

Pills, plants and animals

A guide to complementary
medicines trade and conservation

野生生物保護和互補性藥物



Australian Government

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Many of the world's animals and plants are threatened because of human activity such as hunting, poaching and the uncontrolled trade in wildlife and wildlife parts. Some of the species, including the tiger and rhinoceros, are now in great danger of extinction.

One factor driving the trade is the demand for animal and plant derivatives for use as health supplements in complementary medicines (also known as 'traditional' or 'alternative' medicines). These medicines include vitamin, mineral, plant or herbal, naturopathic and/or homeopathic preparations and nutritional supplements.

The reality is, if threatened species continue to be used in complementary medicines, these species may become extinct. Ending the illegal trade in protected wildlife and wildlife parts will help prevent their further decline.

The good news is that the properties of these wildlife products can often be replicated by medically acceptable alternatives.

This booklet will inform users, practitioners and importers of complementary medicines about Australia's wildlife trade laws and alternatives to using complementary medicines containing threatened species.



The sun bear is highly threatened. The commercial import of products derived from sun bears (including bear bile) is prohibited.

Wildlife trade laws—protecting wildlife

Global trade in many species is regulated by the Convention on International Trade in Threatened Species of Wild Fauna and Flora (CITES). CITES aims to ensure international trade does not endanger wildlife.

FACT: the import and export of wildlife in Australia is regulated under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The EPBC Act regulates the trade in threatened species and Australian native wildlife. The Act is administered by the Australian Government Department of the Environment, Water, Heritage and the Arts (the Department).

Threatened species

CITES aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. CITES lists well known species such as sun bears, rhinoceros, ginseng and tigers but also include lesser known species such as hoodia plants which grow wild in the Kalahari Desert.

CITES separates species into lists, based upon whether they are currently threatened or risk becoming threatened if trade is not regulated.

CITES Appendix I – lists those species that are threatened by trade. These attract the strictest controls.

CITES Appendix II – lists species that may become threatened if not protected from uncontrolled trade.



Many tortoise and turtle species have been used traditionally in complementary medicines.

Photo: Leigh Atkinson

FACT: threatened or threatened species used in complementary medicines include musk deer, marine turtles, leopard, Aucklandia (*Saussurea costus* found in Po Chai pills) and some bear species. See list at the centre of the brochure for more detail.

Wildlife products and the EPBC Act

Under the EPBC Act, all products claiming on their packaging or labelling (in pictures or words) to contain material from CITES listed species such as deer, tiger or rhinoceros are treated as if they do contain that ingredient and are therefore likely to be seized.

FACT: rhinoceros horn is used in complementary medicines. From an estimated population of 65 000 in 1970, fewer than 2500 black rhinos remain today.



If your medicine's label indicates that it contains wildlife products (pictures or words), it will be treated as if it does contain these products. Photo: Leigh Atkinson

How not to break the law when importing complementary medicines

You may need an import or export permit if you are planning to bring products containing species listed on the CITES Appendices into Australia or to send them out of the country. Permits are issued by the Department.

Importing and exporting includes:

- personal or commercial purposes
- sending or receiving items by mail or courier
- carrying items in your personal baggage or
- shipping via sea or air.

If a permit is required, do not attempt to import or export without first obtaining your permit otherwise your specimens may be seized by the Australian Customs Service. Departmental officers can provide advice on which species are subject to controls and the required documentation to accompany a permit application.

Permit requirements for products derived from species listed on CITES Appendix I are generally more stringent than those for products containing species listed on Appendix II. These lists can be viewed on the Departmental and CITES websites:

www.environment.gov.au/biodiversity/trade-use/lists/cites/pubs/cites.pdf and www.cites.org

FACT: permit applications, with all completed information, must be processed within 40 business days of receipt. Contact details for the Department are at the centre of this brochure.



Many illegally imported complementary medicines are seized each year. Photo: Allan Crawford, Traffic International

Commercial imports

Permits for the import of Appendix II listed species may be issued where the CITES authority in the exporting country has granted permission to export and the products are derived from wildlife that:

- has been bred in captivity, wild sourced or ranched or
- is for declared specimens obtained from a commercial import program approved by the Department. See <http://www.environment.gov.au/biodiversity/trade-use/sources/declared-specimens.html> for current list of declared specimens or

- is derived from plants that were artificially propagated, as certified by the overseas CITES authority.

