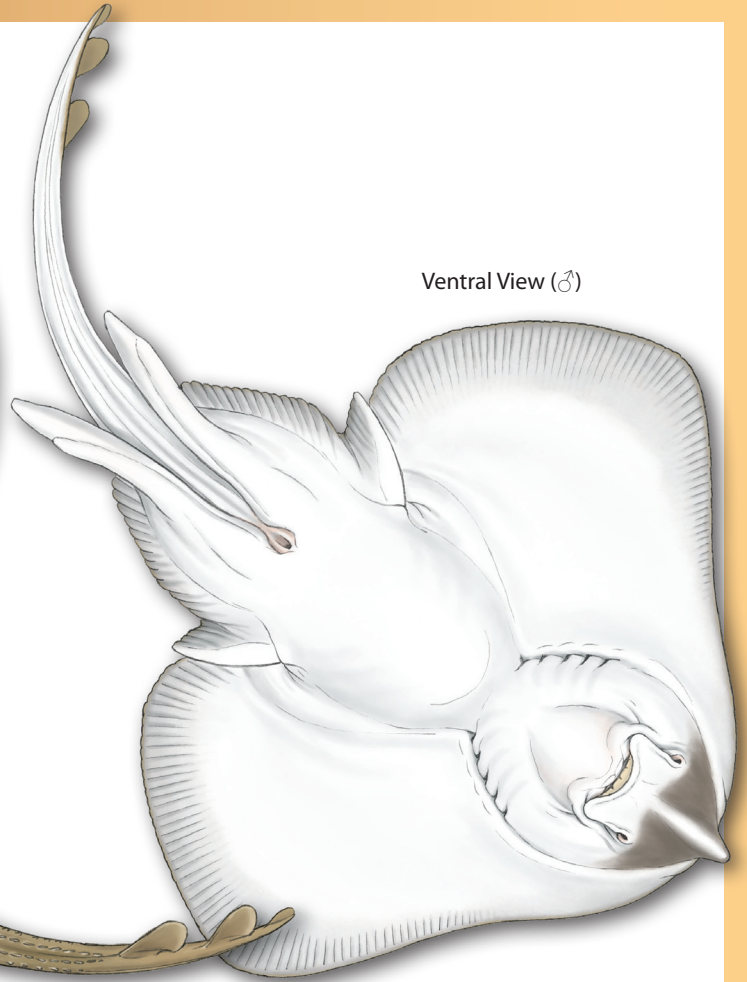
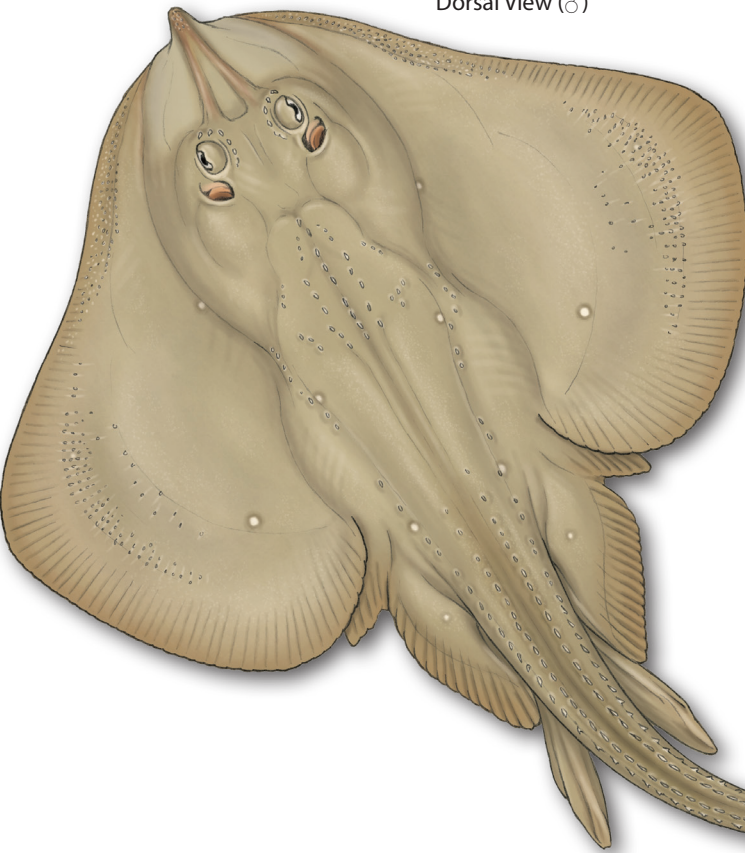


Dorsal View (♂)

Ventral View (♂)



