CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Sixteenth meeting of the Animals Committee
Shepherdstown (United States of America), 11-15 December 2000

Implementation of Resolution Conf. 8.9 (Rev.)

NAJA SPECIES

1. The Annex has been prepared by UNEP-WCMC, in cooperation with TRAFFIC and IUCN, under contract to the CITES Secretariat.

2. It consists of a review of *Naja* species, as one of the remaining groups of species selected for review during Phase IV of the Significant Trade Review.

3. The nomenclature of *Naja naja*, as used in this document, has not been adapted to the standard nomenclature for snakes because the trade data that are currently available are only referable to the nomenclature followed prior to CoP11.

4. A copy of the Annex has been sent to all range States of this species complex, but comments from the range States have either not yet been received or not yet been incorporated in the document.

Naja naja (Linnaeus 1758)

Asian cobra
Naja indien
Naja escupidora asiática

Order: SERPENTES

Family: ELAPIDAE

The taxonomy of the species has been the subject of a great deal of research in recent years and most authorities now recognise a number of species in the complex. Deraniyagala (1960; 1961) recognised three species in the Indian subcontinent but his work was largely ignored by subsequent authors. More recently, Wüster and Thorpe (1991) recognised eight species, and Wüster (1996a), after further research, increased this to 10 species. These taxa are treated as subspecies here, following the taxonomy used by CITES, but this clearly requires revision. Note that, due to confusion over the use of various names the old subspecies of *N. naja* do not correspond with the species that are now differentiated. Wuster (1996a) provided a guide to interpreting nomenclature used in the previous literature.

DISTRIBUTION AND POPULATION

A medium-sized (c. 1 m) venomous snake, mostly inhabiting grasslands and cultivated areas from Turkmenistan east to the Philippines and south to Indonesia.

N. n. atra Cantor, 1842
China: Hubei, Anhui, Zhejiang, Jiangxi, Hunan, Fujian, Guangdong, Hong Kong, Hainan, Guangxi (Zhao and Adler, 1993). Recently recorded from Leigongshan, Guizhou (Li, 1989). Present in Taiwan (Lue, 1990; Zhao and Adler, 1993). It is distributed through low altitude areas of the whole island in dry cultivated areas, orchards, grasslands, shrubby hillsides and the understory of monsoon forest (Peng, 1996). It is less abundant on the northern than the central and southern areas of the island of Taiwan (Anon., 1989).
Lao People's Democratic Republic: Mapped as occurring in the north-east by Wüster *et al.* (1995) but no specimens were examined from there.
Viet Nam: Occurs in the north (Wüster *et al.*, 1995).

N. n. kaouthia Lesson, 1831
Bangladesh: Common (Khan, 1982).
Bhutan: Believed to be present (Bauer and Günther, 1992).
Cambodia: Present (Saint Girons, 1972; Wüster *et al.*, 1995).
China: North-western Guangxi, south-western Sichuan and western Yunnan (Zhao and Adler, 1993).
India: Found from Sonipat (Haryana), east through parts of Uttar Pradesh, Bihar, Orissa, West Bengal and into the north-eastern states (Whitaker, 1982; Wüster, 1998). Sympatric with *naja* in parts of the north-east (Wüster, 1998). Acharji and Mukherjee (1966) considered it to be a 'pest' in parts of West Bengal.
Lao People's Democratic Republic: Recorded in the Annamite foothills and thought to occur probably throughout the country; considered potentially at risk, particularly from trade (Stuart, 1999). Mapped as occurring only in the extreme south by Wüster *et al.*, (1995).
Malaysia: Occurs in extreme north Peninsular Malaysia, south to about 5°30'N (Wüster and Thorpe, 1989).
Myanmar: Present (Smith, 1943). Widespread, but largely absent from the central dry zone (Slowinski and Wüster, 2000). J. Daltry (*in litt.* to IUCN/SSC Trade Programme, 27 June 2000) considered that it was common and widespread.
Nepal: Reported as occurring in the terai by Bhetwal *et al.* (1998) but a previous report (Kramer, 1977) was based on misidentified specimens of *N. n. naja* (Wüster, 1998).
Thailand: Recorded from numerous localities (Viravan *et al.*, 1992; Soderberg, 1965). Absent or rare in the north and north-east but common elsewhere (Wüster, 1998). Newly recorded for Loei Province in 1992 (Cox, 1995). Not considered threatened (Humphrey and Bain, 1990).
Viet Nam: Occurs north at least to Hue; recent records from the north require confirmation (Wüster, 1998).

N. n. naja

Bangladesh: Khan (1982) considered that it was uncommon; however, J. Daltry (*in litt.* to IUCN/SSC Trade Programme, 27 June 2000) considered that it was common and widespread. The most easterly record is from Tangail District (Wüster, 1998).

Bhutan: Reported without details (Mahendra, 1984).

India: Found throughout the country, except in the north-east and some of the northern mountains (Wüster, 1998). Aengals (1999) found a population density of 113 per ?? in riverine forest in Chengalpattu-MGR district, Tamilnadu, India.

Nepal: Confined to the terai (Bhetwal *et al.*, 1998); reported from the Royal Chitwan National Park (Zug and Mitchell, 1995). Not listed as threatened (Keeling and Verheugt, 1995).

Pakistan: North-eastern Punjab (Akram and Qureshi, 1995), Sind and west into eastern Northwest Frontier Province (Ghalib *et al.*, 198?; Minton, 1966; Khan, 1980). The most westerly record is from Duki, Baluchistan (Wüster, 1998).

Sri Lanka: '...occurring throughout Ceylon, but absent from the highest peneplain which is too cold for it' (Deraniyagala, 1955). J. Daltry (*in litt.* to IUCN/SSC Trade Programme, 27 June 2000) considered that it was common and widespread.

N. n. oxiana (Eichwald, 1831)

This taxon is included as Data Deficient in the *1996 IUCN Red List of threatened animals* (Baillie and Groombridge, 1996).

Afghanistan: Recorded from the northwest, the south and from areas south of the Hindu Kush (Leviton and Anderson, 1970). Specimens from Kabul and Jalalabad were examined by Wüster and Thorpe (1992).

India: Himachal Pradesh, Jammu and Kashmir (Wüster, 1998). Reports from Rajasthan (Biswas and Sanyal, 1977) and Gujarat (Akhtar and Tiwari, 1991) are probably based on specimens of *naja* which lacked a hood mark (Wüster, 1998).

Iran: Reported present (Anderson, 1963). Occurs in the north-east (Leviton and Anderson, 1970). Specimens from Mashad and Shahrabad were examined by Wüster and Thorpe (1992).

Kyrgyzstan: Recorded as present (Golay *et al.,* 1993). Not listed in the Red Data Book of Kyrgyzstan (Tarbinskii and Pereladova, 1997), although covered previously in the Red Data Book for the USSR (Borodin *et al.*, 1978).

Pakistan: Western Punjab, western Northwest Frontier Province, and north-eastern Baluchistan (Akram and Qureshi, 1995; Ghalib *et al.*, 198?; Khan, 1980; Minton, 1966; Wüster, 1998). Recorded as very common in Chitral up to 5,000 feet [= 1520 m] (Wall, 1911). Sympatric with *naja* in central areas (Wüster and Thorpe, 1992).

Tajikistan: Listed as Endangered by Honegger (1979); recorded from several different habitat types. Present in the Tigrovaya Balka Nature Reserve and the Dashtimaidonsky nature refuge (Patchadjanov *et al.*, 1997). Listed as 'rare' in the Red Data Book of Tadjikistan (Patchadjanov *et al.*, 1997).

Turkmenistan: Listed as Endangered by Honegger (1979). Included in the Red Data Book of Turkmenistan (Schammakov *et al.*, 1993) and included in a list of rare animals that need special conservation measures (Atamuradov *et al.*, 1997).

Uzbekistan: Listed as Endangered by Honegger (1979); range reported by Leviton and Anderson (1970) as 'north to Samarkand and Aristan-Bel-tau mountains'. Listed in the Red Data Book of Uzbekistan as 'Restored', in that it is no longer considered in danger of extinction; occurs in the Kitab Geological Nature Reserve (a 'zapovednik') (Chikin and Pereladova, 1997).

N. n. philippinensis Taylor, 1922

Philippines: Recorded in Luzon and Mindoro (Alcala, 1986; Leviton, 1963), Marinduque (Wüster and Thorpe, 1990), and Masbate (Gaulke and Altenbach, 1994). Regarded as common (Alcala, 1986).

N. n. sagittifera Wall, 1913 (see Wüster *et al.*, 1995)

India: Restricted to the Andaman Islands. Recorded with certainty only from South Andaman, but is likely to occur on North and Middle Andaman (Wüster, 1998). It is known only from very few specimens and appears to be relatively uncommon (Wüster *et al.*, 1995).

N. n. samarensis Peters, 1861
Philippines: Bohol, Leyte, Mindanao, Samar and Camiguin (Alcala, 1986; Griffin, 1911; Leviton, 1963; Smith, 1993; Wüster and Thorpe, 1990). The conversion of forest to second-growth/grassland habitat in eastern Mindanao may have resulted in an increased abundance of this snake (Smith, 1993). Regarded as common (Alcala, 1986).

N. n. siamensis Laurenti, 1768 (see Wüster and Thorpe, 1994)
Cambodia: Present (Golay *et al*., 1993, Martin and Phipps, 1996; Wüster *et al.*, 1995).
Lao People's Democratic Republic: Recorded from one locality in the centre of the country, but thought to occur south in the lowlands of the Mekong floodplain; considered potentially at risk, particularly from trade (Stuart, 1999).
?Myanmar: May occur (Wüster and Thorpe, 1994).
Thailand: Recorded from all parts of the country except the peninsular provinces, and considered to be one of the commonest venomous snakes in Thailand, judged by its contribution to snakebite statistics and the large number of specimens sold by animal dealers. It survives well in agricultural areas, such as ricefields, and in or near human settlements; however, it is subject to severe human predation, both as a result of being killed on sight by many agricultural workers, and also for the very substantial 'jungle food' and traditional medicine trade (Wüster *et al.*, 1997). W. Wüster (*in litt.* to IUCN/SSC Trade Programme, 1 July 2000) noted that some local populations had apparently been extirpated due to excessive exploitation for meat and traditional medicine. Sympatric with *kaouthia* in some areas.
Viet Nam: Recorded from the south (Wüster *et al.*, 1995, 1997). Listed as 'Threatened' in the Red Data Book of Viet Nam (Anon., 1992).

