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PATHOLOGICAL INVESTIGATIONS INTO PIGMENT ANOMALIES AND BLINDNESS IN ANGLER FISH (*Lophius piscatorius* AND *L. budegassa*) FROM THE CELTIC DEEPS

by

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● Following recent reports that landings of angler fish (*Lophius* sp.) caught in the Celtic Deeps exhibited unusual pigment anomalies and blindness, 9 affected and 6 'normal' specimens were examined for histopathological changes. Affected fish were generally pale, with light brown mottling, and consistently possessed rudimentary or deformed eyes. One specimen of *L. budegassa* was bright orange in colour and did not show ocular anomalies.

All affected fish had undergone varying degrees of autolytic change prior to fixation, however, key histological changes could be discerned, these included regions of epidermal sloughing associated with aggregations of iridophores in the dermis. Occasional depositions of foreign bodies (sand, detritus, etc) were also noted in the dermal layers and where these occurred there was localised myopathy. Sections through rudimentary and deformed eyes confirmed abnormal or absence of lenticular tissue and atrophied retinal layers. All specimens examined were observed to be heavily infected with the microsporean parasite, *Spraguea lophii*, with xenomas present in the medulla of the brain and ganglion cells in peripheral nerves proximal to the spinal cord.

● Several possible causes for the observed anomalies were considered. Levels of radioactive and non-radioactive contaminants in affected fish were extremely low, consequently these materials were not thought to be involved. Since 2 species (*L. piscatorius* and *L. budegassa*) have been affected, a genetic based aetiology could be ruled out. However, since most specimens were infected with *S. lophii*, it is possible that heavy infections in the nervous tissues could result in neuropathy, thus affecting epidermal and ocular tissues.