

Bigspine Spookfish, *Harriotta raleighana*

Report Card assessment	Sustainable		
IUCN Red List Australian Assessment	Least Concern	IUCN Red List Global Assessment	Least Concern
Global Assessors	Dagit, D.D., Walls, R.H.L. & Buscher, E.		
Australian Assessors	Kyne, P.M., Heupel, M.R., White, W.T., Simpfendorfer, C.A. (Shark Action Plan) & Rigby, C.L.		
Report Card Remarks	Deepwater species with no current fishing effort in its preferred depth range and at low risk across its full depth range.		

Summary

The Bigspine Spookfish is a medium-sized and fairly abundant deepwater chimaerid that is circumglobal in tropical to temperate waters. In Australia, it occurs in a wide range across southern Australia. It is possibly an incidental byproduct of trawl fisheries, potentially taken in the Commonwealth Southern and Eastern Scalefish and Shark Fishery (SESSF) and previously in the South Tasman Rise Trawl Fishery (STRTF) with some retention. However, there is no longer any fishing in its Australian preferred depth range of 700–900 m as trawling deeper than 700 m has been prohibited in the SESSF and the STRTF has been closed. There still may be some limited SESSF catches and it was assessed as at low risk in the SESSF with its vulnerability assessed as low for both fishing and climate change. The population is suspected to be stable in Australia as there is no current fishing effort in its Australian preferred depth range and it is at low risk in the SESSF. Therefore, the Bigspine Spookfish is assessed as Least Concern (IUCN) (Kyne et al. 2021) and Sustainable (SAFS).



Distribution

The Bigspine Spookfish is circumglobal but patchy throughout tropical to temperate waters (Dagit and Walls 2016). In Australia, it has a wide range across southern Australia where it occurs from Brush Island (New South Wales) to Geraldton (Western Australia), including Tasmania and its seamounts and ridges (Last and Stevens 2009).

Stock structure and status

There is currently no information on population size, structure or trend for the species; however, it is reportedly fairly abundant (Dagit and Walls 2016). *Harriotta* species are currently being examined to resolve taxonomic uncertainties.

Fisheries

The Bigspine Spookfish is a possible incidental catch of trawl fisheries. It was a byproduct in the Commonwealth Southern and Eastern Scalefish Fishery (SESSF) with an estimated annual catch of 2 tonne between 2000–2006, with 85% of this retained for its flesh (Walker and Gason 2007, Dagit and Walls 2016). Fishing deeper than 700 m in the SESSF has been prohibited since 2007, which would provide the species significant refuge at depth as mainly occurs at 700–900 m, though there may still be some limited catches, and it has recently been assessed as at low risk in the SESSF (Sporcic et al. 2021). It was also previously a minor catch in the South Tasman Rise Trawl Fishery (STRTF) with an estimated 0.3 tonne taken from 1998–2000 of which 8% was retained (Dagit and Walls 2016). The fishery operated at average depths of 900–1,000 m from 1997–2007 and was closed within the Australian Fishing Zone in 2007 to protect the depleted target stocks of Orange Roughy (*Hoplostethus atlanticus*) (Clark and O’Driscoll 2002, Last and Stevens 2009, Emery 2020, Patterson et al. 2022). The Bigspine Spookfish vulnerability to fishing and climate change was assessed as low (Walker et al. 2021).

Habitat and biology

The Bigspine Spookfish is demersal on the continental slope at depths in Australia of 350–1,080 m, though mainly at 700–900m; elsewhere it has been reported to a depth of 2,600 m (Last and Stevens 2009, Dagit and Walls 2016). Maximum size is 90 cm total length (TL), 70 cm pre-caudal filament length (PCFL) with males mature at 63 cm TL and females at 76 cm TL (Dagit and Walls 2016, Finucci et al. 2017).

Longevity and maximum size	Longevity: unknown Max size: 90 cm TL, 70 cm PCFL
Age and/or size at maturity (50%)	Males: 45–63 cm TL Females: 60–76 cm TL

CAAB Code: 37 044001

Link to IUCN Page: <https://www.iucnredlist.org/species/60140/3088899>

Link to page at Shark References: <https://shark-references.com/species/view/Harriotta-raleighana>

References

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