N. n. sputatrix Boie, 1827
Indonesia: Java (de Haas, 1941), Bali, Lombok and Alor (Wüster and Thorpe, 1989), Komodo, up to 650 m, Sumbawa and Flores (Auffenberg, 1980). It is known from one specimen from Sulawesi, which is indistinguishable from Javan specimens, and may not have originated in that island (in den Bosch, 1985; Wüster, 1996b). De Haas (1941) studied the snakes in two districts in western Java; in Nandjoeng Djaja this species was found to be uncommon, and it was not recorded in Bandjarwangi, where the altitude averaged 900 m. Yuwono (1998) regarded it as abundant on Java.

N. n. sumatrana Müller, 1890 (see Wüster and Thorpe, 1989)
?Brunei: No specific records are available, but it is likely that it does occur (Stuebing and Inger, 1999).
Indonesia: Sumatra (Lidth de Jeude, 1921), Belitung (Westermann, 1942), Riau and Lingga Archipelagos (Erdelen, 1998). Yuwono (1998) regarded it as abundant on Sumatra and Kalimantan.
Malaysia: Peninsular Malaysia, Sabah, Sarawak. Common and widely distributed throughout Peninsular Malaysia (Lim, 1979; Tweedie, 1953). Present in Bako National Park and Lambir Hills National Park, Sarawak (Das and Charles, 1993a; 1993b). Occurs in Sabah (Stuebing and Inger, 1999). Sympatric with *kaouthia* in northern Peninsular Malaysia.
Philippines: Culion, Palawan (Bruce, 1981; Leviton, 1963; Wüster and Thorpe, 1990). Regarded as common (Alcala, 1986).
Singapore: Present (Harman, 1961; Lim and Lim, 1992). Not listed in the Singapore Red Data Book; most snake species of Singapore are poorly known, and have not been well studied (Ng and Wee, 1994).
Thailand: Occurs in the extreme south (Wüster and Thorpe, 1989). Sympatric with *kaouthia* where it occurs.

In addition, a new species of cobra, *Naja mandalayensis* has very recently been described from central Myanmar (Slowinski and Wüster, 2000). This is closely related to *Naja naja* sensu lato and, if it had been described at an earlier date it would probably have been regarded as a subspecies of *N. naja*. It is endemic to the dry zone, where *N. n. kaouthia*, which prefers damper habitats, is absent.

HABITAT AND ECOLOGY

N. n. kaouthia
Where it occurs sympatrically with other *Naja* taxa it tends to occupy low-lying, wetter areas. It adapts well to human pressures, unless persecuted excessively. It is common in rice-growing areas, where it lives in rodent burrows in the dykes between the fields; plantations are another favourite haunt (Wüster, 1998).

Juveniles take mostly amphibians, and the adults also take small mammals (Wüster, 1998). It is most active at dusk and in the evening. Egg-laying takes place in January-March (Whitaker, 1982). Sarker and Sarker (1993) found that it produced no more than 20 eggs in Bangladesh, but Cox (1991) reported up to 30 in Thailand. Soderberg (1965) stated that very old females lay up to 45 eggs. Kopczynski (1993) found that the average number of eggs in a clutch during captive-breeding was 30 (19-41). The female remained with the clutch to protect it. The eggs hatched after 51 days.

N. n. naja
Diurnal and crepuscular, but has also been observed active at night. It is shy and always attempts to escape if it feels threatened (Wüster, 1998). Occurs in elephant grass habitat (Zug and Mitchell, 1995). Found in the majority of habitats, including heavy forest, cultivated land and populated areas (Daniel, 1983). Whitaker (1982) considered that it was common in rice-growing areas, but adaptable and could be found in dry parts of the country. Granaries, termite mounds, earth dams and rock piles are favourite haunts. Cobras often live in rat holes near villages. The evening hours are preferred for moving about and hunting. Minton (1966) stated that it occurs in many habitats but is most plentiful around wet grassland and around cultivated areas. Occurs from sea level to elevations of 6500 ft [= 1,980 m]. Whitaker (1982) noted that 12-30 eggs are laid between April and July, and they are guarded until they hatch after about 60 days. Smith (1943) stated that incubation takes between 69 and 84 days. Up to 45 eggs have been recorded. Daniel (1983) gave an incubation period of about 62 days, 12-22 (up to 45) eggs laid, which hatch in 48 to 69 days. The diet includes amphibians, reptiles, birds and mammals (Daniel, 1983; Deraniyagala, 1955; Gharpurey, 1962; Minton, 1966). Rats form a large part of the diet.

N. n. oxiana
Favours drier areas than other cobras in the Indian region, being found mainly in arid and semi-arid areas, and in dry mountain situations, up to about 2000 m in Baluchistan (Wüster, 1998). Juveniles eat amphibians and lizards, and the adults also feed on small mammals (Wüster, 1998). Two captive females in the USA laid 10 and 11 eggs, respectively, and these hatched after two months (Allen and Fortyn, 1992).

N. n. philippinensis
Taylor (1922) reported an incubation period of 49 days for the eggs.

N. n. samarensis
Smith (1993) collected specimens from sea-level to 1,000 m elevation. He reported that it was not known from primary forest, but was found around habitations and in second-growth habitats.
Alcala (1986) reported that it 'inhabits forest areas'.

N. n. sputatrix
Recorded on Komodo, Indonesia by Auffenberg (1980) in a variety of habitats including savanna and gallery and deciduous monsoon forest. As many as 16 eggs may be laid in a clutch and the egg-laying period is probably at the end of the dry season (November). The diet includes frogs, lizards, snakes and mice. Boeadi *et al.* (1998) measured and dissected 80 *sputatrix* in Java and found that most prey items were mammalian. Kopstein (1938) reported an incubation period of about 88 days. In Java it may produce up to 36 eggs, but usually about 25 (Suhono, 1986).

THREATS TO SURVIVAL AND DOMESTIC USE

Asian cobras are exploited for leatherware, meat and gall bladders for consumption and snake-wine with perceived tonic medicinal effects, stuffed tourist trinkets, venom and antivenin for medical use, pets, and scientific specimens.

Threats include:
• Targeted collection of *Naja* spp. and other large snakes (*Ptyas* spp., *Elaphe* spp., *Python* spp., *Xenopeltis unicolor*) for subsistence consumption and domestic and international trade of leather, meat (food with perceived medicinal benefits) or live specimens, mainly to East Asian food markets but also for local consumption.
• Wanton killing by humans out of fear and accidentally by cars ('roadkills').

• Environmental degradation including drainage of wetlands, development of residential and industrial estates, excessive pesticide usage, organic pollution, and uncontrolled grass/forest fires.
(TRAFFIC Southeast Asia, *in litt.* to TRAFFIC International, July 2000).

Cambodia: Small numbers of cobras were found on sale in markets during a survey in 1994, at least some of which were destined for the table. In addition, it was found that, during the wet season, at least 200 kg of live cobras were exported daily to Viet Nam; wholesalers in Phnom Penh were paying the equivalent of USD12/kg for cobras, and selling them for USD13/kg. Cobra wine was found on sale at Neak Lung and was purchased by Thai and Chinese men (Martin and Phipps, 1996). Cobras of the genus *Naja* comprised about one third of all snakes seen by Bezuijen (1993) in his survey of medicine shops in Phnom Penh. B. Stuart (pers. comm. to TRAFFIC Southeast Asia, 20 July 2000) observed at least 50 cobras, mainly *siamensis* but including some *kaouthia* in Neak Loeung market in June 2000.

China: No records were located for use of *Naja* spp. in the official traditional Chinese medicine pharmacopoeia of the People's Republic of China (Anon., 1995), although Karsen *et al*. (1998) noted the common occurrence of *Naja atra* in snake shops in Hong Kong for medicinal purposes and food. Surveys, as noted below, revealed the common occurrence of *Naja* in trade for food. Snakes are commonly consumed in South China and the trade volume is reported to be huge. A visit to Guangzhou by the Biodiversity Working Group of the China Council for International Cooperation on Environment and Development (CCICED / BWG) noted that the Xinyan Wildlife Market is an outstanding example of unsustainable use and over-exploitation; the estimated 200 individual shops each had several hundred to several thousand snakes of various species, totalling several hundred thousand individual snakes (McNeely, *in litt*., August 1999). This is but one market in China.

Major licensed Hong Kong importers of snakes, mammals and birds are requested by the Agriculture, Fisheries and Conservation Department of the HK SAR (AFCD) to submit quarterly returns of their registers stating date, species or group of animals, number and country of origin. However, not all traders submit returns, and thus the figures underestimate the actual volume of trade (Lau *et al*., 1997). The trade figures do, however, provide an indication of the level of trade from China to Hong Kong: from November 1993 to October 1994, Hong Kong is recorded to have imported over 110,000 snakes. Demand in neighbouring southern China is believed to be higher. The snake species most commonly consumed for food include *Naja* (Lau *et al*., 1997). In December 1993 and June/July 1994, wildlife trade surveys were conducted at three ports (Dongxing, Longyao and Shuikou) in Guangxi province, China, on the Viet Nam border. On one day in July 1994, around 14 tonnes of wildlife, including about 1,700 to 2,300 snakes, were imported to China through Dongxing Port. *Naja* was recorded in trade in all three ports. Prices ranged from RMB100–126/kg (around USD12–15/kg) (Li and Li, 1997a). Another wildlife trade survey was conducted from June to August 1994 in Guangdong Province and Guangxi Zhuang Nationality Autonomous Region, as well as areas along the border with Viet Nam. The survey found *Naja* to be traded in large quantities in wildlife markets of Guangdong and Guangxi and also from Viet Nam to China (Li *et al*., 1996). In May 1995, a wildlife trade survey in Guangxi Province on the China – Viet Nam border noted the presence of *Naja naja* in trade from Viet Nam to China in all four border ports surveyed, and in wildlife markets in all four border cities surveyed (Li and Li, 1997b).

