

Supplementary Material

Table S1. Histological staging of the reproductive condition of female *Chrysophrys auratus* (Criteria amended from Mackie *et al.* (2009) and Rideout *et al.* (2005))

PN = perionucleolus, CN = chromatin nucleolus, CA = cortical alveoli, YG = yolk globule, MN = migration nucleus, POF = post-ovulatory follicles

Stage	Histological characteristics
1. Immature	Ovary compact, lamellae ordered, gonad wall thick and tight, few or no yellow-brown bodies. PN and CN stages present. No evidence of previous reproductive activity.
2. Resting	PN and CN stages present. Atretic vitellogenic oocytes may also be present. Shortly after spawning the ovary has empty lamellae, much vascular tissue, yellow-brown bodies, and gonad wall is loose and thin. This evidence of prior spawning gradually diminishes until ovary is similar in appearance to late stage 1.
3. Developing	Gonad wall is usually quite thick and contracted, lamellae are packed with PN and CN oocytes. CA oocytes are also present indicating onset of reproductive activity.
4. Developed	Gonad wall expanded, thin. Ovary enlarged and lumen reduced. Lamellae contain YG stage oocytes.
5a. Pre-spawning	Brief stage just before ovulation. Ovary at maximum size. MN stage or hydrated oocytes present within the lamellae.
5b. Spawning	Brief stage when fish are 'running ripe' and ovulated oocytes are present within the lumen ready to be spawned. New POF are present on the periphery of the lamellae.
5c. Post-spawning	Brief stage when new and old POF are present within the ovary. No MNS or hydrated oocytes.
6. Spent	Gonad wall loose, thin. Lamellae disorganised, few oocytes. Much vascular tissue, empty space, and yellow-brown bodies. More than 50% of vitellogenic oocytes are atretic.
7. Reabsorbing	Oocytes fail to develop completely. Majority of vitellogenic oocytes are atretic. No POF. No hydrated oocytes. Oocytes are closely packed together and there is little vascular tissue.

Table S2. Histological staging of the reproductive condition of male *Chrysophrys auratus* (Criteria amended from Mackie *et al.* (2009))

SG = spermatogonia, SC = spermatocytes, ST = spermatids, SZ = spermatozoa, RSS = radial sperm sinuses, CSS = central sperm sinus

Stage	Histological characteristics
1. Immature	Testes very small and mainly composed of connective tissue. SG and SC dominate, ST may be present in small quantities. CSS is present but this contains little sperm. RSS poorly developed.
2. Resting	At the end of the spawning season the testes are small and contain little germ tissue (mainly SG and SC). CSS is large. Closer to the spawning season ST become more common and the RSS are more prominent (but contain few SZ).
3. Developed	SC and ST dominate. Many crypts of ST have broken down, mixing their contents. Many SZ are found within the RSS. Spermiogenesis still underway.
4a. Early spawning	Testes large and running ripe. CSS and RSS enlarged and filled with sperm. ST and SZ dominate.
4b. Late spawning	Testes greatly reduced in size and crypts are smaller. ST and SZ dominate, CSS filled with sperm. Very little SG and SC.