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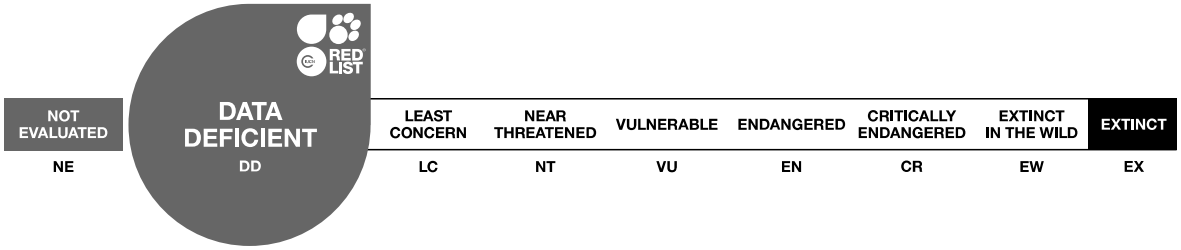
Scope(s): Global
Language: English

Amblyraja georgiana, Antarctic Starry Skate

Assessment by: Pollom, R., Acuña, E., Bustamante, C., Chiaramonte, G.E., Cuevas, J.M., Herman, K., Pompert, J. & Velez-Zuazo, X.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Chondrichthyes	Rajiformes	Rajidae

Scientific Name: *Amblyraja georgiana* (Norman, 1938)

Synonym(s):

- *Raja georgiana* Norman, 1938

Common Name(s):

- English: Antarctic Starry Skate

Taxonomic Source(s):

Fricke, R., W.N. Eschmeyer and R. Van der Laan (eds.). 2020. Eschmeyer's catalog of fishes: Genera, species, references. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (Accessed: March 2020).

Taxonomic Notes:

A species of *Amblyraja*, previously identified as *A. cf. georgiana*, occurs around the Falkland Islands (Malvinas) and appears to be most closely related to *A. frerichsi*. It does however, differ from *A. frerichsi* in a number of characteristics and may be identical to an undescribed *Amblyraja* from South Georgia (as specified in Endicott *et al.* 2002) (J. Pompert pers. comm. 2019). *Amblyraja georgiana* from the Ross Sea appears to have low-level genetic differentiation from South Atlantic *A. georgiana*, and further work is required to determine whether the Ross Sea *A. georgiana* is distinct (M. Francis pers. comm. 2019). Taxonomic resolution of this issue is ongoing. Endicott *et al.* (2002) found *A. georgiana* to have a restricted depth range around South Georgia, with an unknown rajid species comprising the rest of the deep water captures. Although *A. georgiana* is reported to have been regularly caught around Antarctica in deep water, findings by Endicott *et al.* (2002) suggest that complications and difficulties in identification of Antarctic rajids may lead to misidentification.

Assessment Information

Red List Category & Criteria: Data Deficient ver 3.1

Year Published: 2020

Date Assessed: February 8, 2019

Justification:

The Antarctic Starry Skate (*Amblyraja georgiana*) is a medium-sized (to 115 cm total length) deepwater skate that occurs in the Southeast Pacific Ocean off southern Chile, in the Southwest Atlantic Ocean off southern Argentina and the Falkland Islands (Malvinas), in the Atlantic and Pacific Antarctic Oceans from South Georgia Island and the Antarctic Peninsula to the Ross Sea, and in the Indian Antarctic off the Crozet Islands. It is demersal on continental and insular slopes at depths of 20–1,255 m, and is captured as bycatch in trawl and longline fisheries, particularly those targeting Patagonian Toothfish

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(*Dissostichus eleginoides*). There are no population size estimates for this skate, and it is not clear what the current population trend is. Although estimates of bycatch around South Georgia and the Ross Sea are comprised of a low percentage of overall estimated stock biomass, the demographic consequences are unknown and require further research. Furthermore, catch levels in other areas are unknown, and some specimens previously referred to as this species may include cryptic individuals of a yet-to-be-described species. Overall, it is not clear what level of fishing mortality this species is exposed to across its range, and further research is needed on distribution, population size and trend, and threats. Therefore, the Antarctic Starry Skate is assessed as Data Deficient.

Previously Published Red List Assessments

2009 – Data Deficient (DD)
https://dx.doi.org/10.2305/IUCN.UK.2009-2.RLTS.T161490A5435813.en

Geographic Range

Range Description:

The Antarctic Starry Skate occurs in the Southeast Pacific Ocean off southern Chile, in the Southwest Atlantic Ocean off southern Argentina and the Falkland Islands (Malvinas), in the Atlantic and Pacific Antarctic Oceans from South Georgia Island and the Antarctic Peninsula to the Ross Sea, and in the Indian Antarctic off the Crozet Islands (Main and Collins 2011, Last *et al*. 2016).

