

SEA HORSE

Mating Behaviour

MATING BEHAVIOUR fun facts

- It is the male that becomes pregnant in seahorses ¹
- Males compete more intensely for mates, despite male pregnancy ²
- Seahorses never abandon their mates, even if they are injured or unable to reproduce, and only search for another if their mate has disappeared or died ³

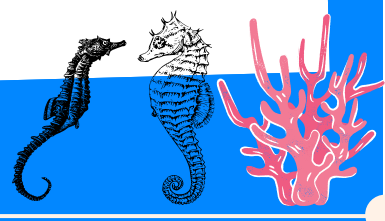


KEY TERMS

- Social and sexual monogamy:** pre/post-reproductive behaviours seen with one male, one female ⁴
- Conventional sex roles:** choosy females, competitive males ⁷
- Courtship:** indicates readiness to mate ⁶
- Greetings:** shows attraction to potential, or existing mates ³
- Mutual mate choice:** males preference for body size, female preference for olfactory cue dissimilarity ⁷

COURTSHIP BEHAVIOURS

- **Courtship** behaviours are characterized by greeting behaviours combined with seahorse-specific actions termed pointing, rising, or pumping ⁶
- Traditional courtship roles = males have a higher potential reproductive rate, therefore, less access to females ⁸
- Complex phases of courtship take place in the morning, except on the day of copulation ⁸
- **Greetings** are displayed by body brightening and at least 2 or 4 common ritualistic behaviours ⁶



RELATIONSHIP TYPE

- Exhibit **social and sexual monogamy** ³
 - 1) Partners performing daily greeting rituals ³
 - 2) Mating only with partner ³
 - 3) Refraining from interacting with other individuals ³
- Faithful pair bonds that mate exclusively and repeatedly have been proven by DNA genetic testing done in males ^{3,4}

MATE SELECTION

- **Mutual mate choice** ⁷
- Highly discriminate males, females are less discriminate in choosing a mate ⁹
 - Choosy, more competitive males means sexual selection acts more strongly on females ⁶
- Body size preferences- strong preference for larger females by males ⁹
- Olfactory cues- females prefer males of different genetic makeup in olfactory cues, rather than of similar ⁷

SEX ROLES

- **Conventional sex roles** ²
 - 1) Males exhibit greater amounts of courtship behavior patterns ²
 - 2) Distinguished aggressive behaviors are seen in males ²
- Females transfer eggs into specialized egg-brooding structures ²
- Males nourish, osmoregulate, aerate eggs ²

REFERENCES
 1. Vincent, A. C. J. (1994). Seahorses exhibit conventional sex roles in mating competition, despite male pregnancy. *Behaviour*, 128(1/2), 135-151. <https://doi.org/10.1163/156853994X00082>.
 2. Vincent, A., Ahnesjö, I., Berglund, A., & Rosenqvist, G. (1992). Pipefishes and seahorses: Are they all sex role reversed? *Trends in Ecology & Evolution*, 7(7), 237-241. [https://doi.org/10.1016/0169-5347\(92\)90052-D](https://doi.org/10.1016/0169-5347(92)90052-D).
 3. Vincent, A. C. J., & Sadler, L. M. (1995). Faithful pair bonds in wild seahorses, *Hippocampus whitei*. *Animal Behaviour*, 50(6), 1557-1569. [https://doi.org/10.1016/0003-3472\(95\)80011-5](https://doi.org/10.1016/0003-3472(95)80011-5).
 4. Wilson, A. B., & Martin-Smith, K. M. (2007). Genetic monogamy despite social promiscuity in the pot-bellied seahorse (*Hippocampus abdominalis*). *Molecular Ecology*, 16(11), 2345-2352. <https://doi.org/10.1111/j.1365-294X.2007.03243.x>.
 5. Bahr, A., & Wilson, A. B. (2011). Impact of sex-role reversal on the diversity of major histocompatibility complex: Insights from the seahorse (*Hippocampus abdominalis*). *BMC Evolutionary Biology*, 11(1), 121. <https://doi.org/10.1186/1471-2148-11-121>.
 6. Naud, M.-J., Curtis, J. M. R., Woodall, L. C., & Gaspar, M. B. (2009). Mate choice, operational sex ratio, and social promiscuity in a wild population of the long-snouted seahorse *Hippocampus guttulatus*. *Behavioral Ecology*, 20(1), 160-164. <https://doi.org.ezproxy.lib.ucalgary.ca/10.1093/beheco/arn128>.
 7. Bahr, A., Sommer, S., Mattie, B., & Wilson, A. B. (2012). Mutual mate choice in the potbellied seahorse (*Hippocampus abdominalis*). *Behavioral Ecology*, 23(4), 869-878. <https://doi.org/10.1093/beheco/ars045>.
 8. Masonjones, H. D., & Lewis, S. M. (2000). Differences in potential reproductive rates of male and female seahorses related to courtship roles. *Animal Behaviour*, 59(1), 11-20. <https://doi.org/10.1006/anbe.1999.1269>.
 9. Mattie, B., & Wilson, A. B. (2009). Body size preferences in the pot-bellied seahorse *Hippocampus abdominalis*: Choosy Males and Indiscriminate Females. *Behavioral Ecology and Sociobiology*, 63(10), 1403-1410. <https://doi.org/10.1007/s00265-009-0804-8>.
 10. Images taken freely from canva.com