COMMON NAMES

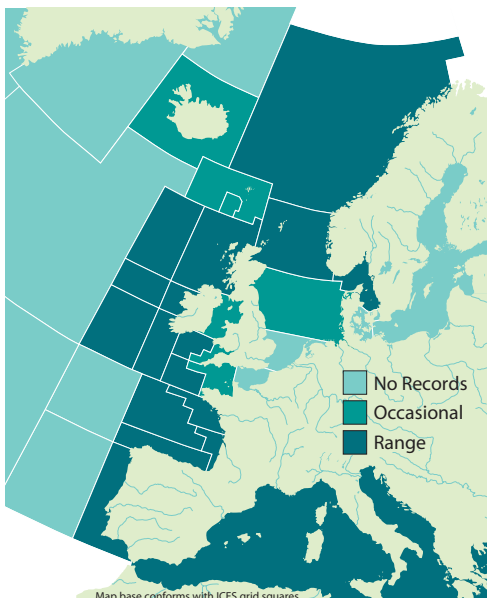
Sandy Ray, Sandy Skate. Leather Ray, Faroese Roker, Raie Circulaire (Fr), Sandroche (De), Raya Falsa Vela (Es), Razza Rotonda (It).

SYNONYMS

Raja circularis (Couch, 1838), *Raja falsavela* (Bonaparte, 1839), *Amblyraja circularis* (Malm, 1877), *Raja falsavela* (Doderlein, 1884), *Alpharaia circularis* (Leigh-Sharpe, 1924).

DISTRIBUTION

Found in the east Atlantic from northern Morocco to southern Norway and out to Iceland. Around the UK it is predominantly found along the north coast of Scotland and the Shetland Isles, occasionally western Scotland and Ireland (Barnes, 2008). It is also found in the western Mediterranean. There are uncertain records of the species as far south as Mauritania and Senegal which have generally been attributed to the Whitedappled Skate (*Leucoraja leucosticta*) (Whitehead *et al.*, 1986).



APPEARANCE

- Up to 120cm total length.
- Upper surface light brown (sandy) to red brown.
- 4-6 creamy spots on each pectoral fins.
- Solid tail slightly longer than the body.
- Closely spaced dorsal fins with no thorns between.

The Sandy Ray is a large skate that can reach 120cm in length, but is most usually around 70cm (Whitehead *et al.*, 1986). It has a short snout with a very pronounced tip and strong tail which is only slightly longer than the body (Serena, 2005). The teeth are arranged in 64-84 rows in the upper jaw. These are more pointed in mature males than in females and juveniles as they are used for holding the female during copulation (Clark, 1926).

The upper surface of the disc is entirely covered in spines except for small bare areas on the hind half in adults. In juveniles there is a median row of thorns along the centre of the body and tail with a parallel row of thorns on each side. These are greatly reduced in adults (Whitehead *et al.*, 1986). In adults there is a row of around 8 thorns on the inner margin of each eye and a triangle of thorns near the shoulder (Barnes, 2008). On the underside of the disc there are prickles only on the snout, between the gill-slits, along the abdomen and on the anterior margins of the disc (Agustin, 2009). The dorsal fins are very closely spaced with no thorns between (Whitehead *et al.*, 1986).

The Sandy Ray gets its name from its sandy colouration, although this is variable and can be darker brown or red (Barnes, 2008). On each pectoral fin there are 4-6 symmetrically arranged creamy spots. The underside is white in both juveniles and adults (Whitehead *et al.*, 1986).



SIMILAR SPECIES

Leucoraja fullonica, Shagreen Ray

Leucoraja melitensis, Maltese Ray (not illustrated)