An application to the Department for an import permit must be supported by a CITES export permit issued by the CITES authority in the exporting country clearly showing the source of the products (e.g. captive bred).

Permits for the commercial import of Appendix I listed species or products may not be issued unless documentation from the exporting country demonstrates the product was derived from:

- plants that were artificially propagated or
- animals bred in a captive breeding operation registered with the CITES Secretariat in Switzerland

The import for commercial purposes of products from most Appendix I animal species is currently prohibited.

A list of **registered captive breeding operations** for Appendix I species can be found on the CITES website at: http://www.cites.org/common/reg/e_cb.html

A list of **CITES authorities** can be found on the CITES web site at: <http://www.cites.org/eng/disc/parties/index.shtml>

Personal imports

Permits for the personal import of Appendix II listed species may be issued where:

- a CITES export permit has been issued by the CITES authority in the exporting country or
- the authority has given permission for the export as a personal effect (i.e. exempt from permit requirements).

TIP: check with the CITES authority whether any exemption applies. Don't rely on the advice of the supplier of the goods. **BUYER BEWARE!**

Personal baggage exemption

Some goods derived from CITES Appendix II species do not need an import permit. For example, if the specimens are being imported as personal belongings in the owner's personal baggage. However the import of products containing the following CITES listed species always requires an import permit:

- all species of non-domesticated cats (Family Felidae)
- all species of bears (Family Ursidae)
- bighorn or mountain sheep (*Ovis canadensis*)
- barbary sheep (*Ammotragus lervia*)
- lechwe (*Kobus leche*)
- hippopotamus (*Hippopotamus amphibius*)
- Hartmann's mountain zebra (*Equus zebra hartmannae*)
- Jentink's duiker (*Cephalophus jentinki*)
- wood bison (*Bison bison athabasca*)
- all birds of prey included in the Orders Falconiformes (falcons and their relatives) and strigiformes (owls)
- all species of otters in the sub-family Lutrinae and
- seals in the genus Arctocephalus.

Pre-CITES imports

No import permit is required to import products derived from CITES-listed species if the products were acquired before the species was listed (in most cases this date is July 1976).

Specimens must be accompanied by a certificate or permit issued by the overseas CITES authority that clearly states that the specimens are pre-CITES. As medicines usually require fresh ingredients this exception would rarely apply to complementary medicines.

Penalties

Severe penalties apply for offences against the EPBC Act.

Individuals face:

- Fines of up to \$110 000
- Terms of up to 10 years in prison

Companies face:

- Fines of up to \$550 000

It is also illegal to import any wildlife part or derivative that was obtained or exported in violation of the law of any other CITES country. For example, some countries now prohibit the export of all threatened species parts, including medicines containing threatened species derivatives.

Other controls

The Commonwealth Therapeutic Goods Administration (TGA) is responsible for developing and implementing appropriate national policies and controls for medicines.

The *Therapeutic Goods Act 1989* requires that all therapeutic goods (medicines and devices), whether manufactured locally or imported, be entered in the Australian Register of Therapeutic Goods (ARTG) unless they are specifically exempt from this requirement.

Complementary medicines may be registered (high risk) or listed (low risk) on the ARTG. If you are importing or selling complementary medicines in Australia, please ensure that you have met any requirements set by the TGA. For more information please contact the Office of Complementary Medicines on **1800 020 653**.

Other approvals may also be required from the Australian Customs Service and, for products of biological origin, the Australian Quarantine and Inspection Service. See centre of this brochure for contact details.

What are the alternatives to products derived from threatened species?

Using products derived from synthetic alternatives and some common species could help save CITES listed species. Check the conservation status of wildlife species before importing or exporting goods.

Bear gall bladder and bile

The active ingredient in bear bile, ursodeoxycholic acid has been successfully synthesised in the USA, Japan, China and South Korea. The synthetic product is available in Japan under the name Urso, and in the USA as Actigall.

The gall bladders of pigs and fish (especially carp) are recognised by the Chinese Association of Medicine and Philosophy as substitutes for bear gall bladder.

FACT: there are at least 54 herbal alternatives to bear bile, according to the Chinese Association of Medicine and Philosophy. These include: Chinese ivy stem, Xinjiand peony root, Indian mock strawberry, Madagascar periwinkle, barbed skullcap, rhubarb, Chinese lizardtail, dandelion, Japanese thistle, chrysanthemum, common sage, purple flower, holly leaf and hibiscus leaf.



