Australian Government
Department of the Environment

Requested changes to Australian *Hippocampus* nomenclature in CITES

Following Australia's request for changes to the Hippocampus nomenclature in CITES, objections were raised by the IUCN/SSC Seahorse, Pipefish and Stickleback Specialist Group at the 27th meeting of the CITES Animals Committee. Upon further consideration by taxonomic specialists Dianne Bray (Senior Collections Manager Vertebrates, Museum Victoria) and Doug Hoese (Senior Fellow Icthyology, Australian Museum), Australia has reviewed its request for *Hippocampus* nomenclature changes and would like to provide the following comments:

Australia withdraws two species from its request for the following reasons:

- *Hippocampus bleekeri* is a junior synonym of *H. abdominalis* (supported by genetics, Armstrong 2001)
- *H. elongatus* is a junior synonym of *H. subelongatus* (general consensus in the literature)

Australia would like to retain the remaining six species in its proposal, namely *H. dahli, H. kampylotrachelos, H. planifrons, H. taeniopterus, H. tristis*, and *H. tuberculatus*, for the following reasons:

Kuiter 2009: page 122, regards *H. trimaculatus* as unidentifiable and considers that the name has been applied to what is actually a species complex. He splits this complex into eight species, six of which he considers to occur in Australian waters: *H. kampylotrachelos, H. dahli, H. biocellatus, H. planifrons, H. montebelloensis* and *H. zebra*.

H. dahli

- Considered a synonym of *H. trimaculatus* by Lourie *et al*. 1999
- Considered valid by Kuiter 2001, Paxton *et al*. 2006, Kuiter 2009, Johnson 2010, Larson *et al*. 2013, Eschmeyer 2014 (Catalog of Fishes)

H. kampylotrachelos

- Questionably considered a synonym of *H. trimaculatus* by Lourie *et al*. 1999
- Considered valid by Kuiter 2001, Allen & Adrim 2003, Paxton *et al*. 2006, Kuiter 2009, Eschmeyer 2014.
- However the species was not included in Allen & Erdmann 2012.

H. planifrons

- Considered a synonym of *H. trimaculatus* by Lourie *et al*. 1999
- Considered valid by Paulus 1999, Kuiter 2001, Hutchins 2001, Paxton *et al*. 2006, Kuiter 2009, Eschmeyer 2014.

H. taeniopterus

- Considered a synonym of *H. kuda* by Lourie *et al*. 1999
- Considered valid by Kuiter 2001, Allen & Adrim 2003, Fricke 2004, Paxton *et al*. 2006, Kuiter 2009, Fricke *et al*. 2011, Allen & Erdmann 2012, Larson *et al*. 2013, Eschmeyer 2014.

H. tristis

- Considered a synonym of *H. kuda* by Lourie *et al*. 1999
- Considered valid by Kuiter 2001, Paxton *et al*. 2006, Kuiter 2009, Johnson 2010, Eschmeyer 2014.
- Australian material is from southern Qld, northern NSW and Lord Howe Island - mostly trawled, plus at least one beach wash-up (LHI).

H. tuberculatus

- Considered a synonym of *H. breviceps* by Lourie *et al*. 1999
- Considered valid by Hutchins 2001, Kuiter 2001, Paxton *et al*. 2006, Kuiter 2009, Eschemyer 2014.
- Distribution - King George Sound to Onslow, WA

The name *Hippocampus trimaculatus* has been frequently used in the literature and should probably be retained for one of the species – but which one has not been determined (Eschmeyer 2014). Until a full revision of this species complex is undertaken and a lectotype selected for *H. trimaculatus* from one of the six syntypes Australia would like to see the above species, supported by the literature, recognised. Allen & Erdmann (2012) do not include *H. trimaculatus*, yet include both *H. kuda* and *H. taeniopterus.*

Two references cited in the IUCN/SSC document to support their argument are not relevant in the Australian context. Chang *et al.* (2013) sequenced the complete mitochondrial genome of a specimen from Taiwan not Australia. Nickel & Cursons (2012) included several Genbank sequences of Australian specimens in their study, but didn't say where the specimens were from, so this paper is only relevant in that it confirms the presence of *H. abdominalis* in New Zealand.

Australia's proposals are essentially following the literature and reflecting the Australian Faunal Directory, and while there are differences of opinion, these can't be sorted out conclusively until a complete revision of the various species in question is undertaken – including a molecular phylogenetic study that includes material from wide-ranging localities. The majority of the literature, however, supports Australia's proposal.

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