Of 60 middle-high quality restaurants surveyed in Nanning city (the capital of Guangxi) and in border areas with Viet Nam, snakes were found in 68.75% of the restaurants. From June to August 1997, another wildlife trade survey was conducted where investigators visited 42 local free markets for agricultural products – where the sale of species and prices are largely not regulated by the Government - 89 traditional Chinese medicine (TCM) outlets, and 28 restaurants in four cities and six counties of Yunnan Province. *Naja*, either live or preserved in liquor, were observed in large quantities from Yunnan and from Viet Nam (Li and Wang, 1999).

In Taiwan, snakes are consumed mainly as food and medicine. The relative abundance of *N. naja atra*, as with *Trimeresurus stejnegeri*, keeps the price low in comparison with other venomous snakes. The price of snakes changes by the season, and by their body size and sex. The high season for *N. atra* is during the cooler months: from November to April in the west, but from March to May in the eastern part. Although some illegal hunting persists, levels of illegal hunting have declined in recent years (H. C. Lin, pers. comm. to TRAFFIC East Asia – Taipei, July 2000). In the high season prices range from USD3-7 (wholesale

market) to USD26-29 (retail market); in the low season prices range from USD13-16 (wholesale market) to USD39-49 (retail market) (H. C. Lin, pers. comm., to TRAFFIC East Asia – Taipei, July 2000). According to Lin (1997), 10,800 kg (20,500 specimens) of *N. naja atra* were traded within the island in 1994. This was more than any other snake in trade (Lin, 1997). It is likely that all specimens were captured in the island of Taiwan. Habitat loss is the main threat to the survival of *N. naja atra* in the wild (K-Y. Lue, Professor, Department of Biology, National Taiwan Normal University. *in litt.* to TRAFFIC East Asia – Taipei 27 June 2000). Hunting is believed to be a serious threat to *N. naja atra* (Peng, 1996), and Lin (1997) noted that hunting is the most serious threat after pollution of watersheds with pesticides and habitat loss.

India: Whitaker (1982) reported that cobras were hunted and killed for their skins throughout most of their range. Since 1973 the export of cobra skins has been controlled by the Government of India; however, the market continued to flourish subsequent to that date and some tanneries were dealing in thousands of skins per day. Whitaker and Andrews (1996) noted that the Irula people in southern India caught a total of 2,917 *Naja naja* for venom extraction during the period December 1982 to October 1994. They considered that this catch was probably sustainable, especially since virtually all of the snakes were subsequently released.

Snakes are collected by certain wildlife hunting-gathering communities such as the *Nath Sapera, Kalbeliyas* and *Gondia* in various states. The main domestic use is internal trade between various snake charmer communities for street performances. The snakes are also reported to be eaten by these tribes, but are not traded for meat to people outside their tribe (TRAFFIC India *in litt.* to TRAFFIC International, July 2000). Some illegal collection of snakes for their skins continues, as was demonstrated by a recent seizure (14 June 2000) of snake skins, including *Naja naja*, in Tamil Nadu (Anon., 2000a). The volume of harvest remains largely unknown with no estimate available. According to TRAFFIC India's database recording national seizure data, 8,527 *Naja naja* skins were seized from the states of West Bengal, Maharasthra, Delhi, Assam and Kerala between 1990 and 1996. The poachers and snake skin traders arrested reported that the skins were meant for export to markets in Singapore and Hong Kong (Anon., 2000a). There is negligible demand for snake skins within India.

Indonesia: *N. sputatrix* is the third most intensively used species in trade in Indonesia (Erdelen, 1998). Based on a survey carried out in Java in 1996, the total annual harvest rates for *sputatrix* in Central Java and Yogyakarta provinces were estimated as ranging between 44,855 and 109,650 (Sugardjito *et al.*, 1998). Boeadi *et al.* (1998) noted that: 'The current harvest of rat snakes and cobras in Java has probably been going on for a considerable time, and there seems to be no doubt that some level of commercial and domestic exploitation of these natural resources will be sustainable indefinitely. However, we will require further studies – including long-term monitoring of offtake levels from the harvest – before we can confidently assess the impact of collectors on the populations.' J. Daltry (*in litt.* to IUCN/SSC Trade Programme, 27 June 2000) considered that domestic trade far exceeded international trade, quoting the example of an animal dealer in Bandung (Java) that housed several hundred live *N. sputatrix* on any given day and supplied an 'almost constant stream of ethnic-Chinese customers' with cobra blood.

Japan: Live cobras are used for shows for tourists where mongooses and cobras are forced to fight each other (Shibata, 1999). The use of *Naja* species is not recorded in traditional medicine in Japan (TRAFFIC East Asia – Japan, *in litt.* to TRAFFIC International, July 2000).

Lao People's Democratic Republic: Many reptiles are eaten for food, and many are collected for their perceived value in Lao, Vietnamese and Chinese traditional medicine (Stuart, 1999).

Malaysia: Substantial numbers of illegally traded (according to CITES and national legislation) live snakes have been confiscated in recent months. These shipments were dominated by *Ptyas* spp. and *Elaphe* spp, but generally included *Naja* spp. (though details of species composition are usually not given, unclear and/or unreliable). Confiscated shipments comprised 901 cobras and rat snakes (Anon., 2000b), and 1,000 snakes (Anon., 2000c). The average weight per snake is about one kilogramme. Where known, such shipments were destined for East Asian consumer markets (TRAFFIC Southast Asia, *in litt.* to TRAFFIC International, July 2000).

Nepal: An annual snake festival (*Naag Panchami*) is observed by Hindus, in the belief that it will assure rain for the growing crops (Keeling and Verheugt, 1995). Snake meat is not eaten but the skins of some species including *N. naja* are used to make leather garments and have commercial trade value. This practice conflicts with the protection of *N. naja* by Schedule II of the National Parks and Wildlife Conservation Act (1973) (revision of 1995) (Keeling and Verheugt, 1995). A survey in 1996 in Thamel market in Kathmandu noted Indian traders selling snake skin products, including from cobras. About 300-400 products, including purses for about USD3-4 were seen (Ahmed, 1996).

Philippines: Smith (1993) reported that cobras are considered a symbol of luck in eastern Mindanao, and are invariably left alone. Gaulke (1998) noted that cobra skins, including *philippinensis*, *samarensis* and *sumatrana* were found in tanneries or factories.

Thailand: Substantial numbers of illegally traded (according to CITES legislation) live snakes have been confiscated in recent months; these confiscations have been widely publicised in national newspapers. These shipments were dominated by *Ptyas* spp. and *Elaphe* spp., but generally included *Naja* spp. (though details of species composition were usually not given, were unclear and/or unreliable). The confiscated shipments comprised 13,500 snakes (Anon., 2000d) and 1200 snakes (Anon., 2000e). The average weight per snake is about one kg. Where known, such shipments were destined for East Asian consumer markets (TRAFFIC Southeast Asia, *in litt.* to TRAFFIC International). Boots, belts, handbags and other items made from cobras were noted for sale on many occasions in the tourist hotspots of Bangkok by J. Daltry (*in litt.* to IUCN/SSC Trade Programme, 27 June 2000).

Viet Nam: According to N. Casellini, Mrs Ha Thi Tuyet Nga and Dr Nguyen Van Sang (*in litt.* to IUCN/SSC Trade Programme, 6 July 2000) cobras are commonly used in the preparation of delicacy dishes and snake wine; also meat, gall bladders, dead bodies, venom, blood and lipids are used for their medicinal properties. Bezuijen (1994) reported seeing nearly 100 cobras on sale in Cau Mong Animal Market in January 1994, as well as thousands of unidentified snake gall bladders. Cobras were 'bulk' species that were sold and moved *en masse* to other parts of Ho Chi Minh city via motorbike vendors. Cobras, especially *N. n. atra*, preserved in rice-wine were openly on sale even in the departure lounges of international airports (J. Daltry *in litt.* to IUCN/SSC Trade Programme, 27 June 2000). J. Daltry noted a specific threat was the release of seized live cobras back into the wild, where they may infect wild cobras and other snakes with diseases and parasites.

INTERNATIONAL TRADE

Gross exports of the *Naja naja* complex for the period 1991-1998 are given in the Appendix.

Analysis of the trade in this 'species' is difficult, and impossible to relate to the 10 species now recognised in the complex, owing to much of the trade having been reported only as '*Naja naja*', despite the fact that hardly any of the trade originated in the range States of *N. naja* sensu stricto. The analysis has been restricted to terms that directly relate to individual snakes i.e. live, skins and bodies, and all of the trade is treated at the species level (i.e. *Naja naja*), rather than the subspecific level because there has been no consistency of reporting in this regard. Trade in venom has not been recorded specifically in the CITES database – it is included in the term 'specimens'.

The total trade reported under these terms during the period 1991-1998 showed no consistent trend, ranging from 214,272 in 1998 (possibly incomplete data) to 590,079 in 1992. Table 1 shows the reported trade from the seven major exporting range States.

Indonesia was the most important exporter (and even more important as a country of origin), with a peak of about 400,000 reported in trade in 1997 as exports/origin. These were presumably virtually all referrable to *sputatrix*, as there is little documented evidence that *sumatrana* is involved in international trade. In 1992, 10,000 skins of *atra* were reported as exported by Indonesia to Singapore; this (sub)species does not occur in Indonesia and it is likely that these should be referred to *sputatrix* or *sumatrana*.

All of the exports from Singapore (peak of 147,522 in 1995) were reported as originating in Indonesia. The CITES MA in Singapore (*in litt.* 17 August 2000) confirmed that the trade dealt mainly in skins and that these were all imported because the population of the species in Singapore was small.