Country Occurrence:

Native, Extant (resident): Antarctica; Argentina; Chile; Falkland Islands (Malvinas); French Southern Territories (Crozet Is.); South Georgia and the South Sandwich Islands (South Georgia)

FAO Marine Fishing Areas:

Native: Atlantic - southwest

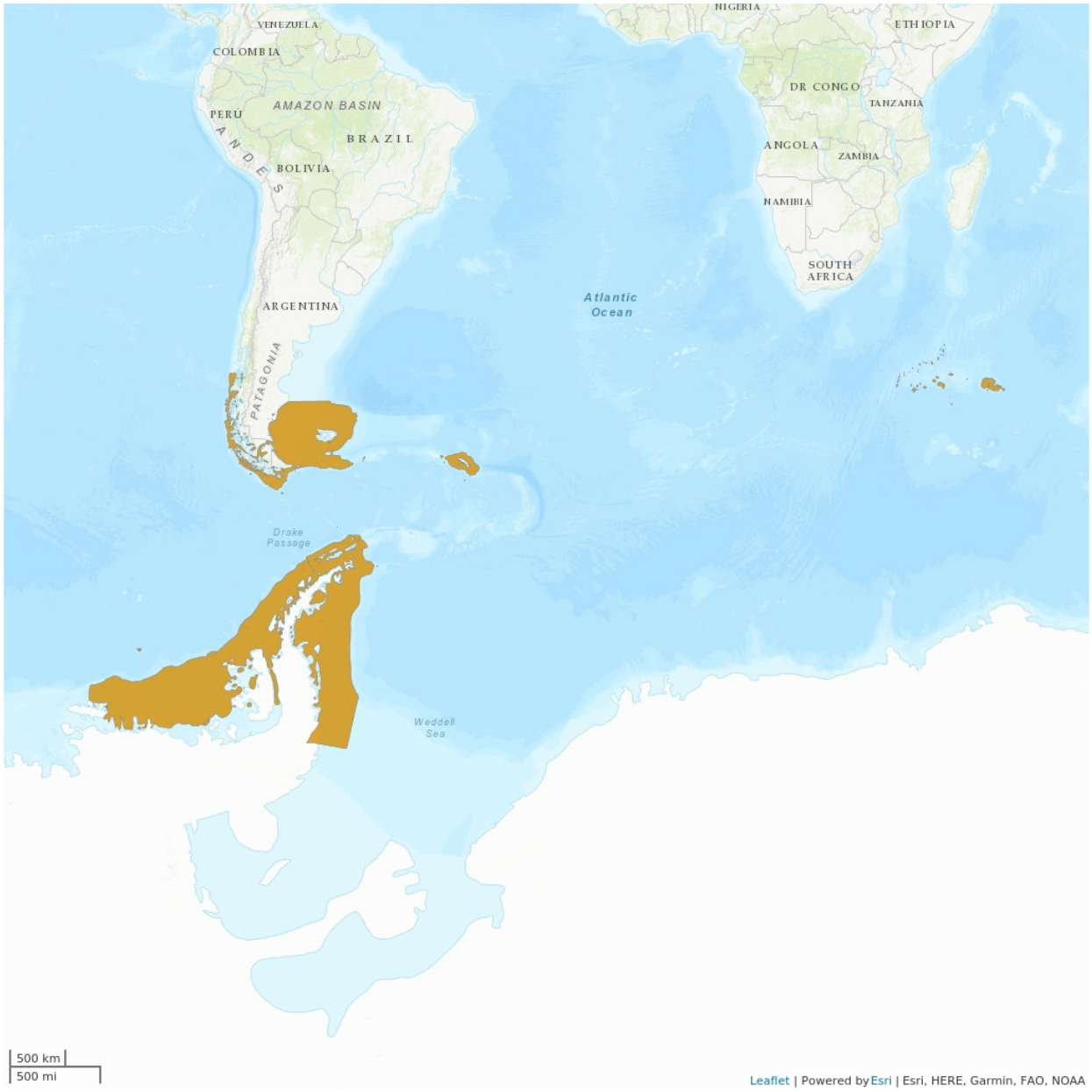
Native: Pacific - southeast

Native: Pacific - Antarctic

Native: Indian Ocean - Antarctic

Native: Atlantic - Antarctic

Distribution Map

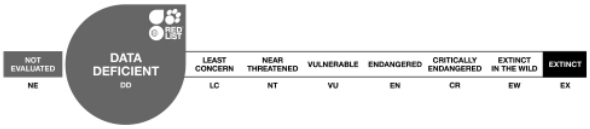


Legend

EXTANT (RESIDENT)

Compiled by:

IUCN SSC Shark Specialist Group 2020



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

There are no population size estimates for this skate, and it is not clear what the current population trend is. Although estimates of bycatch around South Georgia and the Ross Sea are comprised of a low percentage of overall estimated stock biomass, the demographic consequences are unknown and require further research (Parker and Francis 2018, Söffker *et al.* 2018). In the Ross Sea Patagonian Toothfish (*Dissostichus eleginoides*) fishery, the number of individuals caught per year varied between 1998 and 2010, but peaked in 2006 at about 14,000 t and thereafter declined to about 7,000 t (Mormede and Dunn 2010). Catch levels in other areas are unknown.

