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Chlamydoselachus africana, a new species of frilled shark from southern Africa (Chondrichthyes, Hexanchiformes, Chlamydoselachidae)

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Abstract

Frilled sharks (Chondrichthyes, Hexanchiformes, Chlamydoselachidae), long believed to be a monotypic family and genus, consisting of a single wide ranging species, *Chlamydoselachus anguineus* (Garman, 1884), is now known to contain at least two species. A new species of frilled shark, *Chlamydoselachus africana*, sp. nov., is described from five specimens collected from southern Africa. The new species, although difficult to distinguish externally from the well known *C. anguineus*, differ internally by the structural differences in the chondrocranium, lower total vertebral and spiral valve counts, and pectoral-fin radial counts. The new species, *Chlamydoselachus africana*, is known from off southern Angola, Namibia, and South Africa.

Key words: Chlamydoselachidae, *Chlamydoselachus africana*, new species, Angola, Namibia, South Africa

Introduction

The frilled sharks (Hexanchiformes, Chlamydoselachidae, *Chlamydoselachus*) are a little known but wide ranging group of deep-water sharks. The family and genus have one living species, with the frilled shark, *Chlamydoselachus anguineus* Garman, 1884, a medium-sized shark that reaches at least 1.96 m total length (TL), being the only known representative (Compagno, 1984; Ebert, 1990). This species is usually caught on or near the bottom between 120 and 1450 m depth, though it occasionally makes excursions into the midwater (Shiobara *et al.*, 1987).

Chlamydoselachus anguineus was first described by Garman (1884) from a 1.5 m TL female specimen purchased by the Harvard Museum of Comparative Zoology (MCZ), Harvard University. The exact location of capture is unknown, but it was likely southeastern Honshu, Japan, due to the close proximity of several deep water submarine canyons. Much of the early interest in this species stemmed from its supposed affinity with the cladodonts (Garman 1884, 1885; Gill 1884a, b). Gudger and Smith (1933) later showed, however, that *C. anguineus* actually possesses many specialized structural adaptations, while neurocranial studies by Compagno (1977) showed a close similarity between *C. anguineus*, other hexanchoids and squaloids.

The anatomy of *C. anguineus* has been described in detail by numerous authors (Garman, 1885; Hawkes, 1907; Goodey, 1910; Allis, 1923; Gudger & Smith, 1933; Smith, 1937), but these studies were based on Japanese specimens, since their capture outside Japan is uncommon and most non-Japanese specimens have been deposited intact in museums and academic institutions. Smith (1967), based on two Namibian specimens, pointed out that not only did a certain degree of sexual dimorphism exist within the species, but that within each sex there is a wide variation in form.

South Africa's Marine and Coastal Management (MCM; formerly Sea Fisheries Research Institute) research ship FRS *Africana* has, since 1983, conducted cruises along the west coast of southern Africa aimed

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