society for the Protection of Nature did not succeed in recruiting a large number of members – they never rose beyond the 1,000 mark – and its funds were therefore fairly moderate. The membership was almost exclusively European. The founding-fathers and the other members of the Society consisted of an odd mixture of civil servants (who were often professional naturalists or at least agronomists), nature-loving laymen, and estate-owners-cum-hunters. Members of the Board were often civil servants in the employ of the Forest Service or the Department of Agriculture. Meetings were held in buildings belonging to these branches of the civil service. In fact, one could well argue that the Society was a branch of the civil service in disguise. This feature may have kept their number down, and made it unattractive for Indonesians to join the club.

In a brochure, published shortly after the Society had been established and written by the forester and botanist Koorders, one of the founding members, it was stated explicitly that there was no conflict of interests between conservationists on the one hand and agriculture, stock-breeding and forest exploitation on the other. The Society did not intend to create, by 'exaggerated protection' as it were, sanctuaries for tigers, monkeys and wild pigs in the middle of the arable lands of the indigenous population or near plantations. These animals, very harmful to agriculture and stock-breeding, should be killed even within nature reserves (Koorders 1912, 21-2). After such a declaration of intent, it is less amazing to see the names of almost all the big planters on the successive membership lists: Birnie, Bosscha, Holle, Kerbosch, Kerkhoven, Ledeboer, Van Motman, Ottolander.

The Dutch nobility was clearly over-represented. This was also true of the movement in the Netherlands, but I am inclined to assume that the presence of the estate-owners-cum-hunters gave the Society a hunter-friendly image, which then attracted aristocrats-cum-hunters.

Another interesting feature of the list of members was that, of the 440 people mentioned in 1914, only twelve were Javanese and two [Indonesian] Chinese. All Javanese members had aristocratic titles, of which the most elevated, *Pangeran*, belonged to the only Indonesian member of the Board, Purboatmojo, regent of Kutoarjo. In 1937/8, another important Javanese, the regent of Cianjur and Volksraad-member, R.T.A. Surianataatmaja, was also a member of the Board (*Verslag* 1936/8, 39). As a rule, Indonesians did not play an important role in the movement. The nationalists, who were organising themselves roughly at the same time as the conservationists, saw conservation as another ploy of the Dutch to keep the Indonesian population from using the natural resources that were theirs by right (Cribb 1988, 6). The Society's aristocratic and civil service character may have been another reason for Indonesian commoners to shy away from it.

The Indonesians certainly had a point. If one takes a closer look at the introduction of shooting-licences in 1924, the fact can hardly be overlooked that it was not so much hunting as such that was discouraged, as hunting by those who could not pay for a licence. Although the Ordinance could and did not express this, writers on this topic made it quite clear that the system was designed for planters who had to protect their estates from wildlife damage and for well-to-do Europeans and Indonesians who hunted as a pastime, and did so sportingly. The licences were obviously not meant for those who needed to make a living from hunting, be they Indonesians or poor Europeans and Eurasians. Eurasians, especially those not educated as Europeans, had a particularly bad reputation.

During the Depression of the 1930s, as the creative use of loopholes in the ordinance increased, these implicit contradictions emerged. Bands of unemployed people – presumably Europeans and Eurasians, for whom hunting was one of the very few 'manual' activities they could undertake for a living without losing face – obtained licences and so locally became a menace to unprotected species. The 1935 report of the Society was clearly not in favour of giving licences to such people: 'it is less desirable to license people who have no means of support'. Deer and kidang were killed by so-called *dendeng*-hunters, 'who not only wanted to recover the cost of their shooting-licence, but wished in addition to make a profit'. Such people were known to shoot up to 35 deer and kidang during one season. A *wedana* was discovered regularly hiring out his licence in order to supplement his income. Commercial hunting was clearly frowned upon. So were unnecessarily large bags. The Society's report mentioned, with undisguised contempt, a Chinese estate-owner who in a two-month period had killed 81 deer, 42 kidang and 3 wild boar. Such large bags were evidently deemed unsporting.³⁵ It was, of course, also questionable whether such large numbers could be killed on a sustainable basis.

In all fairness to the late-colonial conservationists, it should be pointed out that keeping the local population out of reserves is still a problem today, the only

difference being that now Indonesians are being kept out by an Indonesian government. In many countries, of course, this problem is now being approached differently, by giving the local population a stake in the affairs of a nature reserve.

Remarkably enough, at the very moment (late 30s) that the Dutch conservationists considered the local population of Java a threat to the survival of the natural environment, they were discussing the possibility and desirability of combining the protection of 'wild' nature with that of 'wild' people, namely the Dayak of Kalimantan and the Papuans of Irian!³⁶

So the conservation movement in the Indies was very much restricted to Dutch civil servants and Dutch estate-owners. But they were 'Indies' Dutchmen, who regarded Indonesia as their patrimony, which they were willing to defend against Indonesians and unsporting – and therefore 'un-European' – Europeans and Eurasians alike; 'Indies' Dutchmen also in the sense that they resented high-handed interference from the mother-country, such as that from the Netherlands Commission for the International Protection of Nature (*Verslag* 1929/31, 17-23; *Verslag* 1935, 12, 28-36). Although the Society was a small group with limited funds, they represented the colonial establishment, willing and able to protect 'their' nature.