Current Population Trend: Unknown

Habitat and Ecology **(see Appendix for additional information)**

The Antarctic Starry Skate is demersal on continental and insular slopes at depths of 20–1,255 m (Last *et al.* 2016, Weigmann 2016). It reaches a maximum size of 115 cm total length (TL) (Weigmann 2016); size-at-maturity for both sexes is about 66 cm TL (Francis 2010). As in other skates, reproduction is oviparous; an annual reproductive cycle is suspected and size at hatch is 20 cm TL (Endicott *et al.* 2002, Last *et al.* 2016). Female age at maturity is 20 years and maximum age is 38 years (Francis and Gallagher 2009); generation length is therefore suspected to be about 29 years.

Systems: Marine

Use and Trade **(see Appendix for additional information)**

This skate is typically discarded dead.

Threats **(see Appendix for additional information)**

This skate is caught as bycatch in trawls and longlines of the Patagonian Toothfish fishery. It may be processed by Korean longline vessels and discarded by others (Laptikhovsky and Brickle 2005). In the Falkland Islands (Malvinas), it largely inhabits waters below active trawl fisheries and is not caught often (Arkhipkin *et al.* 2012). Around South Georgia, a preliminary stock assessment indicates that bycatch levels are low and that only about 1% of the biomass is taken there (Söffker *et al.* 2018). In the Ross Sea, this skate makes up 90% of the bycatch by number and weight (Parker and Francis 2018); thousands of individuals are caught there each year, most of which are released with unknown discard mortality (Mormede and Dunn 2010). Throughout the Southern Ocean, illegal, unregulated, and unreported (IUU) fishing for Patagonian Toothfish was rampant in the 1990s and early 2000s, but this seems to have been largely brought under control through efforts by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to engage a variety of stakeholders to address the issue (Österblom *et al.* 2015). Post-release mortality is unknown. Overall, it is not clear what level of fishing mortality this species is exposed to across its range.

Conservation Actions **(see Appendix for additional information)**

There are no species-specific protections or conservation measures in place for this skate. The South Georgia Government prohibited fishing in waters <500 m deep within the toothfish longline fishery in 2004. Bycatch of skates is mitigated in fisheries managed by CCAMLR, where all skates must be cut from longlines while still in the water and released. Further research is needed on distribution, population

size and trend, and threats. All fisheries, particularly those operating in deep waters, should monitor bycatch at the species level.

Credits

Assessor(s): Pollom, R., Acuña, E., Bustamante, C., Chiaramonte, G.E., Cuevas, J.M., Herman, K., Pompert, J. & Velez-Zuazo, X.

Reviewer(s): Simpfendorfer, C. & Dulvy, N.K.

Contributor(s): Endicott, M. & Kyne, P.M.

Facilitator(s) and Compiler(s): Kyne, P.M., Pollom, R. & Dulvy, N.K.

Authority/Authorities: IUCN SSC Shark Specialist Group (sharks and rays)

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Citation

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Disclaimer

External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
9. Marine Neritic -> 9.3. Marine Neritic - Subtidal Loose Rock/pebble/gravel	Resident	Suitable	Yes
9. Marine Neritic -> 9.4. Marine Neritic - Subtidal Sandy	Resident	Suitable	Yes
9. Marine Neritic -> 9.5. Marine Neritic - Subtidal Sandy-Mud	Resident	Suitable	Yes
9. Marine Neritic -> 9.6. Marine Neritic - Subtidal Muddy	Resident	Suitable	Yes
11. Marine Deep Benthic -> 11.1. Marine Deep Benthic - Continental Slope/Bathyl Zone (200-4,000m)	-	-	-

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.4. Unintentional effects: (large scale) [harvest]	Ongoing	Minority (50%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: No
Area based regional management plan: No
Occurs in at least one protected area: Unknown
Invasive species control or prevention: Not Applicable
In-place species management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No

Conservation Action in Place
Subject to ex-situ conservation: No
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.4. Harvest, use & livelihoods
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Lower depth limit (m): 1,255
Upper depth limit (m): 20
Population
Population severely fragmented: No
Habitats and Ecology
Generation Length (years): 29

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.