Trade reported from as exports from China decreased from 236,280 in 1991 to nil in 1997 and 1998; it presumably largely involved *atra*, but some *kaouthia* could have been involved. W. Wüster (*in litt.* to IUCN/SSC Trade Programme, 1 July 2000) considered that the decrease in trade suggested that cobras were becoming harder to obtain in China and that population declines were a likely cause. Imports of snakes into China across the south-western borders are for the most part unrecorded. Therefore, trade in *Naja* is not comprehensively reflected in CITES data (TRAFFIC East Asia *in litt.* to TRAFFIC International, July 2000).

All of the exports from Hong Kong (peak of 56,186 in 1992) were reported as originating in either China or Indonesia.

Trade reported as exports from Thailand increased to a peak of 27,601 in 1994 but then decreased to 216 in 1998 (possibly incomplete data). The trade was mostly in skins and, therefore, presumably mainly referred to *kaouthia* because *siamensis* does not produce good quality leather (W. Wüster *in litt.* to IUCN/SSC Trade Programme, 1 July 2000). A total of 1,500 skins of *kaouthia* were reported as imported from Thailand by Mexico in 1994, but Thailand reported the export of 24,100 skins of *naja* to Mexico in that year, thus demonstrating the difficulties involved in interpreting the trade data.

Trade reported as exports from Lao P.D.R. increased to 16,311 in 1993 but then decreased to nil in 1998; this is likely to refer to *kaouthia* but may include some *siamensis*.

Trade reported as exports from Malaysia decreased from 1991 to 1994 but then increased to a peak of 12,525 in 1998. Given the restricted range of *kaouthia* in the north of Peninsular Malaysia it would seem likely that trade involves mainly *sumatrana*; however W. Wüster (*in litt.* to IUCN/SSC Trade Programme, 1 July 2000) noted that *kaouthia* appeared to constitute the bulk of the traded material.

Only eight individuals were reported as exported by Viet Nam during the period. However, N. Casellini, Mrs Ha Thi Tuyet Nga and Dr Nguyen Van Sang (*in litt.* to IUCN/SSC Trade Programme, 6 July 2000) considered that there was a high volume of illegal exports to China. In addition, W. Wüster (*in litt.* to IUCN/SSC Trade Programme, 1 July 2000) considered that there was likely to be extensive unregistered trade between Cambodia, Lao P.D.R., Viet Nam and China.

In summary, Indonesia was by far the most important country of origin for trade in Asian cobras during this period, with at least 2,000,000 individuals reported in the eight years. The capture quotas for these years amount to only 1,150,000, and in 1997 the quota of 135,000 was apparently exceeded by 220% by the exports reported direct from Indonesia, indicating that there may be an implementation problem. However, the reported trade may have been inflated by reporting on permits issued rather than actual trade, and much of the trade reported by Hong Kong and Singapore may reflect snakes that were imported from Indonesia and re-exported in the same year. G. Saputra (*in litt.* to IUCN/SSC Trade Programme, 18 June and 15 July 2000) considered that the trade in skins and live animals for the pet trade was effectively controlled, but that the trade for food was not adequately recorded or controlled. He noted that the food market required cobras weighing between 600 and 900 g, thus providing a possible conversion factor for the trade in live snakes reported by weight. He was not aware of any management programme for cobras in Indonesia, and knew of no status assessments that had been carried out.

The trade reported as exports from Lao P.D.R. and Thailand decreased during the eight year period and probably did not constitute a threat to the *Naja* populations in those countries. The decrease in trade from China might indicate a decrease in populations. The recent increase in trade from Malaysia might indicate a problem for *sumatrana*, especially since Malaysia is the main range State for the (sub)species. Alternatively, this may be a reflection of Thai *Naja* being imported into Malaysia, but being declared as being of Malaysian origin. No trade originating in the Philippines was reported during this period, so it is assumed that *philippinensis* and *samarensis* were not involved. *N. n. sagittifera* has not been reported in

trade and it is perhaps unlikely that any of the very small amount of trade reported as originating in India involved this form, given its rarity and relatively inaccessible distribution.

Table 1. Numbers of individuals of the *N. naja* complex reported as exports (with origin where different), 1991-1998

	1991	1992	1993	1994	1995	1996	1997	1998	Totals
Indonesia	71,837	231,496	123,858	59,257	138,402 + 3,500 kg live	201,404 + 7,500 kg live	298,034	143,501	1,267,789 + 11,000 kg live
Singapore	51,504 ID	86,527 ID	51,476 ID	53,830 ID	147,522 ID	109,225 ID	100,310 ID	50,716 ID	651,110
China	236,280 inc. 20,000 ID	161,060 + 400kg live	57,920	42,184 + 500kg live	2,241	50	0	0	499,735 + 900 kg live
Hong Kong	44,257 ID (92.4%)/CN (7.6%)/TW	56,186 CN (63%)/ ID (37%)	21,510 CN (86%)/ ID (14%)	10,493 CN (80.9%)/ID (19.1%)	3,256 CN (52.7%)/ID (47.3%)	7,723 CN (70%)/ ID (30%)	3,309 ID (83.4%)/CN (16.6%)	6,710 ID	153,444 (53.8% ID, 46.2% CN)
Thailand	9,742	11,818	25,627	27,601	15,121	10,900	11,467	216	112,492
Lao P.D.R.	6,800	11,464	16,311	5,390	1,000	1,840	2,000	0	44,805
Malaysia	4,784 + 650kg	4,441	2,422	1,920	2,887	3,574	8,351	12,525	40,904 + 650 kg
Totals (for all countries)	376,533	590,079	320,386	220,315	313,662	342,861	439,183	214,272	

Also see Table 2

CONSERVATION MEASURES

Afghanistan:

Bangladesh: Khan (1982).

Bhutan:

Cambodia: Article 22 of the Forest Practice Rules (Kret No. 35), issued by the Council of Ministers, on 25 June 1988, states that 'hunting of wild game and birds shall be absolutely prohibited until a new law is issued'. Export of wildlife was not allowed in 1996 (Martin and Phipps, 1996).

China: *Naja naja* is not protected under China's Wild Animal Protection Law (1989). This law is currently under revision although it is not known whether the revised law will afford protection to *Naja naja*. An official notice, No. 9 (2000), from the CITES Management Authority and Chief of Customs provides

reference for the procedures for export of products made from wild animals. The import, export and re-export of products, including materia medica and products thereof, including live snakes, etc., require a permit or certificate (in accordance with the Wild Animal Protection Law (1988); Customs Law and the Regulations for the Protection of Wild Plants in China and in accordance with CITES) before approval to import, export and/or re-export may be granted by customs.

In Hong Kong, hunting of wild animals is prohibited under the Wild Animals Protection Ordinance (1976) of Hong Kong. Possession, purchase and sale of live protected wild animals taken in Hong Kong or any dead protected wild animal, or part of a protected wild animal, killed or taken in Hong Kong is prohibited. Trade in CITES-listed species and their parts is regulated under the Animals and Plants (Protection of Endangered Species) Ordinance (Cap. 187) (1976).

In the province of Taiwan, *N. naja atra* is categorized as a rare and valuable species according to the Wildlife Conservation Law (WCL) (Anon., 1994) and listed as a second category protected species. Specimens of *N. naja atra* may not be hunted, killed, traded, exhibited, owned, imported, exported, raised or bred, unless under special circumstances recognised in the WCL (1994) or related legislation (Article 16, WCL, 1994). No hunting permits have been issued for *N. n. atra* since the announcement of the revised WCL on 29 October 1994 (Council of Agriculture, Taiwan *in litt.* to TRAFFIC East Asia – Taipei, 2 August 2000).

India: The Indian Wildlife Protection Act (WPA) of 1972 bans the trade, trapping, and killing of all snakes in India. Possession is also illegal without a valid certificate of ownership provided by a Chief Wildlife Warden of the relevant state. *Naja naja* is included in Schedule II, Part II of the Act and thereby hunting, collection, keeping as pets, display for street performances or killing is totally prohibited. However, trade in venom and venom derivatives are exempt and hence not covered by the usual restrictions of the Wildlife (Protection) Act. Since the species has not been specified, it is interpreted to mean venom from all snakes, including *Naja naja*. The penalty for anyone caught capturing, selling etc. any snake is a maximum fine of Rs.25,000 (approximately USD550) or imprisonment up to seven years, or both.

Indonesia: Indonesia employs a quota system to regulate the capture and export of native wildlife. These quotas are established annually from recommendations by the Indonesian CITES Scientific Authority (the Indonesian Institute of Sciences Research – LIPI), and the CITES Management Authority (the Department of Protection and Nature Conservation – PKA, under the auspices of the Ministry of Forestry). In addition, these proposals are discussed with the principal wildlife traders, and a final quota listing is subsequently made official by the Director General of PHPA.

Table 2. Capture quotas for *Naja* (*naja*) *sputatrix*

	1991	1992	1993	1994	1995	1996	1997	1998
Capture quota	160,000	150,000	150,000	150,000	?	?	135,000	135,000 skins + 2,700 live

Iran:

Kyrgyzstan:

Lao People's Democratic Republic: All wildlife is prohibited from export (Decree of the Council of Ministers No. 185/CCM, in Relation to the Prohibition of Wildlife Trade, 21 October 1986).

Malaysia: In Peninsular Malaysia, cobras are coverd by the Protection of Wild Life Act, 1972; 'Asiatic Cobra *Naja naja*' is listed by name in the 1991 Amendment to this act.
Sarawak lists *Naja naja* as a 'Protected Species' under the Wild Life Protection Ordinance, 1998; licences are required for possession and/or trade.

In Sabah, *Naja* cobras are not listed in the Wildlife Conservation Bill 1997 (the King Cobra, *Ophiophagus hannah,* is listed).

Myanmar:

Nepal: all snakes (including *N. naja*) are listed on Schedule II of the National Parks and Wildlife Conservation Act (1973) (revision of 1995) and may be collected for scientific (non-commercial) purposes only (Keeling and Verheugt, 1995)

Pakistan:

Philippines:

Singapore: There is no trade in indigenous cobras (Singapore CITES MA, *in litt.* 17 August 2000).