THE RESERVES

An article in a scholarly journal is not the appropriate place for a detailed description of the 120 or so nature and wildlife reserves that had been gazetted on the eve of Pacific War.³⁷ For this section, a few general remarks will suffice.

Most of the earliest reserves, established by ordinances in 1919, were very small. Some of them consisted of one tree (Getas), a cave (Nglirip, Ulucangko), rapids (Bantimurung), the naturalist Junghuhn's tomb (near Lembang), or an archaeological site (Bungamas Kikim). More often, the reserves usually consisted of somewhat larger tracts that were either specimens of a rapidly vanishing 'original' vegetation, often a heterogenous 'junglewood' forest, or refuges of rare plants, such as the 'flower' *Rafflesia arnoldi*, or animals, such as the babirusa and the dwarf buffalo (*anoa*: *Bubalus depressicornis* and *B. quarlesi*). These tracts were normally not larger than 150 ha.

There were four exceptions, namely the volcano Krakatao including an adjacent island (2,500 ha); Tangkoko Batu Angus (Sulawesi, 4,450 ha); the Bromo-Tengger highlands (Java, 5,250 ha); and the Lorentz reserve in New Guinea [Irian], encompassing some 320,000 ha. The latter reserve existed purely on paper, as at that time the Dutch had just started to establish their authority in Irian. Only the smaller reserves, located in areas controlled by the Forest Service, could be guarded effectively. The larger ones, under the supervision of the local authorities, could not be adequately policed.

Island(s)	Area in ha	No. of reserves
Java	150,000	70
Bali/Lombok/Timor	65,000	4
Sumatra	1,300,000	27
Kalimantan	600,000	7
Sulawesi	5,000	7
Irian	320,000	1

TABLE 2. Distribution of nature and wildlife reserves over the Archipelago.³⁸

Up to 1931, the total reserve area increased slowly to some 450,000 ha, and only when the 1931 Ordinance created the possibility for establishing wildlife reserves, did total hectareage increase more rapidly. In 1936, some 1,450,000 ha had acquired reserve status; on the eve of the Pacific War a grand total of 2.5 million had been reached. Table 2 presents a breakdown of this total by island or group of islands.

As was to be expected, the average area per reserve is positively related to the proportion of an island under forest cover and inversely to population density (and Dutch presence). With the number of reserves it is the other way around. Unfortunately, the possibility for guarding the reserves was also inversely related to their extension; the very large reserves could not be patrolled effectively.

Some of the smaller reserves are particularly interesting from an historical point of view, because they formed a link between indigenous 'conservation' and Dutch measures, as some of the reserves created by government were regarded as *angker* by the local population.

One example is Arca Domas, located on the private estate Cikopo (division of Buitenzorg, Residency Batavia), a small tract of forest containing Hindu antiquities. Not far from this place was located the Dungus Iwul reserve, on the private estate Jasinga, a small 'virgin' forest, avoided by the local population. Another example was Nusa Gede Penjalu, a small island with a sacred tomb in the lake of Penjalu (division Tasikmalaya, Priangan), of which Junghuhn, visiting the place in the 1830s, described the undisturbed, ancient forest. Old trees and an ancient tomb were also to be found on the Pangandaran reserve, Penanjung peninsula (Priangan). Other instances could be found in Central Java. The single – Dipterocarp – tree that constituted the Getas reserve, located on a long-lease estate, division Salatiga, was to be found in an ancient Javanese graveyard. The nature reserve Jatinegara, division Pematang, was a sacred forest in the eyes of the surrounding villagers, who came there to bring offerings.

I can mention with certainty one such place outside Java, namely the Sangeh forest in Bali, a tall trunk Dipterocarp forest, regarded as sacred by the population, where timber could be cut only for the construction of temples. Baringin Sati in West Sumatra may have been another example; the whole reserve consisted in fact of one old, huge banyan tree.³⁹



FIGURE 3. There are several examples of places, regarded as 'sacred' or 'forbidden' by the local population, which would be turned into nature reserves by the Dutch colonial government. This was the case with the Sangeh forest in Bali, a tall trunk Dipterocarp forest, gazetted as nature reserve in 1919. [from Voogd and Slooten 1937, 42]

The Dutch, who up to the late nineteenth century had always made fun of the superstitious Indonesians and their *angker* places, had now developed a new – Orientalist? – value-system as regards Oriental ‘nature’, into which these ‘sanctuaries’ fitted perfectly well.

Finally, I cannot leave this topic without a brief note on Nusa Kambangan, a small island, just off the south-coast of Central Java; which in fact merits an article of its own. It was already mentioned in 1608 as a place of banishment, used by the first ruler of Mataram. The Dutch continued this tradition by sending political prisoners from Aceh to the island, and it remained a prison island after Independence, both under the Old and the New Order. It made a good prison island as it never attracted many permanent settlers, who, moreover, were often chased away by pirates. The island was also partly ‘sacred soil’, because it was one of the very few places where the *wijaya kusuma* flower (*Pisonia grandis*) could be found, a flower that was only to be used for the coronation ceremonies of the rulers of Mataram.⁴⁰ Due to this combination of factors, the island was largely covered by relatively undisturbed lowland rain forest, containing many



