

WSC 2022-2023  
Conference 11, Case 1  
Tissue from an octopus.

MICROSCOPIC DESCRIPTION: Gill lamellae **(1pt)**: Multifocally, within the gill epithelium **(1pt)** there are numerous apicomplexan **(1pt)** gametocytes **(1pt)** which range up to 100um in diameter. Gametocytes have a granular basophilic cytoplasm **(1pt)** and a single nucleus, with homogenous nucleus. **(1pt)** There is multifocal hyperplasia of gill epithelium. **(1pt)** There is multifocal individual cell necrosis of the gill epithelium. **(1pt)** There is variably dense infiltration of the connective tissue of the gill lamellae by numerous hemocytes **(1pt)** with variable amounts of granulated cytoplasm and occasionally intracytoplasmic brown globular pigment, which are also seen within dilated lamellar capillaries. Multifocally, there are scattered low numbers of pyriform flagellates **(1pt)**, measuring 20um in length and attached to the gill epithelium by a narrow stalk. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1 Gill: Branchitis **(1pt)**, hemocytic **(1pt)**, diffuse, moderate, with multifocal epithelial hyperplasia **(1pt)**, numerous intraepithelial apicomplexan macrogametes **(1pt)** and low numbers of epithelial-associated flagellates. **(1pt)**

CAUSE: *Aggregata* sp. **(2pt)**, *Icthyobodo* sp. **(1pt)**

O/C: **(1pt)**

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Conference 11, Case 2

Tissue from a giant spider crab.

**MICROSCOPIC DESCRIPTION:** Carapace **(1pt.)**: Multifocally, all cuticular layers **(1pt.)** as well as the membranous layer **(1pt.)** are eroded and ulcerated **(1pt.)** with accumulation of proteinaceous material and hemocyte debris. Multifocally, the epidermis and dermis, most prominently in the setae are infiltrated by granular and reactive agranular hemocytes **(1pt.)**, occasional melanized cells **(1pt.)**, karyorrhectic cellular debris and extracellular and intraphagocytic bacteria **(1pt.)**. Hemocytes infiltrate the underlying connective tissue **(1pt.)** amid myocytes and infiltrate vessels **(1pt.)**, more prominently within the deep soft tissue in the apron. Rare hemocyte nodule formation is noted. **(1pt.)** Hemolymph sinuses exhibit occasional eosinophilic globules.

**Gill (1pt.)**: Multifocally, the gills are infiltrated by granular and agranular hemocyte **(1pt.)**s, cellular debris, proteinaceous fluid, and intraphagocytic and intravascular bacteria **(1pt.)**.

**MORPHOLOGIC DIAGNOSIS:** 1. Carapace: Epidermitis, dermatitis, and hypodermatitis, **(1pt.)**ulcerative and hemocytic, **(1pt.)** multifocal to coalescing, moderate, with melanization **(1pt.)**, vasculitis **(1pt.)**, and intrahemocytic and extracellular bacteria.

**Gill:** Branchitis, hemocytic **(1pt.)**, multifocal, moderate with intrahemocytic and extracellular bacteria.

**NAME THE CONDITION:** Black shell disease **(2pt.)**

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Conference 11, Case 3

Tissue from a African spurred tortoise.

**MICROSCOPIC DESCRIPTION:** Liver: Affecting 30% of the multiple submitted sections are random, **(1pt.)** multifocal to coalescing areas of coagulative necrosis **(1pt.)** (characterized by loss of differential staining with retention of tissue architecture) **(1pt.)**, lytic necrosis **(1pt.)** (characterized by loss of tissue architecture with replacement by karyorrhectic and cellular debris **(1pt.)**), hemorrhage, numerous heterophils **(1pt.)**, macrophages **(1pt.)**, and lymphocytes), and hepatocyte degeneration **(1pt.)** (characterized by cytoplasmic swelling and vacuolization). Necrotic areas and thrombosed vessels contain many extracellular, intravascular, or intrahistiocytic **(1pt.)** 10-20um diameter amoebic trophozoites **(1pt.)** with a thin cell wall, abundant granular to vacuolated basophilic cytoplasm with rare phagocytized necrotic debris, and a 5-7um round to oval nucleus with margined chromatin and a lightly basophilic karyosome. **(1pt.)** Multifocally the tunica media and tunica adventitia of blood vessels are expanded and replaced by heterophils and eosinophilic and karyorrhectic cellular debris (vascular necrosis) **(1pt.)**, and contain few previously described amoebic trophozoites and inflammatory cells. Adjacent to necrotic areas, hepatocytes contain abundant brown granular pigment **(1pt.)**. There is marked capsular mesothelial hyperplasia. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** Liver: Hepatitis, necrotizing **(1pt.)**, embolic, multifocal to coalescing, marked, with number intrahistiocytic and extracellular amebic trophozoites **(1pt.)**

**CAUSE:** *Entamoeba invadens* **(3pt.)**

**O/C:** **(1pt)**

WSC 2022-2023  
Conference 11, Case 4.  
Tissue from a snake.

**MICROSCOPIC DESCRIPTION:** Intestine **(1pt)**: Markedly and transmurally **(1pt)** expanding the intestine, and focally effacing villar architecture and extending into the lumen, there is an unencapsulated, infiltrative, poorly demarcated, densely cellular neoplasm. **(1pt)** The neoplasm is composed of round cells **(2pt)** which are arranged in sheets **(1pt)** on a pre-existent stroma **(1pt)**. Within the villi, neoplastic cells infiltrate the overlying mucosal epithelium. **(1pt.)** Neoplastic cells are round, range from 9-12um in diameter and a small amount of granular pink cytoplasm. **(1pt)** Nuclei are round with finely stippled chromatin and 1-3 small basophilic nucleoli. **(1pt)** Anisocytosis and anisokaryosis is moderate, and mitoses average 22 per 2.37mm<sup>2</sup> field. **(1pt)** There are numerous individual apoptotic cells **(1pt)** and large regions of lytic necrosis within the neoplasm **(1pt)**. There are small to moderate numbers of heterophils scattered throughout the neoplasm **(1pt)**.

**MORPHOLOGIC DIAGNOSIS:** Intestine: Round cell tumor. **(3pt)**

**NAME THREE APPROPRIATE IMMUNOHISTOCHEMICAL STAINS:** CD3, CD20 (or PAX 5), IBA-1 (or CD18 or lysozyme) **(3pt)**

**O/C: (1pt)**