TABLE S1 | Macroscopic scale of gonadal maturity adapted for *Ophisternon aenigmaticum*. No specimens in Stage I (Virgin/Undifferentiated) were recorded for either sex during the evaluated cycle; therefore, the maturity scale formally begins at Stage II.

Sex	Maturity stage	Description of macroscopic characteristics
Females	Stage II (Immature)	Ovaries are small, thin, and translucent or whitish. Individual oocytes are not visible to the naked eye; a stereomicroscope is required to observe tiny, developing oocytes.
	Stage III (Developing)	Ovaries increase in volume and take on a yellowish-orange coloration. Small, opaque oocytes become visible macroscopically, occupying a larger portion of the abdominal cavity.
	Stage IV (Maturing)	Ovaries are well-developed, thick, and clearly yellow or orange. Oocytes are larger, well-defined, and completely opaque due to vitellogenesis.
	Stage V (Mature)	Ovaries are highly voluminous, plump, and bright yellow-orange, occupying most of the visceral cavity. Oocytes reach their maximum size and are easily visible through the thin ovarian wall.
	Stage VI (Gravid)	Ovaries are fully enlarged, occupying the maximum volume of the coelomic cavity. The ovarian wall is translucent and progressively thinned due to distension, displaying prominent brown macroscopic pigmentations distributed across the surface. They are heavily packed with large, fully developed, spherical, and opaque vitellogenic telolecithal oocytes reaching a maximum diameter of 4.5 mm.
	Stage VII (Spent)	Ovaries are completely flaccid, empty, collapsed, brownish-red or hemorrhagic (bloodshot), and greatly reduced in size. The tissue looks deflated, showing clear signs of recent or ongoing egg release, with only a few residual or reabsorbing oocytes.
Males	Stage II (Immature)	Testes are very thin, thread-like, translucent, or slightly whitish. They are difficult to distinguish clearly without close inspection.
	Stage III (Developing)	Testes show a noticeable increase in thickness and length. They lose their transparency, becoming completely opaque and smooth, with a firm texture and a characteristic pyramidal shape in cross-section.
	Stage IV (Mature)	Testes are voluminous, thick, and robust, with a characteristic milky-white coloration, covered by a brownish-spotted tegument. They occupy a prominent space along the abdominal cavity, where the paired structures fuse into a single, cohesive testicular mass.
	Stage V (Spent)	Testes appear remarkably thin, flaccid, structurally collapsed, and with an absolute loss of turgor compared to the mature stage. They lose the milky-white opacity, showing a distinct brownish-red, translucent, or grayish appearance.

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