GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Elaphe guttata***

Elaphe guttata **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Reptilia	Squamata	Colubridae

Common name North American corn snake (English), American corn snake (English, Australia), red corn snake (English), culebra-ratonera de maiz (Spanish), red rat snake (English), Emory's rat snake (English), corn snake (English)

Synonym *Coluber guttatus* , (Linnaeus, 1766)
Pantherophis guttatus , (Linnaeus, 1766)

Similar species

Summary The corn snake, *Elaphe guttata* native to the southern United States and Mexico is a popular pet snake species. *E. guttata* has been reported frequently particularly on islands in the Atlantic Ocean / Carribean area. Introductions have been largely as a result of the pet trade or as a stowaway in shipments of plants. Reports suggest that while *E. guttata* is still in the early stages of invasion in its introduced range, native snake and prey populations could be put at risk should *E. guttata* become established due to competition and predation.

view this species on IUCN Red List

Species Description
Elaphe guttata is a small to medium-sized slender snake up to 180 cm long. It is the most popular pet snake in the world, as it is easy to keep, comes in vivid colours and is easy to breed. Various colour morphs have been created through breeding, leading to a wide range of colour variations; please follow this link Cornsnake Morph Gallery to view some of them. Perhaps the most common form is orange or brownish-yellow, with large black-edged red blotches down the middle of its back. It typically has alternate black marks on its underside, giving a checker-board appearance (Fisher & Csurhes, 2009). The subspecies *E. guttata emoryi* generally has similar coloration being grey or tan with dark-grey, brown or green-grey blotching down its back (Fisher & Csurhes, 2009).
E. guttata is non-venomous, killing its prey via constriction.

Notes
Elaphe guttata includes two subspecies: *Elaphe guttata guttata* and *Elaphe guttata emoryi* (ITIS, 2010).

Uses
Elaphe guttata is a popular pet species, described as the most popular pet snake in the world (Fisher & Csurhes, 2009). Large numbers are kept both legally and illegally around the world (Fisher & Csurhes, 2009).

Habitat Description
Elaphe guttata can occupy a diverse range of habitats including open grassland, forest, agricultural land and semi-urban areas (Fisher & Csurhes, 2009). Closely related species have home ranges of 18–93 ha and can travel 8 km in search of a mate, this and the ability of *E. guttata* to hide under any object and to climb trees making detection if established difficult (Fisher & Csurhes, 2009). In colder parts of its native range, E. guttata hibernates during winter. However, in the warmer climates along the south-eastern coast of the United States they shelter in rock crevices and logs during cold weather and come out on warm days to soak up the heat of the sun—a process known as brumation (Fisher & Csurhes, 2009).

Reproduction
Mating occurs shortly after winter with eggs laid about one month after mating. Clutch size varies from 10–12 eggs, but can be up to 24. The eggs are usually laid in warm areas with high humidity (e.g. near rotting logs, decaying vegetation). Once laid, the adult snake abandons the eggs and does not return to them. The eggs hatch in approximately 65 days. Newly hatched snakes are about 25 cm long. Sexual maturity occurs after 600 days. Longevity can exceed 20 years in the wild (de Magalhaes & Costa 2009; in Fisher & Csurhes, 2009). *E. guttata* can hybridise with related species, including the Californian king snake (*Lampropeltis getula californiae*). Despite belonging to different genera, offspring are sexually viable (Fisher & Csurhes, 2009).

Nutrition
Elaphe guttata is a generalist predator of a wide range of insects, amphibians, lizards, small mammals and birds (Fisher & Csurhes, 2009). Adults typically feed on rodents and other small animals including bats and birds, hunting on the ground and in trees (arboreal). Juveniles feed on smaller prey such as insects, frogs and lizards. Prey is killed by constriction since the species is not venomous (Fisher & Csurhes, 2009).