Using products derived from common species such as the pig could help save critically threatened tiger and rhinoceros populations. Photo: Sue Earle Photo: Greg Miles

Wild American ginseng

Wild American ginseng (*Panax quinquefolius*), used for centuries for chronic coughs, is now threatened with extinction. Other species of ginseng are acceptable substitutes.

NOTE: Two species of ginseng are listed on CITES and may require an import permit

Some common species such as pig also have medicinal properties and are being used as alternatives in traditional medicines. You are encouraged to check with your practitioner or supplier regarding acceptable substitutes as ongoing research continues to find alternatives.



Musk pods—it takes 40 adult male musk deer to produce 1 kg of musk. Photo: Sue Earle Photo: Greg Miles

Scientific name	CITES Appendix	Pinyin name	Chinese name	Ingredients may also be listed as:	Alternative
PLANTS					
Aloaceae					
Aloe arborescens	II	Lu Hui		Aloe, Herba Aloes, Rokai, Nohwa, Tou ming lu hui	Cultivated plants available
Aloe aristata					
Aloe asperifolia					
Aloe cooperi					
Aloe ferox					
Aloe hereroensis					
Aloe linearifolia					
Aloe marlothii					
Aloe micarcantha					
Aloe perryi					
Aloe polyphylla					
Aloe secundiflora					
Aloe turkanensis					

Araliaceae					
Panax quinquefolius	II	Xi Yang Shen		American Ginseng, dwarf-groundroot, five-fingers, guang Dong Ren Shen, Hua Qi shen, Seiyojin, Sôyangsam	Cultivated plants available
Asteraceae (Compositae)					
Saussurea costus (Aucklandia lappa)	I	mu xiang		Guang mu xiang, Yun mu xiang, mokko, mokhyang, Aucklandia, Changala, Kushtha, Kustam, Kur, Lao Mu Xiang, Putchu, Gashtam, Koshta, Kukuth root, Kustam, Post-khai, Saussurea radix, Seppudy.	Chuan mu xiang (Vladimira souliei), Cultivated plants available
Dicksoniaceae					
Cibotium barometz	II	Jin Gou Ji		Rhizoma Cibotii Barometz, Jin mao gou ji, kuseki, kuck'ok, chain fern rhizome, cibota, cibotumm Farnhaare, Farnkrautwolle.	Can be substituted with Yang-tonic herb.

Scientific name	CITES Appendix	Pinyin name	Chinese name	Ingredients may also be listed as:	Alternative
Dioscoreaceae					
Dioscorea deltoidea	II	San Jiao Ye Shu Yu		Kildri, Kins, Kithi, Kniss, San-jiao-ye-shu-yu.	Substituted with other dampness discharging herbs.
Euphorbiaceae					
Euphorbia bupleurifolia	II	Da Ji		Radix Euphorbiae seu Knoxiae, jing dà ji, lóng hu cao, taigeki, taegük, Peking surge root, euphorbia.	Cultivated plants available
Euphorbia clavariodes					
Euphorbia cooperi					
Euphorbia grandidens					
Euphorbia ingens					
Euphorbia pulvinata					
Euphorbia resinifera					
Euphorbia woodii					
Leguminosae					
Pterocarpus santalinus	II	Tan Xiang		Chandana, Lalchandan, Honne, Lignum Santali rubrum, Patrangam, Sivappu, Chandanam, Zitan.	Cultivated plants available.
Orchidaceae					
All Bletilla species	II	Bai Ji		Rhizoma Bletillae Striatae, byakukyu, paekkup, bletilla rhizome, tuber.	Cultivated plants available.
Dendrobium aduncum	II	Shi hu		Herba Dendrobii, jin shi hú, xiao huan chai, sekkoku, sökkok, dendrobium, Caulis Dendibii.	Cultivated plants available.
Dendrobium aphyllum					
Dendrobium bellatulum					
Dendrobium candidum					
Dendrobium chrysanthum					
Dendrobium crepidatum					
Dendrobium densiflorum					
Dendrobium devonitum					
Dendrobium fribriatum					
Dendrobium hancockii					
Dendrobium henryi					

Scientific name	CITES Appendix	Pinyin name	Chinese name	Ingredients may also be listed as:	Alternative
Dendrobium hercoglossum	II	Tian Ma		Rhizoma gastrodia, Elatae, ming tian má, ding feng cao, tenma, ch'onma, gastrodia rhizome, Chi Jian.	Cultivated plants available.
Dendrobium huoshanense					
Dendrobium linawianum					
Dendrobium loddigesii					
Dendrobium longicornum					
Dendrobium moniliforme					
Dendrobium nobile					
Dendrobium officinale					
Dendrobium tosaense					
Dendrobium wilsonii					
Gastrodiae elata	II	Tian Ma		Rhizoma gastrodia, Elatae, ming tian má, ding feng cao, tenma, ch'onma, gastrodia rhizome, Chi Jian.	Cultivated plants available.