Sri Lanka:

Tajikistan:

Thailand: *Naja* spp. are not included in the Wild Animals Reservations and Protection Act, 1992, and thus not protected under domestic legislation.

Turkmenistan:

Uzbekistan: Utilisation of *oxiana* is forbidden by law as it is listed in the national Red Data Book (Chikin and Pereladova, 1997).

Viet Nam: Cobras are included in the list of protected wildlife under Decree 18/HDBT, and are covered by Directive 09/1998/CT-TTg, which protects rat-eating snakes. Nevertheless, *Naja* cobras remain available at snake restaurants and 'snake-wine' stores. Commercial export of wildlife, regardless of species, was banned under Decision 242/QD-TTg, which came into force on 1 April 2000 and will remain in effect until 31 December 2000.

CAPTIVE BREEDING

N. n. kaouthia has been successfully bred on a number of occasions by zoological institutions (Kopczynski, 1993).

N. n. naja has been successfully bred in a few Indian zoos (Vyas, 1998).

N. n. oxiana has been bred on at least one occasion (Allen and Fortyn, 1992).

Naja cobras are bred in captivity in Southeast Asia in modest numbers, with nearly all such breeding being undertaken by private individuals or organisations (mainly zoos and research institutes) and is undocumented. TRAFFIC Southeast Asia estimates that this involves fewer than a thousand animals annually across the whole Southeast Asian region. Some eggs are obtained from wild-caught live animals and incubated successfully, and some long-term captives may actually breed consistently in some institutes, zoos or with hobbyist keepers (particularly albinos would be encouraged to breed), but any trade in captive-bred animals would be restricted to the live pet trade. Compared to the investment (time, equipment etc.) required to collect wild *Naja* cobras, attempted captive-breeding for leather, meat or other products would not be economically worthwhile.

According to CITES data, 3,476 g of *Naja naja* 'specimens' were recorded by China as being exported to the Republic of Korea in 1992; 1,000 skins were recorded as having been exported to Japan in 1995, both for purposes of commercial trade and both recorded as originating from captive-breeding facilities. However, no captive-breeding facilities were located during TRAFFIC East Asia's research (TRAFFIC East Asia *in litt.* to TRAFFIC International, July 2000).

There are no captive-breeding operations for *Naja* in Japan, but there are an unknown number of 'farms' housing cobras for exhibitions (Dr H. Ota, Ryukyu University, pers. comm. to TRAFFIC East Asia, 4 July 2000).

In Taiwan, there is only one registered captive-breeding facility for *N. n. atra*, established prior to the WCL (1994) which is located in Tainan, south Taiwan (H-C. Lin, Curator, Taipei Zoo, *in litt*. to TRAFFIC East Asia – Taipei, 18 June 2000). The centre – World Snake King Education Farm - was established to breed snakes for food and medicine. The original stock came from the wild but the captive population is now self-sustaining (K-Y. Lue, Professor, Department of Biology, National Taiwan Normal University. *in litt.* to TRAFFIC East Asia – Taipei 27 June 2000).

In Viet Nam, there were reported to be many snake farms but these were rearing wild-collected young snakes rather than captive-breeding (N. Casellini, Mrs Ha Thi Tuyet Nga and Dr Nguyen Van Sang *in litt.* to IUCN/SSC Trade Programme, 6 July 2000).

REFERENCES

Acharji, M. N. and Mukherjee, A. K. (1966) Report on a collection of snakes from Lower Bengal (Reptilia: Ophidia). *J. Zool. Soc. India* 16: 76-81.

Aengals, R. (1999) Studies on the ecology of common arboreal and land snakes in scrub jungle forests of Chengalpattu-MGR district, Tamilnadu. *Cobra* 35 & 36: 18-23.

Ahmed, A. (1996) A rapid survey of wildlife trade in Nepal. Unpublished report. TRAFFIC India.

Akhtar, S. A. and Tiwari, J. K. (1991) Extension of range of the Black Cobra *Naja naja oxiana*. *J. Bombay Nat. Hist. Soc.* 88: 123.

Akram, S. M. and Qureshi, J. I. (1995) Snakes of Faisalabad, Punjab, Pakistan. *The Snake* 27: 25-29

Alcala, A. C. (1986). *Guide to Philippine flora and fauna: amphibians and reptiles*. Natural Resources Management Center, Ministry of Natural Resources and University of the Philippines, Quezon City.

Allen, G. S. and Fortyn, K. (1992) The Central Asian cobra, *Naja oxiana* (Eichwald, 1831) maintenance in captivity and a report of a first captive breeding. *Bull. Chicago Herp. Soc.* 27: 129-131.

Anderson, S. C. (1963) Amphibians and reptiles from Iran*. Proceedings of the California Academy of Sciences* (4)21(16): 417-498.

Anon. (1989) [*The reptiles of Taiwan – Taiwan snakes*.] Taiwan Provincial Department of Education, Taichung, Taiwan. (In Chinese.)

Anon. (1992) *Red Data Book of Viet Nam Volume 1*. Animals. Ministry of Science Technology and Environment. Science and Technics Publishing House, Hanoi.

Anon. (1994) *Wildlife Conservation Law*. Council of Agriculture, Taipei, Taiwan.

Anon. (1995) [*Pharmacopoeia of the People's Republic of China*.] Pharmacopoeia Commission of the Ministry of Public Health, People's Republic of China. Guangdong Science and Technology Press, China. (In Chinese.)

Anon. (2000a) Snake skin worth lakhs seized. *The New Indian Express* June 15.

Anon. (2000b) Five to be charged with smuggling reptiles. *The Sun* 2 February. Malaysia.

Anon. (2000c) Man caught with 1,000 snakes. *The Sun* 12 February. Malaysia.

Anon. (2000d) Customs foil sneaky snake traffickers. *Bangkok Post* 22 April. Thailand.

Anon. (2000e) Shrimp cargo turns out to be snakes. *Bangkok Post* 1 February. Thailand.

Atamuradov, Kh.I., Aranbaev, A.M. and Pereladova, O.B. (eds) (1997) *Conserving Biodiversity of Central Asia: Turkmenistan*. Ministry of Nature Conservation and Management of Turkmenistan, Ashkabad.

Auffenberg, W. (1980) The herpetofauna of Komodo, with notes on adjacent areas. *Bulletin of the Florida State Museum, Biological Sciences* 25(2): 39-156.

Baillie, J. and Groombridge, B. (1996) *1996 IUCN Red List of threatened animals*. IUCN, Gland Switzerland and Cambridge, U.K.

Bauer, A. M. and Günther, R. (1992) A preliminary report on the reptile fauna of the Kingdom of Bhutan with the description of a new species of scincid lizard (Reptilia: Scincidae). *Asiatic Herpetological Research* 4: 23-36.

Bezuijen, M. R. (1993) Observations on the trade in wildlife products in the medicine shops of Street 166, Phnom Penh, Cambodia. Unpublished report to IUCN-Cambodia.

Bezuijen, M. R. (1994) Surveys of the wildlife trade at Cau Mong Animal Market, Ho Chi Ming City, Viet Nam. Unpublished report to WWF-Viet Nam and BirdLife International-Viet Nam.
Bhetwal, B. B., O'Shea, M. and Warrell, D. A. (1998) Snakes and snake bite in Nepal. *Tropical Doctor* 28(4): 193-195.
Biswas, S. and Sanyal, D. P. (1977) Fauna of Rajasthan, India. Part. Reptilia. *Rec. Zool. Surv. India* 73: 247-269.
Boeadi, Shine, R., Sugardjito, J., Amir, M. and Sinaga, H. M. (1998) Biology of the commercially harvested Rat Snake (*Ptyas mucosus)* and Cobra (*Naja sputatrix*) in Central Java. In: Erdelen, W. (ed). Conservation, trade and sustainable use of lizards and snakes in Indonesia. *Mertensiella* 9: 99-104
Borodin, A. M. *et.al.* (ed) (1978) [*Red Data book of USSR: rare and endangered species of animals and plants.*] Lesnaya Promyshlennost, Moscow. (In Russian)
Bosch, H. A. J. in den (1985) Snakes of Sulawesi: checklist, key and additional biogeographical remarks. *Zoologische Verhandelingen* 217.
Bruce, M. D. (1981) The Herpetofauna of the Palawan Region: A preliminary checklist of species. In: Bruce, M. D. (ed). *The Palawan Expedition, Stage II*. Associated Research, Exploration and Aid Ltd, Sydney.
Chikin, Yu. A. and Pereladova, O. B. (eds) (1997) *Conserving biodiversity of Central Asia: Uzbekistan*. State Committee of Forestry of Uzbekistan, Tashkent.
Cox, M. J. (1991) *The snakes of Thailand and their husbandry*. Krieger, Malabar, Florida.
Cox, M. J. (1995) *Naja kaouthia*. *Herp. Rev.* 26: 156-157.
Daniel, J. C. (1983) *The book of Indian reptiles*. Bombay Natural History Society, Bombay.
Das, I. and Charles, J. K. (1993a) Amphibians and reptiles recorded from the Lambir Hills National Park, Sarawak, East Malaysia. *Hamadryad* 18: 7-23.
Das, I. and Charles, J. K. (1993b) A contribution to the herpetology of Bako National Park, Sarawak, East Malaysia. *Hamadryad* 18: 24-27.
Deraniyagala, P. E. P. (1955) *A colored atlas of some vertebrates from Ceylon. Volume three, Serpentoid Reptilia.* Ceylon National Museums Publication, Colombo.
Deraniyagala, P. E. P. (1960) The taxonomy of the cobras of south-eastern Asia. *Spolia Zeylanica*. 29: 41-63.
Deraniyagala, P. E. P. (1961) The taxonomy of the cobras of south-eastern Asia, Part 2. *Spolia Zeylanica*. 29: 205-232.
Erdelen, W. (1998) Trade in lizards and snakes in Indonesia – biogeography, ignorance and sustainability. In: Erdelen, W. (ed). Conservation, trade and sustainable use of lizards and snakes in Indonesia. *Mertensiella* 9: 65-83.
Gaulke, M. (1998) Utilization and conservation of lizards and snakes in the Philippines. In: Erdelen, W. (ed). Conservation, trade and sustainable use of lizards and snakes in Indonesia. *Mertensiella* 9: 137-142.
Gaulke, M. and Altenbach, A. V. (1994) Contribution to the knowledge of the snake fauna of Masbate (Philippines) (Squamata: Serpentes). *Herpetozoa* 7(1-2): 63-66.
Ghalib, S. A., Rahman, H., Iffat, F. and Hasnain, S. A. (198?) A checklist of the reptiles of Pakistan. *Rec. Zool. Surv. Pak.* 8(1-2): 56.
Gharpurey, K. G. (1962) *Snakes of India and Pakistan.* Fifth edition. Popular Prakashan, Pakistan.
Golay, P., Smith, H. M., Broadley, D. G., Dixon, J. R., McCarthy, C., Rage, J-C., Schaetti, B. and Toriba, M. (1993) *Endoglyphs and other major venomous snakes of the world: a checklist*. AZEMIOPS Herpetological Data Center.
Griffin, L. E. (1911) A check-list and key to Philippine Snakes. *Philippine Journal of Science* 6 (5): 253-269.
de Haas, C. P. J. (1941) Some notes on the biology of snakes and on their distribution in two districts of West Java. *Treubia* 18 (2): 327-375.
Harman, A. J. E. (1961) A collection of snakes from Singapore. *Malayan Nature Journal* 15: 181-183
Honegger, R. E. (1979) *IUCN Red Data Book. Volume 3: Amphibia and Reptilia.* IUCN, Gland, Switzerland.
Humphrey, S. R. and Bain, J. R. (1990) *Endangered animals of Thailand*. Sandhill Crane Press, Inc., Florida.
Karsen, S. J., Lau, W. and Bogadek, A. (1998) *Hong Kong amphibians and reptiles*. Provisional Urban Council, Hong Kong.