FIGURE 4. One of the more remarkable nature reserves was to be found on the tiny island of Nusa Kambangan, off Java's south coast. From the early 17th century up to the present, it has served both indigenous and colonial rulers as an area of banishment and a prison island. It was an isolated, well-guarded place, with much undisturbed vegetation, and therefore quite suitable as a nature reserve (since 1923). [from *Verslag* 1932, 4]

rare (e.g. wijaya kusuma and *Rafflesia patma*), sometimes even endemic species. The Society, therefore, proposed in 1916 to turn parts of the island into a nature reserve. The request was granted in 1923, partly because some officials assumed that the indigenous population would be favourably impressed with such a show of interest in this 'sacred place' by government, partly because government wanted to get rid of the few non-convicts living on the island anyway. The same combination of prison island and nature reserve obtains to this very day.⁴¹ Although only the tiny rock Wijayakusuma near Nusa Kambangan was really *angker*, the fact that the island itself has been otherwise forbidden ground for at least four centuries makes it a prime example of colonial (and post-colonial) nature conservation, making use of older conservationist measures, albeit unintended ones.

PLANTS AS SYMBOLS

Some plants and animals were better suited as symbols of this value-system than others. We can be brief about plants. Orchids and the *Rafflesia arnoldi* apart, they do not seem to have appealed to the conservationists' imagination.

Orchids were already mentioned as 'vulnerable' plants by Piepers and Van Houten in 1896. They were apparently exported to Europe in large numbers, and several species were becoming rare in the more accessible forests of Java. Somewhat later they also became fashionable as garden-plants in the towns of Java, where they reacted unfavourably to being transplanted. The species most often mentioned was *Phalaenopsis amabilis*, the *anggrek bulan* or moon-orchid of the Javanese. In the 1930s, the orchid craze seems to have affected Sumatra and Kalimantan as well, and several local species were mentioned as being rare or almost extinct.

The orchids were subject to considerable fluctuations in prices. As soon as a newly imported, and therefore expensive, species became popular, large numbers of it began to be exported and prices started to drop quickly. Collection of such a species would then be stopped. During the Depression, however, this mechanism failed, and decreasing prices led to larger numbers of orchids being gathered, because the orchid-gatherers had no alternative means of subsistence. The fact that Japanese middlemen were involved may have increased the indignation of the conservationists, who petitioned Batavia and The Hague for adequate measures. Owing to budget problems, these measures were never implemented.⁴² Until the end of the colonial period the only way to protect orchids would be their inclusion in nature reserves, but they were never subject to an export ban.

Several refuges of *Rafflesia arnoldi*, a very large, showy parasitic flower native to Sumatra, had already been turned into small reserves in 1919. Other locations followed in 1932 and 1936. They fared badly however, and at least one

reserve, where the *Rafflesia* had disappeared, had been repealed before the war (*Verslag* 1936/8, 107, 122-3). Although their fate was probably worse than that of the orchids, and they were also more vulnerable, they never aroused the clamorous indignation that surrounded the latter, perhaps for lack of clearly identifiable culprits. However that may be, orchids and *Rafflesia* had a exotic tropicality in common that made them excellent symbols for Orientalist conservationism.

ANIMALS AS SYMBOLS

The qualification 'exotic tropicality' is even more appropriate for birds of paradise (and crested pigeons), until the early 1920s, the most lamented creatures of the Archipelago. A group of strikingly beautiful and enigmatic birds, they had captured the Western imagination in the earliest stages of European expansion. They were already an article of commerce way before 1500, and soon the feathers were also exported to Europe on a fairly regular basis (Savage 1984; Swadling 1996; Cribb 1997).

Originally, and probably far into the nineteenth century, a division of labour seems to have existed between the Papuans, the indigenous inhabitants of Irian, who shot the birds of paradise with their arrows, and traders from the Moluccas who bartered the feathers for tobacco, cotton and iron implements, and shipped them to Banda, Amboina and Ternate. Here Dutch, or rather Eurasian, and particularly Chinese firms bulked the feathers before they were exported to Paris, London, Vienna and Amsterdam, where they would adorn ladies' hats in ever increasing quantities. Around 1870, birds of paradise had become so popular that several books devoted to the birds of paradise from New Guinea were published.

Around that time, the Dutch and Chinese merchant firms, then largely concentrated in Ternate, started to send Moluccan hunters, armed with guns, to New Guinea and the surrounding islands, because the Papuans could not meet the increased European demand and its high quality standards, though barter continued as well. These professional hunters were given advances by the merchants. They established themselves in Papuan villages for lengthy periods, penetrating into areas where their arrival brought the local population into contact with 'Western' civilisation for the first time. The last straw – from the point of view of the early conservationists – was the opening of a steamship line to New Guinea in 1897, which facilitated a regular and increased supply of feathers.

In 1894, The Royal Society of Natural Science in the Netherlands Indies urged the government in Batavia to take measures. In 1895, two ornithological societies in the Netherlands petitioned the Minister of Colonies for protection of the birds of paradise. They expected that 'the most beautiful of all birds' would soon be extinct, if this 'barbarian massacre' were to continue. The killing off of

these beautiful birds (which were also useful as insectivores) was hardly in keeping with the attempts to bring civilisation to these regions. In Indonesia, in the mean time, civil servants and naturalists familiar with the region, reported that the birds were vanishing rapidly from the more accessible areas.