Scrophulariaceae

Picrohiza kurroa	II	Hu Huang Lian		Rhizoma Picrohizae, hú lián, kóoren, hohwangnyon, Hong-len, Karu, Katuka, Katurohini	Cultivated plants available. Can be substituted with other heat clearing detoxifying herbs.
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Thymelaeaceae

Aquilaria malaccensis	II	Chen Xiang		Lignum Aquilariae, luó shuǐ chén, jínkǒ, ch'ínhyang, aloeswood, acqullaria, agarwood, agha-loo-chee, agulugin, akagaru, bois d'aigle, bois d'aloès, clambac.	Cultivated plants available.
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Valerianaceae

Nardostachys grandiflora	II	Gan Song		Haswa, Indian spikenard, Jatamansi root, Jataarnaansee.	
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Scientific name	CITES Appendix	Pinyin name	Chinese name	Ingredients may also be listed as:	Alternative
ANIMALS					
Babulus arnee Bos guarus	III, I	Niu Huang		Wild Asiatic buffalo	Synthetic gall
Cervus eldii	I	Lu Rong		Eld's deer, thamin	
Hippopotamus amphibius	II	Hai Ma		Hippopotamus	Substituting with Yang-tonic herbs.
Hirudo medicinalis	II	Shui Zhi		Medicinal leech	
Manis pentadactyla	II	Chuan Shan Jia		Pangolin	Substituted by blood invigorating and blood stasis-removing herbs.
Manis temminckii	II				
Manis javanica	II				
Moschus berezovskii	II				
Moschus moschiferus	I (if sourced from Afghanistan, Bhutan, India, Myanmar, Nepal, or Pakistan); otherwise II	She Xiang		Musk deer, Moschus, xylol, secretio moschus, musk-gland, yuán cùn xiāng, dāng mén zǐ, jākō, sāhyāng	Synthetic muskone
Panthera tigris	I	Hu Gu		Tiger - bone, sinew, Os tigris, ossis tigris, felis tigris, slyani pocock, panthera tigris, kokotsu, hogol	Pig bone
Rhinocerotidae spp.	I/II	Xi Jiao		Rhinoceros - hide, horn, Cornu rhinoceri, guang xi jiao, tian ma jiao, saikaku, sōgak, rhinoceros bicornis, chornu rhinoceri asiatici	
Saiga tatarica	II	Ling Yang Jiao		Saiga	
Ursidae	I, II	Xiong Dan		Xiong Dan Wan = Bear Gall	Ursodeoxycholic acid (UDCA), Urso or Actigall. Gall bladders of pigs and fish.
				Xiong Dan Yuan = Bear Bile	
				Xiong Dan = Bear	Herbal alternatives include: Chinese ivy stem, Xinjiang peony root, Indian mock strawberry, Chinese lizardtail, dandelion, Japanese thistle, chrysanthemum, common sage, purple flower, holly leaf, hibiscus leaf.
				fel ursi = Bear (Roman pharmaceutical translation)	

More information

The Department of the Environment, Water, Heritage and the Arts International Wildlife Trade Section

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Email: wildlifetrade@environment.gov.au

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Therapeutic Goods Administration Office of Complementary Medicines

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WODEN ACT 2606

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Phone: 02 6232 8634 or 1800 020 653

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Facsimile: 02 6232 8577

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Internet: www.tga.gov.au

CITES

Internet: www.cites.org

Registered Captive Breeding Operations for Appendix I species:
www.cites.org/common/reg/e_cb.html

Australian Quarantine and Inspection Service

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PLEASE NOTE: The material in this booklet is provided for general information only and should not be relied upon for the purpose of any particular matter. While efforts have been made to keep this material current, it may not exactly reflect Australian legislation or Australia's international obligations. For further information you should call the Department of the Environment, Water, Heritage and the Arts on 02 6274 1900.

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