Keeling, S. J. and Verheugt, W. J. M. (eds) (1995) *Red Data Book of the fauna of Nepal.* Biodiversity Profiles Project Technical Publication No. 4. Department of National Parks and Wildlife Conservation, Ministry of Forests and Soil Conservation. His Majestys Government of Nepal, Katmandu.

Khan, M. A. R. (1982) *Wildlife of Bangladesh: a checklist*. University of Dhaka, Dhaka.

Khan, M. S. (1980) Affinities and zoogeography of herpetiles of Pakistan. *Biologia* 26 (1-2): 113-171.

Kopczynski, J. (1993) Breeding and exhibiting the monocellate cobra *Naja kaouthia* at Plock Zoo. *International Zoo Yearbook* 32: 197-204.

Kopstein, F. (1938) Ein Beitrag zur Kierkunde und zur Fortpflanzung der Malaiischen Reptilien. *Bull. Raffles Mus.* 14: 81-167.

Kramer, E. (1977) Zur Schlangenfauna Nepals. *Rev. Suisse Zool.* 84: 721-761.

Lau, W., Ades, G., Goodyer, N., and Zou, F. (1997) Wildlife trade in Southern China including Hong Kong and Macau. In *Conserving China's Biodiversity*. Reports of the Biodiversity Working Group (BWG). China Council for International Cooperation on Environment and Development (CCICED), China.

Leviton, A. E. (1963) Contributions to a review of Philippine Snakes, VII. The snakes of the genera *Naja* and *Ophiophagus*. *Philippine Journal of Science* 93: 531-550.

Leviton, A. E. and Anderson, S. C. (1970) The amphibians and reptiles of Afghanistan, a checklist and key to the herpetofauna. Proceedings of the California Academy of Sciences. (4)38(10): 163-206.

Li, D. (1989) A survey of reptiles in Leigongshan area. Pp. 269-275 in M. Matsui, T. Hikida and R. C. Govis (Eds.) *Current herpetology in east Asia*. Proceedings of the Second Japan-China Herpetological Symposium, Kyoto, July 1988. Herpetological Society of Japan, Kyoto.

Li, W., Fuller, T.K., and Wang, S. (1996) A survey of wildlife trade in Guangxi and Guangdong, China. *TRAFFIC Bulletin* 16 (1): 9-16.

Li, W. and Wang, H. (1999) Wildlife trade in Yunnan Province, China, at the border with Viet Nam. *TRAFFIC Bulletin* 18(1): 21-30.

Li, Y. and Li, D. (1997a) The investigation on live wildlife trade across Guangxi borders between China and Viet Nam. In *Conserving China's Biodiversity*. Reports of the Biodiversity Working Group (BWG). China Council for International Cooperation on Environment and Development (CCICED), China.

Li, Y. and Li, D. (1997b) Status and strategies for control of live wildlife trade across the Sino-Viet Namese Border. In *Conserving China's Biodiversity*. Reports of the Biodiversity Working Group (BWG). China Council for International Cooperation on Environment and Development (CCICED), China.

van Lidth de Jeude, T. (1921) Snakes from Sumatra. *Zoologische Mededeelingen* 6: 239-253

Lim Boo Liat (1979) *Poisonous snakes of Peninsular Malaysia*. Malaysian Nature Society, Kuala Lumpur.

Lim, K. K. P. and Lim, F. L. K. (1992) *A guide to the amphibians and reptiles of Singapore*. Singapore Science Centre, Singapore.

Lin, H-C. (1997) The commercial use and harvesting survey of snakes in Taiwan. *Taipei Zoo Bulletin* 9: 52-65. (In Chinese with English abstract.)

Lue, K-Y. (1990) *The amphibians and reptiles of Taiwan: the manuals of wildlife resources inventory in Taiwan (2*). Council of Agriculture, Taipei.

Mahendra, B. C. (1984) *Handbook of the snakes of India, Ceylon, Burma, Bangladesh, and Pakistan.* Academy of Zoology, Agra.

Martin, E. B. and Phipps, M. (1996) A review of the wild animal trade in Cambodia. *TRAFFIC Bulletin* 16 (2): 45-60

Minton, S. A., Jr (1966) A contribution to the herpetology of West Pakistan. *Bulletin of the American Museum of Natural History* 134(2): 27-184.

Ng, P. K. L. and Wee, Y. C. (eds) (1994) *The Singapore Red Data Book: threatened plants and animals of Singapore*. The Nature Society, Singapore.

Patchadjanov, D. N., Blagoveschenskaja, S. T. and Pereladova, O. B. (eds) (1997) *Conserving biodiversity of Central Asia*: Tadjikistan. Ministry of Nature Conservation of Tadjikistan, Dushanbe.

Peng K-T. ed. (1996) [*Photo guide of conservation of wildlife*.] Taiwan Endemic Species Research Institute, Nantou, Taiwan. (In Chinese.)

Saint Girons, H. (1972) Les serpents du Cambodge. *Mém. Mus. Nat. Hist. Nat.* Ser. A, 74: 1-165.

Sarker, M. S. U. and Sarker, N. (1993) Observations on the ecology of some snakes of Bangladesh. *Tigerpaper* 20(3): 17-21.

Schammakov, S., Ataev, C. and Rustamov, E. A. (1993) Herpetogeographical map of Turkmenistan. *Asiatic Herpetological Research* 5: 127-136.

Shibata, Y. (1999) The description of CITES Appendix-listed species. Kobe, Japan.