There was, however, a small counter-current. A scientific expedition into the interior of New Guinea reported that birds of paradise were still quite numerous. Some naturalists were not convinced that even the large-scale killings did much harm to the ability of the birds of paradise population to reproduce itself. It was also observed – around 1910 – that prices were dropping and costs mounting (lack of safety in the interior, increasing expenditure owing to longer trips), which eventually would render the hunt uneconomical.

From 1905, when export duties on feathers were introduced, we have an idea of the amounts of money, and sometimes of the number of birds involved. Although the data prior to 1913 have to be interpreted with care, it seems plausible to assume that the number of birds being shot increased between 1905 and 1912, even when we allow for under-registration and smuggling. Prices do not show a clear trend, but the sharp drop after 1920 might explain part of the downward trend in exports after that year. The drop in export figures between 1913 and 1918 must have been caused partly by the war in Europe. However, it is also possible that this trend was influenced by the first protective measures, which had finally been taken in 1912 (in accordance with the Ordinance of 1909). In that year a closed season of five months had been introduced. In 1914, the number of species that could be hunted was restricted to six, and a number of islands were declared out of bounds for hunters. These measures were partly counterbalanced by the decision, taken in 1916, to open Southern Dutch New Guinea to bird-hunters. In 1920, 820 hunters were registered in Merauke. With price-inflation and the end of the war, this could explain the all-time-high in 1919.

Due to international developments, such as the prohibition on importing feathers in the US and Great Britain, demand fell off after this year. Only then – with income from these exports dropping anyway – did the Netherlands Indies government forbid the hunting of birds of paradise, except for the yellow ones (1922). This was followed, in 1924, by an export ban, again with the exception of the yellow birds of paradise (*Paradisea apoda* and *P. minor*).

Amazingly enough, in 1926 the Resident again permitted the bird of paradise hunt, from April to September, but only by Papuans, and with a limited amount of powder per gun (muzzle-loader). By that time, however, the ladies' hats adorned with their plumage had gone out of fashion, and birds of paradise had ceased to be an issue. Nowadays they are not an endangered group of species, and it is even doubtful whether any species of this group has become extinct during the last 100 years or so. It is equally doubtful whether government measures in the Indies have contributed much to this fortunate state of affairs.⁴³

Another animal that elicited much concern was the orangutan. The reason for the fascination with this animal may have been the close relationship of the orangutan ('man of the woods') with the human species. Apart from sheer curiosity, linked to the notion that studying the orangutan's behaviour might teach them something about their own ancestors, there were also the more or less serious speculations, almost invariably to be found in contemporary writings, on the possibility of sexual intercourse between (male) orangutans and (local, female) humans. This was not a purely European fantasy; similar themes can be found in Indonesian folktales and myths.

These considerations apart, the orangutan was doubtlessly vulnerable and probably endangered, at least in Sumatra. So much was clear at the turn of the century. The threat to the animal's existence came from various sources. In Kalimantan, it was eaten by some indigenous groups, and kept as a pet by others. In Sumatra, its habitat was decreasing due to the expansion of indigenous and European agriculture.

Other attempts on its survival as a species were more recent and came from outside. Western medical and other scientific institutions were after it for all kinds of experiments. Ironically, the very interest that it had aroused in recent years in the naturalist community came close to being its undoing: zoos from all over the world sent out expeditions to catch at least one specimen. Small wonder, therefore, that in the early 1920s the conversationists reported that the orangutan in Borneo was now also at risk.

Protection came by separate decree, in 1925, but it took the customs officials some time before they were able to enforce the export ban that this decree implied. Even in 1927 some 100 animals were caught alive and exported illicitly. These regulations probably saved the orangutan, although they did not stop its export entirely. Even in the 1960s an American research institute succeeded in importing 30 orangutans at one time. They are also still being kept as pets. The orangutan has survived to this day, but only just; it has the status of an endangered species.⁴⁴

The Komodo dragon is neither beautiful nor almost human. It was not discovered by Europeans until 1910 (first description in 1912), because its small population was – and is – restricted to two tiny islands between Sumbawa and Flores (Komodo and Rinca), and a small coastal strip on Flores itself. Almost immediately after its description had been published – the same year in which the Netherlands Indies Society for the Protection of Nature was founded – the Society contacted the ruler of Bima, the then overlord of these areas, in order to obtain protection for this rare animal. This was granted in 1915. Not often was an animal granted protection so soon after having been 'discovered'. When Komodo and Rinca came under Manggarai rule, a similar arrangement was agreed upon (1927). In 1931 it was included in the Protection of Wildlife Ordinance.

Nevertheless, throughout this period, collectors for museums and zoos apparently succeeded in getting hold of a number of Komodo dragons, which led to a popular outcry in the press. Naturalists were very eager to get their hands on it, not only because it was a recent discovery, but also because it was – and is – the largest living lizard (up to three metres in length), with a number of peculiar features. It is an ugly brute, looking like a somewhat smaller version of the dinosaur (dragon!), and a carnivore with a preference for deer, but with no compunction about availing itself of the goats and dogs of the villagers. Its willingness to attack humans is disputed, but even the rumour has sufficed to earn it a reputation.

