

and the environmental conventions to which it is a signatory.

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Conservation and reintroduction of the Vulnerable plant *Apterosperma oblata* in China

Apterosperma oblata H. T. Chang, of the monotypic genus *Apterosperma* in the family Theaceae, is a Vulnerable plant endemic to China. Historically the species occurred in Guangdong and Guangxi Provinces in southern China. Our field surveys indicate that the only remaining, small population is in the Ehuangzhang Natural Reserve in Yangchun County, Guangdong Province. The species, which has been recorded as the second most threatened plant in China, is facing a high risk of extinction and is protected nationally. Supported by the National Science Foundation of China, the Plant Science Institute of Yunnan University has been studying the biology and ecology of the species, and its artificial propagation, since 2005.

Although the species is rare it has a high level of genetic diversity and variation, as determined by amplified fragment length polymorphism molecular markers. The breeding system of *A. oblata* is xenogamy and there is low natural regeneration in the wild because the seeds are recalcitrant and sensitive to dehydration.

In October 2010 we collected seeds from the natural population and propagated them in a greenhouse at Yunnan University. Approximately 700 seedlings of c. 8 cm height had grown successfully after 10 months. In July 2013 seedlings of 20–25 cm height were transplanted to the original collection site and to a site with similar characteristics in Jinghong in Yunnan Province. Our studies, especially of artificial propagation of seedlings, will provide a basis for the design of conservation and reintroduction strategies for *A. oblata*, and the Plant Science Institute of Yunnan University is now studying the physiological ecology and adaptation of the transplanted seedlings.

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What is the true cost of the world's most expensive coffee?

Civet coffee (also known as Kopi Luwak in Indonesia) is produced using coffee berries that have been eaten and then partially digested by civets. It is claimed that the digestive system of civets ferments and alters the chemical structure of the beans, resulting in a smoother, less bitter flavour that is highly prized in certain circles.

With an estimated annual production of < 127 kg (although this is widely considered to be a gross underestimate) and a price tag of up to USD 200–400 per kg, it is known as the rarest, most expensive coffee. It is widely available in international markets (including Europe, USA and Asian countries such as Japan, Taiwan and South Korea).

Indonesia is the main producer of this luxury product but other countries, such as East Timor, the Philippines, Thailand, Vietnam and Ethiopia, also produce it. With an apparent growth in international consumer demand some producers have turned to caged production methods to increase yields. These include both casual cottage industry initiatives operated by rural communities and large-scale coffee estate initiatives.

The potential threat posed by civet farming to both the welfare and conservation of wild populations received media attention in September 2013 following an undercover investigation conducted by the BBC in Indonesia. The World Society for the Protection of Animals (WSPA) verified the footage, revealing that at least two species (the palm civet *Paradoxurus hermaphroditus* and the binturong *Arctictis binturong*) are currently utilized and are typically kept in inadequate conditions that result in high levels of morbidity and mortality. It is estimated that thousands of wild civets are being poached from the wild every year to maintain these farms. The binturong is of particular concern as it is categorized as Vulnerable on the IUCN Red List and is already fully protected by Indonesian law. Although the palm civet is a more widespread species, the local impact of the unregulated removal on populations is unknown.

In contrast, traditional production methods for civet coffee do not pose a threat to the welfare and conservation of civets as these methods do not involve the removal of civets from their natural habitats. Rather, workers are employed to collect excreted coffee beans directly from plantations and forests. This process could result in a mutually beneficial co-existence, allowing people to profit from an animal whose presence might otherwise be considered a nuisance because of its consumption of coffee berries on plantations. From a consumer perspective, civet coffee collected by this traditional method is considered to produce a higher quality product.