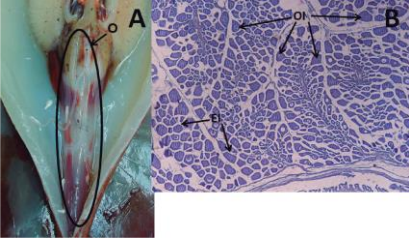
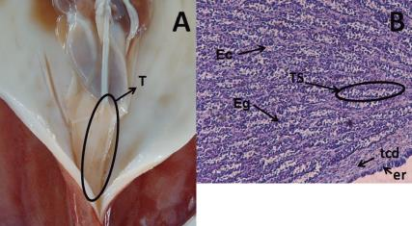
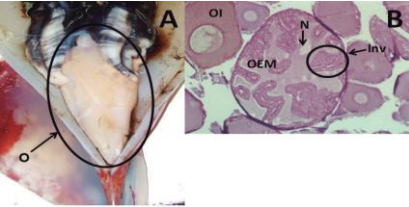
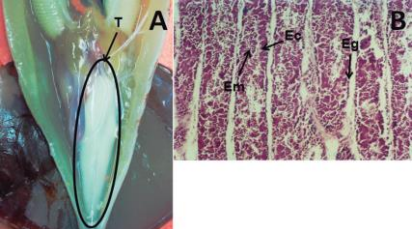
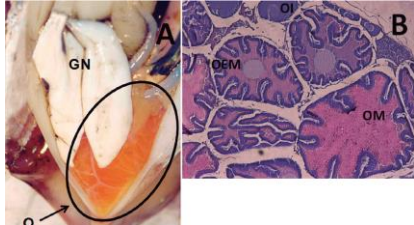
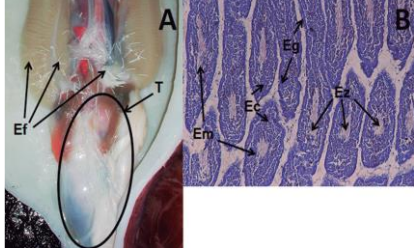
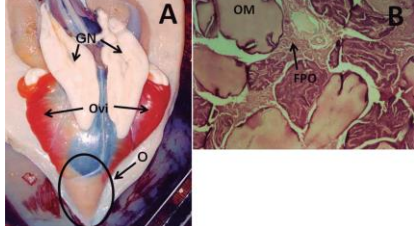


SPRFMO Maturity scale for Jumbo Flying Squid

October 2020

STAGE	FEMALE	MALE
I Immature	<p>The immature ovary is characterized by being an organ in the form of a piriform sac, elongated, smooth to granular, translucent or white, being translucent in its initial phase and somewhat opalescent (opaque) in its final phase. No oocytes are observed in oviducts and oviductal glands.</p>  <p>A) Female specimen of <i>Dosidicus gigas</i> in phase I of gonadal maturity, where an immature ovary is present B) Histological cut of the ovary in phase I of gonadal maturity, in which immature oocytes (OI), and the reduced intercellular space (EI) between them are noted. 100X.</p>	<p>The immature testicle is thin and translucent. The spermatophoric complex is in formation and without visible spermatophores in the spermatophoric sac.</p>  <p>A) Male specimen of <i>Dosidicus gigas</i> in phase I of gonadal maturity, B) Histological cut of the testicle in phase I, seminiferous tubules (TS), spermatocyte (Ec), spermatogony (Eg), dense connective tissue (tcd) and lining epithelium (er) covering the testicle are observed. 100X.</p>
II Maturing	<p>The ovary is granular, opaque in appearance and varies in colour from white to cream. In the oviducts and oviductal glands, no oocytes are yet observed.</p>  <p>A) Female specimen of <i>Dosidicus gigas</i> in phase II of gonadal maturity. The ovary is observed to be maturing (O) B) Histological cut of the ovary in phase II where the presence of immature oocytes (OI), maturing oocytes (OEM), nucleus (N) and invaginations of the follicle (Inv) is noted.</p>	<p>The testicle is characterized by a larger volume than in the previous phase, whitish, opaque.</p>  <p>A) Male specimen of <i>Dosidicus gigas</i> in phase II of gonadal maturity showing the mature testicle (T). B) Histological cut of the testicle in phase II, spermatogonia (Eg), spermatocytes (Ec) and spermatids (Em) are observed. 100X.</p>



<p>III Mature</p>	<p>The ovary is larger, swollen and piriform in appearance; its wall is thin and transparent, so mature oocytes can be seen with the naked eye. Its colour varies from yellowish cream to amber. Highly developed nidamental glands.</p>  <p>A) Female specimen of <i>Dosidicus gigas</i> in phase III of gonadal maturity, the mature ovary (O) and the nidamental gland (GN) are observed. B) Histological cut of a phase III ovary with immature oocytes (OI), maturing oocytes (OEM) and mature oocytes (OM). 400X.</p>	<p>The testicle is characterized by its turgid consistency, white colour and milky appearance. The spermatophores are found both in the spermatophoric sac and in the visceral cavity.</p>  <p>A) Male specimen of <i>Dosidicus gigas</i> in phase III of gonadal maturity showing the mature testicle (T) and spermatophores (Eph.). B) Histological cut of testicle in phase III, with spermatogonies (Eg), spermatocytes (Ec) and spermatids (Em) and spermatozoa (Ez), in addition to a wide tubular lumen. 100X.</p>
<p>IV Spawning/ Expelling</p>	<p>The ovary is less turgid, grainy, with a large number of yellow and amber cream oocytes, its wall is very thin. The amber oocytes are predominant and give the ovary an orange hue.</p>  <p>A) Female specimen of <i>Dosidicus gigas</i> in phase IV of gonadal maturity, showing the spawning ovary (O), the oviducts (Ovi) filled with advanced mature oocytes and the nidamental gland (GN). B) Histological cut of the ovary in phase IV, mature oocytes (OM) and post-ovulatory follicles (FPO) are noted. 400X.</p>	<p>The testicle is flaccid and reduced. The spermatophoric sac is fully packed with spermatophores, with some spermatophores outside the terminal organ.¹</p>
<p>V Spent</p>	<p>Flaccid ovary appeared in loose status, with few small oocytes. Loose oviduct contains few or no eggs. Flaccid nidamental glands and ovary.¹</p>	<p>The testicle is flaccid and the spermatophoric complex has a light grey color. The spermatophoric sac contains few spermatophores, some of which are broken, with sperms leaked.¹</p>

Source: Gonad maturity scales of *Dosidicus gigas* elaborated on the basis of and with pictures from Perea *et al.* (2018)²

¹ Note that Stage V female and Stage IV and V males are not considered in Perea *et al.* (2018) and images for these stages will be included as soon as they are available.

² Perea A, Sánchez J, Buitrón B. (2018) Gonadal maturity scale of the jumbo flying squid *Dosidicus gigas*(d'Orbigny, 1835) (Cephalopoda: Ommastrephidae). Bol. Inst. Mar. Peru 33(2): 137-152.