Slowinski, J. B. and Wüster, W. (2000) A new cobra (Elapidae: *Naja*) from Myanmar (Burma). *Herpetologica* 56: 257-270.
Smith, B. E. (1993) Notes on a collection of squamate reptiles from Eastern Mindanao, Philippine Islands Part 2: Serpentes. *Asiatic Herpetological Research* 5: 96-102.
Smith, M. A. (1943) *The fauna of British India. Ceylon and Burma. Including the whole of the Indo-Chinese sub-region. Reptilia and Amphibia Vol. III. – Serpentes*. Taylor and Francis, London.
Soderberg, P. (1965) The seven major poisonous snakes of Thailand. Part 1, the cobra (Naja naja kaouthia). *Conservation News* 6: 19-21.
Stuart, B. L. (1999) Amphibians and Reptiles. Pp. 43-67 in Duckworth, J.W., Salter, R.E. and Khounboline, K. (1999). *Wildlife in Lao PDR 1999 Status Report*. IUCN, Vientiane, Lao PDR.
Stuebing, R. B. and Inger, R. F. (1999) *A field guide to the snakes of Borneo*. Natural History Publications (Borneo), Kota Kinabalu.
Sugardjito, J., Boeadi, Amir, M. and Sinaga, H. M. (1998) Assessment of harvest levels and status for the Spitting Cobra (*Naja sputatrix*) and the Rat Snake (*Ptyas mucosus*) in Central Java. In : Erdelen, W. (ed). Conservation, trade and sustainable use of lizards and snakes in Indonesia. *Mertensiella* 9: 105-110.
Suhono, B. (1986) *Ular-Ular Berbisa di Jawa* [*Venomous snakes of Java*]. Antar Kota, Jakarta.
Tarbinskii, Yu. S. and Pereladova, O. B. (eds) (1997) *Conserving Biodiversity of Central Asia: Kyrgistan*. Ministry of nature conservation of Kyrgistan, Bishkek.
Taylor, E. H. (1922) The snakes of the Philippine Islands. *Monograph of the Bureau of Science, Manila* 16: 312 pp.
Tweedie, M. W. F. (1953) *The snakes of Malaya*. Government Printing Office, Singapore.
Viravan, C., Looareesuwan, S., Kosakarn, W., Wuthiekanun, V., McCarthy, C. J., Stimson, A. F., Bunnag, D., Harinasuta, T. and Warrell, D. A. (1992) A national hospital-based survey of snakes responsible for bites in Thailand. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 86: 100-106.
Vyas, R. (1998) Breeding of Indian Spectacled Cobra *Naja naja* (Linnaeus). *Zoos' Print* XIII (10): 26-27.
Wall, F. (1911) Reptiles collected in Chitral. *J. Bombay Nat. Hist. Soc.* 21: 132-145.
Westermann, J. H. (1942) Snakes from Bangka and Billiton. *Treubia* 18 (3): 611-619.
Whitaker, R. (1982) *Common Indian snakes: a field guide*. MacMillan India Limited, New Dehli.
Whitaker, R. and Andrews, H. V. (1996) Snake capture and venom extraction in Tamil Nadu, India. In: Prescott-Allen, R. and Prescott-Allen, C. *Assessing the Sustainability of Uses of Wild Species.* IUCN, Gland, Switzerland.
Wüster, W. (1996a) Taxonomic changes and toxicology: systematic revisions of the Asiatic Cobras (*Naja naja* species complex). *Toxicon* 4 (4): 399-406.
Wüster, W. (1996b) The status of the cobras of the genus *Naja* Laurenti, 1768 (Reptilia: Serpentes: Elapidae) on the island of Sulawesi. *The Snake* 27: 85-90.
Wüster, W. (1998) The cobras of the genus *Naja* in India. *Hamadryad* 23 (1): 15-32.
Wüster, W., Golay, P. and Warrell, D. A. (1997) Synopsis of recent developments in venomous snake systematics. *Toxicon* 35 (3): 319-340.
Wüster, W. and Thorpe, R. S. (1989) Population affinities of the Asiatic Cobra (*Naja naja*) species complex in South-east Asia: reliability and random resampling. *Biol. J. Linn. Soc.* 36: 391-409.
Wüster, W. and Thorpe, R. S. (1990) Systematics and biogeography of the Asiatic cobra (*Naja naja)* species complex in the Philippine Islands. Pp. 333-344 in Peters, G. and Hutterer, R. *Vertebrates in the Tropics.* Museum Alexander Koenig, Bonn.
Wüster, W. and Thorpe, R. S. (1991) Asiatic cobras: systematics and snakebite. *Experientia* 47: 205-209.
Wüster, W. and Thorpe, R. S. (1992). Asiatic Cobras: population systematics of the *Naja naja* species complex (Serpentes: Elapidae) in India and Central Asia. *Herpetologica* 48: 69-85.
Wüster, W. and Thorpe, R. S. (1994) *Naja siamensis*, a cryptic species of venomous snake revealed by mtDNA sequencing. *Experientia* 50: 75-79.
Wüster, W., Thorpe, R. S., Cox, M. J., Jintakune, P. and Nabhitabhata, J. (1995) Population systematics of the snake genus *Naja* (Reptilia: Serpentes: Elapidae) in Indochina: multivariate morphometrics and comparative mitochondrial DNA sequencing (cytochrome oxidase I). *Journal of Evolutionary Biology* 8: 493-510.
Wüster, W. Warrell, D. A., Cox, M. J., Jintakune, P. and Nabhitabhata, J. (1997) Redescription of *Naja siamensis* (Serpentes: Elapidae), a widely overlooked spitting cobra from S.E. Asia: geographic variation, medical importance and designation of a neotype. *Journal of Zoology, London* 243: 771-788.

Yuwono, F. B. (1998) The trade of live reptiles in Indonesia. In: Erdelen, W. (ed). Conservation, trade and sustainable use of lizards and snakes in Indonesia. *Mertensiella* 9: 9-15.

Zhao, E-M. and Adler, K. (1993) *Herpetology of China*. Society for the Study of Amphibians and Reptiles, Oxford (Ohio) USA.

Zug, G. R. and Mitchell, J. C. (1995) Amphibians and reptiles of the Royal Chitwan National Park, Nepal. *Asiatic Herpetological Research* 6: 172-180.

Gross exports of *Naja naja* 1991-1998

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja spp.	bodies		VN	0	0	0	0	0	0	0	2
Naja spp.	live		DE	0	0	0	0	0	0	0	1
Naja spp.	live		ID	15	0	15	0	0	0	0	0
Naja naja	belts		TH	10	52	490	0	0	0	0	0
Naja naja	bodies		CA	15	0	0	0	0	0	1	0
Naja naja	bodies		CN	0	0	0	0	241	20	0	0
Naja naja	bodies		DE	0	1	0	0	0	0	0	0
Naja naja	bodies		DK	0	0	0	1	2	0	0	0
Naja naja	bodies		FR	0	0	2	0	0	0	0	0
Naja naja	bodies		GB	0	1	0	0	0	0	0	0
Naja naja	bodies		HK	0	1	0	0	0	0	4	0
Naja naja	bodies		ID	0	0	0	0	2	0	400	0
Naja naja	bodies		IN	0	0	0	0	0	0	0	1
Naja naja	bodies		MO	0	0	0	0	0	0	1	0
Naja naja	bodies		MY	0	1	0	0	0	0	0	0
Naja naja	bodies		PK	0	1	0	0	0	0	1	1
Naja naja	bodies		TH	0	7	0	1	1	250	154	207
Naja naja	bodies		US	1001	0	0	0	0	0	0	0
Naja naja	bodies		VN	0	0	2	0	0	0	0	4
Naja naja	bodies		XX	0	0	1	0	0	0	1	4
Naja naja	bodies	kg	CN	0	1457	0	0	0	190	0	0
Naja naja	derivatives		CN	30	385000	150	744001	0	0	0	0
Naja naja	derivatives	boxes	CN	11500	27424	0	0	0	0	0	0
Naja naja	derivatives	boxes	SG	0	0	0	0	0	0	2	0
Naja naja	derivatives	cartons	CN	1002	7510	0	0	100	0	0	256
Naja naja	derivatives	g	CN	0	0	0	13798	0	0	0	0
Naja naja	derivatives	kg	CN	200	0	0	0	0	0	0	0
Naja naja	eggs		CN	0	0	1	0	0	0	0	0
Naja naja	extract	kg	CN	0	0	5731	0	0	0	0	0
Naja naja	gall		CN	0	0	0	0	0	0	0	3
Naja naja	garments		ID	40	0	0	0	0	0	0	0
Naja naja	garments		TH	0	1	0	0	0	0	0	19
Naja naja	handbags		BD	0	0	5	0	0	11	0	0
Naja naja	handbags		ID	10	0	0	0	0	45	0	0

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja naja	handbags		IN	0	33	0	0	0	0	0	0
Naja naja	handbags		NG	0	0	0	8	5	5	9	0
Naja naja	handbags		PK	0	2	16	0	0	0	0	0
Naja naja	handbags		TH	2	121	150	0	0	0	0	0
Naja naja	handbags		XX	0	1	0	0	3	0	0	0
Naja naja	live		AT	0	0	22	0	0	6	0	0
Naja naja	live		BJ	0	0	2	0	0	0	0	0
Naja naja	live		BN	0	0	1	0	0	0	0	0
Naja naja	live		CA	0	0	1	4	0	0	0	0
Naja naja	live		CH	0	0	5	13	19	0	43	0
Naja naja	live		CN	69840	47170	30420	3690	0	0	0	0
Naja naja	live		CS	0	2	0	0	0	0	0	0
Naja naja	live		DE	2	31	10	1	0	0	0	2
Naja naja	live		ES	0	0	0	0	0	5	0	0
Naja naja	live		GB	0	3	0	0	0	0	0	0
Naja naja	live		HK	100	0	0	0	0	0	0	0
Naja naja	live		HU	0	0	0	0	21	4	2	0
Naja naja	live		ID	10	10	271	2	2000	0	1600	5
Naja naja	live		KP	0	0	0	0	0	0	4	0
Naja naja	live		KR	0	0	0	0	0	0	0	12
Naja naja	live		LK	14	8	4	2	4	0	0	4
Naja naja	live		MX	0	0	0	0	0	0	2	0
Naja naja	live		MY	4084	4140	2422	1908	2875	3574	8081	12092
Naja naja	live		PG	0	0	0	0	0	0	0	22
Naja naja	live		PH	0	0	0	0	0	0	2	0
Naja naja	live		PK	0	1	0	0	0	0	0	0
Naja naja	live		PL	42	0	0	36	0	0	0	0
Naja naja	live		SE	0	0	4	0	0	0	0	0
Naja naja	live		SG	4	0	0	0	0	6	0	1
Naja naja	live		SU	10	0	0	0	0	0	0	0
Naja naja	live		TH	0	0	0	0	0	0	0	2
Naja naja	live		US	0	0	8	85	8	14	4	0
Naja naja	live		VN	0	0	0	0	0	0	0	1
Naja naja	live		XS	0	0	15000	0	0	0	0	0
Naja naja	live		ZW	0	0	0	1	0	0	0	0
Naja naja	live	cartons	CN	30	0	0	0	0	0	0	0
Naja naja	live	kg	CN	0	400	0	500	0	0	0	0
Naja naja	live	kg	ID	0	0	0	0	3500	7500	0	0