According to the most recent count there are now some 7,000 Komodo dragons, and it is highly unlikely that there were more of them in 1910. The existing older estimates suggest the opposite, but their reliability is questionable. Nevertheless, it may be safely assumed that they were never really endangered. Again, it can be said that the very discovery of the Komodo dragon was the main threat it had to face, because it had nothing to fear from the local population, which was very small anyway.⁴⁵

If it is true that the Komodo dragon attracted the attention of the conservationists partly because of its size, it will come as no surprise that elephant and rhinoceros also figured prominently in their publications. In both cases, their numbers were probably smaller than that of the Komodo dragon and the possibility of extinction was real.

The same hunter who established, beyond any doubt, that the Javan rhino could also be found in Sumatra, in all probability killed the last specimen there (1928). The Javan rhino in Java was several times declared to be extinct or as good as extinct. It gained the status of protected animal in 1924. Fortunately, the creation of Ujung Kulon as a reserve, and a well guarded one at that, ensured the survival of this animal, but it was a narrow escape and the Javan rhino is still classified as endangered.

Interest in elephants [Sumatra] came rather late, perhaps because their numbers, which were sometimes set as high as 10,000 or even 15,000, were always over-estimated. In 1929, Jhr.F.C. van Heurn produced what was probably the first serious attempt to estimate their numbers, which yielded a total of not more than 3,000. Just before the war, the same van Heurn had to revise his own estimate downward, now arriving at no more than 1,300 elephants. Once it had been established that the elephant was endangered, its plight was an important argument in favour of the establishment of large wildlife reserves in Sumatra. In 1931, it became a protected species.⁴⁶

Finally, we must keep in mind that the notion that all animals – or at least the higher ones – should be protected is a relatively recent one. In late colonial Indonesia the number of species to be protected was rather small, consisting almost exclusively of mammals and birds. But even these categories were not to

be protected entirely. A fair number of species within these categories were regarded as dangerous or harmful. Notions changed somewhat, however, between 1909, when the Protection of Wildlife Ordinance contained the first list of noxious animals, and the Game Ordinance and Regulations of 1939/40, with the last 'colonial' list. Whereas all apes and monkeys were on the 1909 list, a fair number of them had disappeared from the 1940 list. The same thing happened with several species or groups of birds, such as the eagles. Snakes and crocodiles had, for reasons unknown to me, not been on the list of 1909, but had been added to the list in 1931. In 1940, the snakes were removed but the crocodiles were not.

Throughout the whole period, tigers and leopards had figured on the lists of harmful animals.⁴⁷ There was no closed season, nor a bag limit, and the period 1924-1931 excepted, shooting-licences had been free of charge until 1939/40. Charging a fee for these licences, however, should be regarded as a fiscal measure, because hunting tigers and leopards was a pastime of the more well-to-do. Although, therefore, under colonial rule tigers and leopards were never as such protected by legislation, they could strike it lucky by being included in a nature or wildlife reserve. This was the case with the Javan tiger in Ujung Kulon and, under the Indonesian Republic, in Meru Betiri.⁴⁸

Around 1930, the first hesitant changes in conservationist notions of the 'harmfulness' of tigers and leopards could be perceived, but these were limited to the enlightened few and came too late for a change in legislation. The forester F.J. Appelman predicted in 1930 that the tiger and the leopard would shortly become extinct in Java. The leopard survived, but the Javan tiger, although belatedly, is about to prove him right.⁴⁹ Perhaps such a change in attitude towards large predators was part of a global shift, because similar changes – in this case regarding wolves, coyotes, and mountain lions – could be observed among the park officials in the U.S. National Parks around that time (Dunlap 1990).

Tigers and leopards are big, beautiful, and 'Oriental' animals. Why, then, were they so relentlessly hunted down? I can think of a number of factors. In the first place, the tiger is, indeed, a dangerous animal (the leopard, at least in Java, far less so), and it was greatly feared. Man-eating was a serious problem in some areas. The second factor was big game hunting. Here was the last chance to prove one's mettle, compared to which the killing of deer was a child's play. Given the influence of the big game hunters in the Netherlands Indies Society for the Protection of Nature, frankly one is not amazed that they did too little too late.

Finally, one could argue, in a philosophical mood, that they represent, more than other animals, the ferocious and untameable aspects of 'wild nature', as opposed to civilisation. Particularly in a colonial situation, the ruling group always lived in fear of 'civilisation' being overturned by 'wild nature' in the broadest sense of the term.

Summing up these two sections, it can be said that the 'popularity' of a plant or animal as a conservation issue often bore little relation to its vulnerability. The

most endangered species of all the ones dealt with above, the Javan tiger, was the least protected of them all. The symbolic value of the species most written up had often more to do with 'visibility' in the broadest sense of the word than with real threats against their survival. As symbolic figures they tell us more about the conservationists than about 'nature'.

CONCLUDING REMARKS

The Dutch conservationists in late colonial Indonesia copied the names of the relevant institutions from the mother-country, but not much more. They were dealing with an entirely different natural environment, a different society, a different form of government, and even different (Indies born and bred) Dutchmen. The first Dutch attempts to preserve nature started earlier in Indonesia than they did in the Netherlands. This seems to be in keeping with developments elsewhere in colonial Asia, where we observe – as we do in Indonesia – a coalition between naturalists, who wanted to protect the recently discovered natural riches of the area, big game hunters who did not want natives, poor whites, and Eurasians poaching on their preserves, and government, primarily concerned with irrigation and sustainable forest exploitation (Savage 1984; Ritvo 1990, 284-8).