General Impacts
Elaphe guttata is a generalist predator similar to the invasive brown treesnake (*Boiga irregularis*); it feeds on a wide variety of prey such as rodents, ground nesting birds, and occasionally lizards (Perry *et al.*, 2003; Ferguson & Dixon, 2007). It has the potential to cause significant decline in a variety of native species. In its introduced range on Lesser Antillean Islands, it has the potential to be a serious competitor with existing native snake species such as the 'Critically Endangered (CR)' Antiguan racer (*Alsophis antiguae*) and the 'Endangered (EN)' leeward island racer (*Alsophis rijersmai*) (Henderson, 2004).
E. guttata is a potential host for alien pests and diseases, that could threaten native and domestic animals, an example given by Fisher & Csurhes (2009) is the reptile tick spread bacterium, *Cowdria ruminantium* which can result in the death of grazing animals. *E. guttata* is also known as a vector of cryptosporosis (Xioa *et al*. 2004; in Fisher & Csurhes, 2009).

Management Info
Preventative measures: A risk assessment for Australia modelled on reptiles and amphibians introduced to Britain and the USA based on taxonomy, climate matching, geographic range, and success of establishment elsewhere has classed *Elaphe guttata* as a \"Serious\" establishment risk in Australia with a 0.80 establishment risk score (Bomford, 2008).
Fisher & Csurhes (2009), observe that as *E. guttata* is very hard to detect, eradication once established is highly unlikely. They suggest that the only defence is preventative legislation that avoids introduction, possession and sale.
Other: As *E. guttata* has yet to be established or recognised as a major pest in most of the areas it has been introduced to (Fisher & Csurhes, 2009), information regarding management is lacking, Furthermore, there is little information on the eradication or control of invasive snakes in the literature, other than via manual capture and destruction (Fisher & Csurhes, 2009).

Pathway
A young individual *Elaphe guttata* was intercepted on Little St. James, US Virgin Islands in a shipment of spindle palms (*Hyophorbe verschaffeltii*) from Fort Lauderdale, Florida (Perry & Platenberg, 2007). *E. guttata* has the tendency and ability to hide underneath most objects allowing it to remain undetected (Fisher & Csurhes, 2009).*Elaphe guttata* is a common species in the pet trade (Perry & Platenberg, 2007). Large numbers are kept both legally and ilegally around the world (Fisher & Csurhes, 2009).A young individual *Elaphe guttata* was intercepted on Little St. James, US Virgin Islands in a shipment of spindle palms (*Hyophorbe verschaffeltii*) from Fort Lauderdale, Florida (Perry & Platenberg, 2007). *E. guttata* has the tendency and ability to hide underneath most objects allowing it to remain undetected (Fisher & Csurhes, 2009).

Principal source:

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Review: Under expert review

Pubblication date: 2010-05-25

ALIEN RANGE

[1] ANGUILLA
[1] ANTIGUA AND BARBUDA
[1] BAHAMAS
[1] BES ISLANDS (BONAIRE, SINT EUSTATIUS AND SABA)
[1] BRAZIL
[1] CAYMAN ISLANDS
[1] CURACAO
[1] GERMANY
[1] SAINT BARTHELEMY
[1] SAINT MARTIN (FRENCH PART)
[1] SOUTH AFRICA
[2] SPAIN
[4] UNITED STATES
[2] VIRGIN ISLANDS, U.S.

Red List assessed species 3: CR = 1; VU = 1; LC = 1;

Cyclura lewisi **CR**
Cyclura nubila **VU**
Sitta pusilla **LC**

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IUCN/SSC Invasive Species Specialist Group (ISSG)., 2010. A Compilation of Information Sources for Conservation Managers.
Summary: This compilation of information sources can be sorted on keywords for example: Baits & Lures, Non Target Species, Eradication, Monitoring, Risk Assessment, Weeds, Herbicides etc. This compilation is at present in Excel format, this will be web-enabled as a searchable database shortly. This version of the database has been developed by the IUCN SSC ISSG as part of an Overseas Territories Environmental Programme funded project XOT603 in partnership with the Cayman Islands Government - Department of Environment. The compilation is a work under progress, the ISSG will manage, maintain and enhance the database with current and newly published information, reports, journal articles etc.
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