Residence and movement of pygmy seahorses, *Hippocampus bargibanti*, on sea fans (*Muricella* spp.)

Received: 16 December 2007 / Accepted: 21 December 2007 / Published online: 11 January 2008

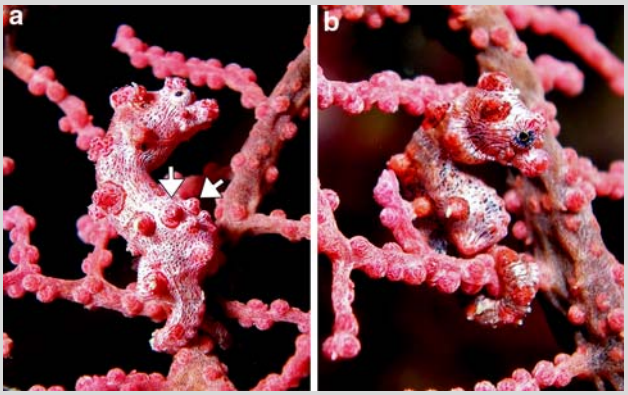

Fig. 1 a, b Two seahorses, *Hippocampus bargibanti*, present on a sea fan at 16 m depth. Photographs were taken on the same day

The pygmy seahorse, *Hippocampus bargibanti*, is listed in Appendix II of CITES and is categorised as ''Data Deficient'' on the IUCN Red List of Threatened Species. There is little published information on the biology and ecology of this species. Its maximum recorded height is 2.4 cm and its preferred habitat is gorgonian corals of the genus *Muricella* in depths of approximately 16–40 m (Lourie et al. 2004). The species shows remarkable camouflage, in particular its colour and the development of wart-like tubercles that resemble the fan's coral polyps (Fig. 1).

Between August 2006 and September 2007, eight pygmy seahorses found on four sea fans at dive sites on the Papuan barrier reef (Central Province, Papua New Guinea) were photographed regularly and their position on the host fan recorded. The distribution of tubercles on a seahorse's head and trunk (e.g., arrowed tubercles on the individual in Fig. 1a but absent on the individual in Fig. 1b) was used to identify individuals, and their movement was monitored using a time series of photographs, although this was dependent on obtaining a number of comparable profile pictures, a task often hindered by the behaviour of the subject and environmental conditions. Where there was a sole resident on a fan, comparisons with earlier photographs ensured that the seahorse was not a replacement tenant.

During the study, pygmy seahorses were found on fans at depths of 13–29 m. Individual seahorses remained on their host fan for periods varying between 3 and 40 weeks, logged positions indicating that they moved extensively over the fan's surface during their residence period. Seahorse movement between different fans was not directly observed.

Acknowledgments This project was funded by the Australia and Pacific Science Foundation, with in-kind support from Project Seahorse. The Motupore Island Research Centre (MIRC) also acknowledges the diving support of the Loloata Island Resort.

Reference

Lourie SA, Foster SJ, Cooper EWT, Vincent CJ (2004) A guide to the identification of seahorses. Project Seahorse and TRAFFIC North America. University of British Columbia and World Wildlife Fund, Washington DC

M. S. P. Baine (✉) · A. P. W. Barrows · G. Ganiga
Motupore Island Research Centre, University of Papua New Guinea, University PO Box 320, NCD, Papua New Guinea
e-mail: mspbaine@yahoo.co.uk

K. M. Martin-Smith
Project Seahorse, School of Zoology, University of Tasmania, Private Bag 05, Hobart Tas 7001, Australia

Reef sites

Coral Reefs (2008) 27:421
DOI 10.1007/s00338-007-0352-5