In Indonesia, the 'forestry component' was particularly strongly represented in the earliest conservationists ideas and measures. The Cibodas reserve (1889) and the first gazetted *schermbos* (1890) testify to this, as does the fact that the forester Koorders, who started his forest inventory in 1888, was one of the leading lights of the conservation movement, co-founder of the Netherlands Indies Society for the Protection of Nature. Many of the earliest nature reserves in Java were located in forest reserves and their protection was in the hands of the Forest Service, which also provided the Society with many members.

There was much more left to be preserved than in the mother-country, even though the first measures were – predictably – taken in Java, the region with the highest population density and the largest European presence. As a rule, the areas concerned (hydrological reserves and nature reserves) were small in scale but relatively well guarded. Soon, however, conservation legislation also applied to the sparsely inhabited Outer Provinces. Here the reserves were much larger, but, with policing inversely related to size, sometimes hardly worth the paper they had been gazetted on.

The early Dutch conservationists did not have to start from scratch. In many areas rulers and nobility had staked out some parks or game reserves, where

most endangered species of all the ones dealt with above, the Javan tiger, was the least protected of them all. The symbolic value of the species most written up had often more to do with 'visibility' in the broadest sense of the word than with real threats against their survival. As symbolic figures they tell us more about the conservationists than about 'nature'.

CONCLUDING REMARKS

The Dutch conservationists in late colonial Indonesia copied the names of the relevant institutions from the mother-country, but not much more. They were dealing with an entirely different natural environment, a different society, a different form of government, and even different (Indies born and bred) Dutchmen. The first Dutch attempts to preserve nature started earlier in Indonesia than they did in the Netherlands. This seems to be in keeping with developments elsewhere in colonial Asia, where we observe – as we do in Indonesia – a coalition between naturalists, who wanted to protect the recently discovered natural riches of the area, big game hunters who did not want natives, poor whites, and Eurasians poaching on their preserves, and government, primarily concerned with irrigation and sustainable forest exploitation (Savage 1984; Ritvo 1990, 284-8).

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The early Dutch conservationists did not have to start from scratch. In many areas rulers and nobility had staked out game parks or game reserves, where hunting and trapping by commoners, and other forms of exploitation were forbidden. Over-hunting by the owners of these tracts certainly did occur, but there were also other, more successful cases. One of the few European game reserves, Cikepuh, was successfully turned into a wildlife reserve.

Another proto-conservationist feature was the existence of places that were regarded as *angker* (sacred, haunted, forbidden), well-documented for Java but also present elsewhere. Some of these areas were taken over as nature reserves by the European conservation movement. This also applies to Nusa Kambangan, a prison island since c. 1600, and although only in a very limited sense *angker*, certainly most of the time partly or totally forbidden. It could be argued that the Depok forest had already been a real ('European') nature reserve (since 1714) – though a badly managed one – before it came under the control of the Society.

What can be said about the measures taken in the 60 years covered by this article is that they preserved some 'nature' which otherwise would have been lost, and created a framework that is still being used today. However, too little was done too late, and the colonial legislation met with limited success. The expansion of arable lands for indigenous and European agriculture continued almost unabated. Hunting, trapping, illegal wood-cutting, flower-gathering, and forest fires could not be controlled effectively. Depression, war and revolution, covering the period 1931-1949, intensified these shortcomings. Of all the ordinances published, the 1931 export ban was probably the most effective one, although legal and illegal collecting expeditions, sent out by museums and zoos, remained a threat to the survival of various 'popular' species. This collecting craze and the conservation movement shared the same root, namely a fascination with recently discovered 'Oriental' nature. It is, therefore, by no means amazing to discover 'Orientalist' features in the choice of plants and animals, functioning as symbols of colonial conservationism.

'Landscapes are culture before they are nature', as Simon Schama has it, and, according to David Arnold, 'landscapes ... were endowed with great moral significance' (Schama 1996, 61; Arnold 1996, 141). It is, indeed, tempting to argue that to many colonial nature lovers, it was a 'sanitised' version of wild Oriental nature that they found so appealing. They wanted to keep out some of the less agreeable features of Oriental nature, such as predators and the indigenous population itself, at least until the 1930s. One can hardly conceive of a better metaphor for the colonial vision of nature than that of the predator-free prison island Nusa Kambangan, out of bounds for the indigenous population, closely guarded convicts apart.

The less agreeable aspects of tropical nature which the conservationists probably hated most, particularly those with a forestry background, were droughts and forest fires:³⁰ the same phenomena that around 1850 had kindled the first sparks of conservationist awareness. Though they may have misjudged the role of fire in tropical nature, the El Niño-related forest fires of 1997 should warn us against seeing this as an exclusively colonial preoccupation.

NOTES

I am grateful to Prof. K.H. Voous and W.J. van der Weijden for their comments on an earlier version of this article.

¹ Data from *Indisch Verslag* 1941, 2, 16, 28; Boomgaard 1996, 27.

² The following lines are based on Boomgaard 1997.

³ I use three terms that might look like equivalents, namely 'game park', 'game reserve', and 'wildlife reserve'. A game park is an enclosed area where game is kept for the hunt. Game reserve is used for an unenclosed area, also meant for hunting. A wildlife reserve is an area, enclosed or unenclosed, where hunting is forbidden.