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja naja	live	kg	MY	650	0	0	0	0	0	0	0
Naja naja	large leather products		ID	0	0	0	0	4353	0	320	0
Naja naja	large leather products		TH	0	0	0	96	0	50	0	31
Naja naja	large leather products		US	0	0	0	5	0	0	0	0
Naja naja	small leather products		BE	0	0	0	0	0	0	2	0
Naja naja	small leather products		BH	0	0	0	0	0	0	0	1
Naja naja	small leather products		FR	0	0	0	0	0	0	1	0
Naja naja	small leather products		GH	0	0	0	0	0	0	6	0
Naja naja	small leather products		HK	0	0	0	11	0	0	0	0
Naja naja	small leather products		ID	0	0	0	0	0	1704	609	71
Naja naja	small leather products		IR	0	0	0	0	0	0	0	1
Naja naja	small leather products		MX	0	0	0	0	0	0	40	0
Naja naja	small leather products		NG	0	0	0	0	0	0	0	6
Naja naja	small leather products		NL	0	0	0	0	0	0	0	1
Naja naja	small leather products		PK	0	0	0	0	0	0	1	1
Naja naja	small leather products		TH	0	0	0	339	0	40	59	204
Naja naja	small leather products		XX	0	0	0	0	0	0	0	10
Naja naja	small leather products		ZA	0	0	0	0	0	0	0	1
Naja naja	meat	kg	CN	0	457	50	100	440	0	260	200
Naja naja	meat	kg	MY	350	190	0	0	0	0	0	0
Naja naja	oil	kg	MY	100	100	0	0	0	0	0	0
Naja naja	shoes		CN	1200	13000	0	0	8868	10600	0	0
Naja naja	shoes		LA	0	0	0	618	0	0	0	0
Naja naja	shoes		MX	1	0	0	0	0	0	0	0
Naja naja	shoes		NG	0	0	0	3	0	0	0	0
Naja naja	shoes		PK	0	0	0	0	0	0	0	0
Naja naja	shoes		TH	17	78	40	29444	9	36	100	30
Naja naja	shoes		TW	900	0	0	0	0	0	0	0
Naja naja	skins		BD	0	1	0	0	0	0	0	0
Naja naja	skins		BH	0	0	0	0	0	0	0	1
Naja naja	skins		CA	0	0	0	2	0	0	1	0
Naja naja	skins		CH	0	0	0	0	100	148	994	397
Naja naja	skins		CM	0	100	0	0	0	0	0	0
Naja naja	skins		CN	114936	113890	27500	38494	2000	30	0	0
Naja naja	skins		DK	0	0	0	0	12	0	0	0
Naja naja	skins		GB	0	0	2910	0	0	0	0	0
Naja naja	skins		HK	44157	50185	18983	8493	3256	7723	3305	2710
Naja naja	skins		ID	48000	28	50	5000	0	2000	10000	513

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja naja	skins		IN	0	0	0	0	1	0	0	0
Naja naja	skins		IT	0	0	1000	19257	350	0	0	0
Naja naja	skins		JP	73	0	0	0	0	0	0	0
Naja naja	skins		LA	6800	11464	16311	5390	1000	1840	2000	0
Naja naja	skins		MX	0	7	2	0	0	0	0	2
Naja naja	skins		NG	0	0	0	0	0	150	0	0
Naja naja	skins		NL	0	0	0	0	0	0	2	0
Naja naja	skins		SG	0	0	1010	400	2000	9130	4737	1500
Naja naja	skins		TH	9742	11811	25627	26100	15120	10650	11313	7
Naja naja	skins		US	1663	6696	89	76	2001	0	0	0
Naja naja	skins		XX	0	2	1	0	0	0	0	1
Naja naja	skins		ZW	0	0	1	0	0	0	0	0
Naja naja	skins	m2	HK	20	0	0	0	0	0	0	0
Naja naja	skins	m2	LA	66	22	0	0	0	0	0	0
Naja naja	skin/leather items		CM	0	0	0	0	5	0	0	0
Naja naja	skin/leather items		CN	500	0	0	0	0	0	0	0
Naja naja	skin/leather items		EG	0	0	1	0	0	0	0	0
Naja naja	skin/leather items		IN	0	133	0	0	0	0	0	0
Naja naja	skin/leather items		MX	0	0	1	0	0	0	0	0
Naja naja	skin/leather items		NG	0	0	0	15	8	13	2	0
Naja naja	skin/leather items		PK	38	0	0	0	0	0	0	0
Naja naja	skin/leather items		TD	0	0	0	0	1	0	0	0
Naja naja	skin/leather items		TH	530	18	8428	0	0	0	0	0
Naja naja	skin/leather items		VN	0	39	13	248	0	0	0	0
Naja naja	skin/leather items		XX	1	4	0	0	1	0	0	0
Naja naja	skin pieces		HK	1909	972	500	0	0	0	0	0
Naja naja	skin pieces		LA	400	1202	342	2500	1302	1340	0	0
Naja naja	skin pieces		NG	2	0	0	0	0	0	0	0
Naja naja	skin pieces		TH	4680	2001	0	0	0	1	0	0
Naja naja	skin pieces		TW	0	2	111	0	0	0	0	0
Naja naja	skin pieces		US	1558	675	0	0	2	0	0	0
Naja naja	skin pieces		VN	0	0	20	0	0	0	0	0
Naja naja	skin pieces	kg	TH	44	0	0	0	0	0	0	0
Naja naja	skulls		MX	0	0	0	0	2	0	0	0
Naja naja	specimens		GB	0	1	0	0	0	0	0	0
Naja naja	specimens		ID	20	0	10	0	0	0	0	0
Naja naja	specimens		PH	0	0	4	0	0	0	0	0
Naja naja	specimens		US	0	0	0	0	0	0	0	357

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja naja	specimens	boxes	CA	0	0	0	0	0	1	0	0
Naja naja	specimens	flasks	FR	0	0	0	0	2	1	0	0
Naja naja	specimens	g	CN	0	3746	0	0	12713	3000	0	0
Naja naja	specimens	kg	CN	0	0	0	0	7	16	0	0
Naja naja	specimens	ml	CN	0	0	0	0	0	0	0	4
Naja naja	specimens	ml	US	0	0	0	0	0	0	0	3
Naja naja	trophies		PH	0	0	2	0	0	0	0	0
Naja naja	trophies		US	0	0	0	1	0	0	0	0
Naja naja	unspecified		XX	0	0	0	0	0	0	0	1
Naja naja	wallets		TH	0	2	0	0	0	0	0	0
Naja naja atra	live		ID	0	0	0	0	0	0	1500	0
Naja naja atra	live		RU	0	0	0	0	2	0	0	0
Naja naja atra	skins		ID	0	10000	0	0	0	0	0	0
Naja naja atra	specimens	flasks	FR	0	0	0	0	0	1	0	0
Naja naja kaouthia	bodies		TH	0	1	0	0	0	0	0	14
Naja naja kaouthia	derivatives		US	0	0	0	0	0	0	0	1
Naja naja kaouthia	extract	ml	AU	0	0	0	0	0	0	0	1
Naja naja kaouthia	live		CH	0	0	0	1	12	10	0	0
Naja naja kaouthia	live		DE	0	2	0	0	0	0	0	0
Naja naja kaouthia	live		ES	0	0	0	0	0	1	0	0
Naja naja kaouthia	live		GB	0	0	0	0	0	2	0	0
Naja naja kaouthia	live		MX	0	0	0	0	0	3	1	0
Naja naja kaouthia	live		MY	700	0	0	12	12	0	250	53
Naja naja kaouthia	live		PL	0	0	0	13	0	0	0	50
Naja naja kaouthia	live		US	0	0	6	0	0	0	4	0
Naja naja kaouthia	skins		SG	0	0	0	0	0	2502	1000	0
Naja naja kaouthia	skins		TH	0	0	0	1500	0	0	0	0
Naja naja kaouthia	skin/leather items		TH	3	0	0	0	0	0	0	0
Naja naja kaouthia	specimens		JP	0	0	0	0	0	0	0	1
Naja naja kaouthia	specimens		US	0	0	0	0	0	0	0	86
Naja naja kaouthia	specimens	flasks	FR	0	0	0	0	21	7	0	0
Naja naja kaouthia	specimens	kg	US	0	0	0	0	0	0	0	1
Naja naja oxiana	live		SE	0	0	5	0	0	0	0	0
Naja naja oxiana	live		UA	0	0	0	0	0	0	6	0
Nana naja sputatrix	belts		ID	0	0	0	0	370	308	0	0
Nana naja sputatrix	bodies		ID	0	0	1	0	0	0	200	378
Nana naja sputatrix	garments		ID	0	0	0	0	0	50	0	0
Nana naja sputatrix	handbags		ID	112	0	0	0	6971	1460	0	0

TAXON	TERM	UNIT	EXPORTER	1991	1992	1993	1994	1995	1996	1997	1998
Naja naja sputatrix	live		ES	0	0	0	0	0	2	0	0
Nana naja sputatrix	live		ID	712	360	1137	44	26462	37874	51305	8650
Naja naja sputatrix	live		MX	0	0	0	0	0	0	2	0
Naja naja sputatrix	live		MY	0	0	0	0	0	0	20	380
Nana naja sputatrix	live		US	0	0	3	0	0	0	0	0
Nana naja sputatrix	large leather products		ID	0	0	0	5	10	265	3331	338
Nana naja sputatrix	small leather products		ID	0	0	0	0	0	2813	2404	4589
Nana naja sputatrix	meat	kg	ID	0	0	0	0	0	0	0	1500
Nana naja sputatrix	powder	kg	ID	0	0	0	0	0	0	0	500
Nana naja sputatrix	shoes		ID	0	0	0	0	846	506	0	720
Naja naja sputatrix	skins		US	0	0	0	0	0	300	13000	0
Nana naja sputatrix	skins		CH	0	0	0	150	100	0	0	100
Nana naja sputatrix	skins		FR	13	0	0	0	0	0	0	0
Nana naja sputatrix	skins		GB	0	19000	0	0	0	7500	0	0
Nana naja sputatrix	skins		HK	0	6000	2527	2000	0	0	0	4000
Nana naja sputatrix	skins		ID	23100	221098	122400	54211	109938	161530	234729	134333
Naja naja sputatrix	skins		IT	0	0	0	0	0	0	16	0
Naja naja sputatrix	skins		JP	0	0	0	0	1	0	0	0
Naja naja sputatrix	skins		MX	0	0	0	0	0	0	125	1
Nana naja sputatrix	skins		SG	51500	86527	50466	53430	145522	97587	94573	49215
Nana naja sputatrix	skins		TW	0	1501	2168	0	90	0	0	0
Nana naja sputatrix	skins		US	0	0	0	0	510	0	0	0
Nana naja sputatrix	skin/leather items		ID	35	0	130	0	20	1089	0	0
Nana naja sputatrix	wallets		ID	0	0	0	0	540	2450		
Naja naja sumatrana	live		MY	0	300	0	0	0	0	0	0
Naja naja sumatrana	specimens		ID	0	0	0	0	0	0	3	0

Shaded rows indicate trade from non range states