⁴ Weede 1908, 371-94; Haan 1910/2, IV, 244; *Verslag* 1912/3, 83-4; *Verslag* 1936/8, 64; Whitten et al. 1996, 731.

⁵ Buis 1985. The State Forest Service (*Staatsboschbeheer*) was created in 1899 (*Gedenkboek* 1939).

⁶ Unless otherwise stated, data on the Forest Service have been taken from Boomgaard 1988, 1994, and 1996.

⁷ Resident was the title of the highest local Dutch official, directly answerable to the Governor-General. The area under his authority was called a Residency.

⁸ Rochussen 1853, 208-9; Junghuhn 1853/4, II, 319-20, 365, 409; Fromberg 1855; Grove 1987, 26.

⁹ Bad rice harvests also had been caused by attempts to increase production for the European market, and by a number of epidemics (Boomgaard and Zanden 1990, 45). Data on weather anomalies are based on tree-ring measurements (Berlage 1931), and on local reports from the archives. The data do not refer to calendar years, but reflect the growing season of teak (September to August). Rice production data are from Boomgaard and Zanden (1990, 112).

¹⁰ Koorders 1912, 20; Dammerman 1950, 80; Pluygers 1952, 40. In 1925, the reserve was considerably extended, to include the mountain peaks of Gede and Pangrango. Nowadays it is called Gunung Gede-Pangrango National Park. The Buitenzorg Botanic Gardens (now Kebun Raya in Bogor), an institution with proto-conservationist features, was established in 1817.

¹¹ *Adat* 1930, 230-4; *Adat* 1932, 187, 406; *Adat* 1937, 136-8; *Adat* 1952, 197, 215-6.

¹² Bergsma 1896, 142; *Adat* 1933, 399; Boomgaard 1988, 62.

¹³ Unless otherwise stated, the following lines are based on Boomgaard 1995.

¹⁴ Bickmore 1868, 435-7; Forbes 1885, 397, 400, 475-6; Warneck 1909, 16-7, 85; Boomgaard 1995, 56 (note 8).

¹⁵ Boomgaard 1995, 56; Algemeen Rijks Archief [General State Archives], the Hague: Collection Van Alphen/Engelhard, 1900, 118: Report P. Engelhard to GG, 4 September 1802.

¹⁶ Unless otherwise indicated, this section and the next one are based on the relevant Ordinances and Regulations to be found in the *Staatsblad* (Netherlands Indies Statute Book), Dammerman 1950, and Pluygers 1952.

¹⁷ I expect the reader to know what an elephant or an orangutan is, but for the less familiar animals and plants, I present the current scientific name and one or more local names.

¹⁸ Houten 1896 and 1905; Piepers 1896. Javan peacock: *Pavo muticus*, Javanese: *merak*; argus pheasant or great argus: *Argusianus argus*, Indonesian: *kuau*; *banteng*: *Bos*

javanicus; for the rhino, see below. According to Forbes (1885, 131) the argus pheasant was much trapped by the Sumatran population.

¹⁹ Koningsberger 1910, 429-31; Thijssse 1946, 38; Dam 1953.

²⁰ The Dutch term is *natuurmonument*, which translates literally as 'monument of nature'. I prefer the term nature reserve, which is more or less universally used for such areas.

²¹ Thijssse 1946, 19-23; Gorter 1986, 13-8; Windt 1994. The founding of the Netherlands Society for the Protection of Birds (1899), was clearly part of this 'age of the founders' of nature preservation in the Netherlands, but it had no counterpart in the Indies. The Netherlands Indies Society for the Protection of Animals (1896), was predominantly interested in (urban) dogs and horses.

²² Koorders 1912, 19-20, 26-30; *Verslag* 1912/3, 56-85.

²³ Javan rhinoceros: *Rhinoceros sondaicus*, in Sundanese and Javanese: *badak*; Javan or silvery gibbon: *Hylobates moloch*, in Sundanese: *oa*. Around 1880, the Javan gibbon had still been rather common (Forbes 1885, 70).

²⁴ Rusa deer: *Cervus timorensis*, Javanese: *menjangan*, Indonesian: *rusa*; barking deer or Indian muntjac: *Muntiacus muntjac*, Javanese: *kidang*, Indonesian: *muncak* or *kijang*; lesser mouse deer: *Tragulus javanicus*, Indonesian and Javanese: *kancil*.

²⁵ *Staatsblad* 1925, No. 566; Appelmann 1930, 263; Coomans 1948/9, 143.

²⁶ *Jonkheer* (Jhr. for short) is a Dutch aristocratic title, *Raden Tumenggung Arya* (R.T.A.) a Javanese one.

²⁷ Kies 1936; *Verslag* 1936/8, 39; Westermann 1945, 420.

²⁸ Komodo dragon, Komodo monitor, or Komodo lizard: *Varanus komodoensis*, local name *ora*. The Sumatran rhino is *Rhinoceros sumatrensis*, local name *badak*.

²⁹ [Asiatic] wild dog: *Cuon alpinus*, Sundanese and Javanese *ajag*. The wild pigs are the wild boar or Eurasian wild pig (*Sus scrofa*, Sundanese: *bagong*, Javanese: *celeng*), the Javan [warty] pig (*Sus verrucosus*, Sundanese: *bagong gadung*, Indonesian: *babi hutan*) and the bearded pig (*Sus barbatus*, Indonesian: *babi putih* or *nangui*). The babirusa is *Babyrusa babyrussa*.

³⁰ Appelmann 1930, 264-5; *Verslag* 1933/4, 86; Coomans 1948/9, 142; Hoogerwerf 1970, 18.

³¹ *Staatsblad* 1939, No. 733; 1940, No. 247; 1941, No. 167. The Game Ordinance and Regulations of 1939/40 introduced a limited bag per shooting-licence. They also introduced shooting-licences that were not free of charge for wild boar, tiger, leopard and crocodile.

³² *Verslag* 1933/4, 89; *Verslag* 1935, 75; *Verslag* 1936/8, 97, 102, 129. On droughts and forest fires in Java during these years, see also Boomgaard and Zanden 1990, 47; Boomgaard 1996, 31-2, 160-1.

³³ Coomans 1948/9, 159-60; Dammerman 1950, 91; Pluygers 1952, 49; Hoogerwerf 1970, 21; Cribb 1988.

³⁴ In 1940 only two of these had survived as such; of the other two, one – Getas – had been taken over by the state, the other one – Ciapus – had disappeared.

³⁵ Appelmann 1930, 266-7; *Verslag* 1933/4, 82, 93; *Verslag* 1935, 52, 57, 62. Dendeng is meat preserved by sun-drying. A wedana is the Indonesian head of a district.

³⁶ *Verslag* 1936/8, 153, 400; Waterschoot 1938; Westermann 1945, 421.

³⁷ For such information, the reader is referred to the reports (*Verslag*) of the Society; see also Steenis 1937; *Nature* 1938; Pluygers 1952. For the present situation see McKinnon 1992 and Whitten et al. 1996.

³⁸ Data have been taken from Eshuis 1939, 304-7 and Pluygers 1952, 181-3. Two small reserves in the Moluccas – together 82.5 ha. – have been omitted from the table.

³⁹ Junghuhn 1853/4, II, 187; *Verslag* 1912/3, 65, 81-3; *Verslag* 1917/9, 22, 26; *Verslag* 1932, 19; *Verslag* 1933/4, 57, 72, 90; Dammerman 1929, 28, 43; Voogd and Slooten 1937.

⁴⁰ In fact, the wijaya kusuma was found on a tiny island, no more than a rather steep rocky outcrop off Nusa Kambangan, itself called Wijayakusuma.

⁴¹ Arsip Nasional [National Archives], Jakarta: *Besluit* 24 July 1923, 25 and 26; *Verslag* 1920/2, 14-5; *Verslag* 1923, 9; *Verslag* 1936/8, 81; Whitten et al. 1996, 175-7, 800-1.

⁴² Piepers 1896, 44; Houten 1896, 5, 14; Kamerling 1912, 82-4; *Verslag* 1929/31, 49; *Verslag* 1932, 25-6; *Verslag* 1933/4, 14, 83; *Verslag* 1936/8, 135; *Nature* 1938, 58-9; Coomans 1948/9, 157.

⁴³ 'Bescherming' 1895; Piepers 1896, 42-3, 69; Houten 1896, 19-39; Houten 1905, 15; *Verslag* 1912, 41-7; *Verslag* 1917/9, 8; *Verslag* 1920/2, 17-8; *Verslag* 1924/8, 18-9; Lulofs 1917; Dammerman 1929, 10-3; Baal 1985, 100-1; Fuller 1987, 191-2, 234-8.

⁴⁴ Piepers 1896, 60; Houten 1896, 14; *Verslag* 1920/2, 19; *Verslag* 1929/31, 16, 82-6; Dammerman 1929, 6-7; Heynsius and Heurn 1935, 36-7; *Nature* 1936, 34-40; Dammerman 1937; Coomans 1948/9, 156-7; Rijksen 1988.

⁴⁵ *Verslag* 1914/6, 33; *Verslag* 1920/2, 37; *Verslag* 1933/4, 31; Dammerman 1929, 13; Bezemer 1930; Auffenberg 1981.

⁴⁶ Piepers 1896, 59; *Verslag* 1929/31, 83-7; Dammerman 1929, 7-9, 14; Heurn 1929; Appelman 1930, 257; Heinsius and Heurn 1935, 40-9; *Nature* 1936, 40-50; Coomans 1948/9, 150-6; Sody 1959; Hoogerwerf 1970.

⁴⁷ There are two tiger subspecies in Indonesia, namely the Javan tiger (*Panthera tigris sondaica*) and the Sumatran tiger (*P. t. sumatrae*). The Javan tiger is about to become extinct in the near future, even if recent sightings (Antara on Internet, 1 October 1997) are confirmed. There was until recently a third subspecies, *P. t. balica*, now extinct. The leopard mentioned here, *Panthera pardus*, is not to be found in the Archipelago outside Java.

⁴⁸ Hoogerwerf 1970; Vecvers 1978, 41; Seidensticker and Suyono 1980; Whitten et al. 1996, 706-9.

⁴⁹ *Verslag* 1929/31, 16; *Verslag* 1935, 68; Appelman 1930, 262; *Nature* 1936, 58-60.

⁵⁰ This was a feature they had in common with all European foresters in Asian countries (e.g. Bryant 1993; Pyne 1994).

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