Leucoraja naevus, Cuckoo Ray

Raja microocellata, Small-eyed Ray

Leucoraja circularis,
Sandy Ray

Leucoraja fullonica,
Shagreen Ray

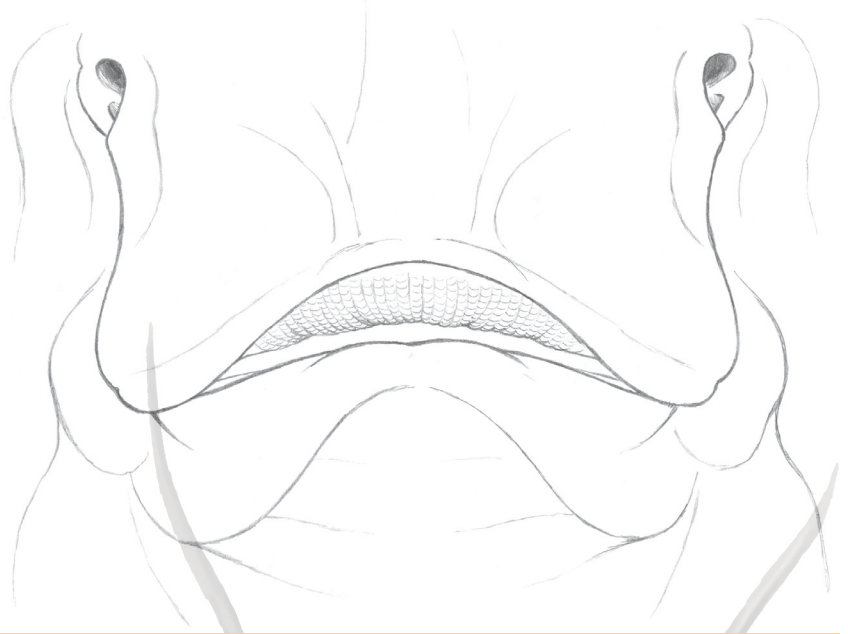
Leucoraja naevus,
Cuckoo Ray

Raja microocellata,
Small-eyed Ray

(Not to scale)

TEETH

There are 64-84 rows of teeth in the upper jaw. These are more pointed in adult males than in females and juveniles (Clark, 1926).



ECOLOGY & BIOLOGY

HABITAT

The Sandy Ray is a relatively large skate most commonly found in offshore shelf waters and on the upper continental shelf around the northeast Atlantic and the Mediterranean (Gibson *et al.*, 2006). Across the majority of its range it is found in depths ranging from 70 to 275m (230–900ft) and is most common around 100m (330ft), although it has been suggested that they now favour slightly deeper water (~180m) in Scotland (Serena, 2005; Gibson *et al.*, 2006). In the Ionian Sea it is only encountered in deeper waters from 463-676m (1,500–2,200ft) (Agustin, 2009). Like most skates it tends to prefer soft substrates such as sand and mud (Barnes, 2008).

DIET

Its diet is poorly understood but it most likely feeds on various bottom dwelling invertebrates, particularly crustaceans, and small teleost fish (Agustin, 2009).

REPRODUCTION

Little is known of the reproductive strategy and life history of the Sandy Ray except that the females lay their eggs in soft substrates from August to November (Serena, 2005). These eggcases measure 83-92mm long (excluding horns) and 46-53mm wide (Agustin, 2009).

EGGCASE

1. 82–94mm in length (excluding horns).
2. 46–53mm in width (Agustin, 2009).

Similar eggcase to the Cuckoo Ray, *Leucoraja naevus*, but larger (Clark, 1926).



COMMERCIAL IMPORTANCE

The Sandy Ray is taken as bycatch of multi-species trawl fisheries and offshore bottom longlines (Gibson *et al.*, 2006). Of local fisheries importance towards the southern part of its range (Whitehead *et al.*, 1986).

THREATS, CONSERVATION, LEGISLATION

While there is no targeted fishery for the species, the Sandy Ray is often taken as bycatch in multi-species trawl fisheries which operate intensively across its range. It can be seen from landings data and survey trawls that this is having an impact on populations. French landings of the species have declined from ~500t a year to ~300t a year since the early 1990's. Survey trawls have not recorded the Sandy Ray in the North Sea since 1996 or in the Celtic Sea since 1997. It is still found in Scottish waters although most recent captures have been between 180-500m (590-1,640ft), deeper than expected. Like most skate and ray species around the UK, little is known of the population trends of the Sandy Ray (Gibson *et al.*, 2006).

In 2007, the Sandy Ray was included on the UK Biodiversity Action Plan (BAP) list. Though this does not provide any legal protection for the species in itself, it includes provisions to work towards European conservation legislation. Its main targets included plans to stabilise populations in refuge areas and to facilitate the migration of animals from refuge populations to areas where they are scarce or extinct.

All rajids are managed under a Total Allowable Catch (TAC) system in EU waters. Between 1999 and 2005 the 6,060t TAC was reduced by 47% and by a further ~50% from 2005 to 2008 (ICES, 2008). Originally the TAC applied only to areas IIa and IV, however in January 2009 the TAC was extended to include ICES divisions IIa, IIIa, IV, VIa-b, VIIa-k, VII and IX.

The table below gives a summary of the TAC's for the years 2004 to 2009.

ICES Division	2004	2005	2006	2007	2009	2009
IIa, IV	3,503	3,220	2,737	2,190	1,643	1,643
IIIa	N/A	N/A	N/A	N/A	N/A	68
VIa-b, VIIa-c, VIIe-k	N/A	N/A	N/A	N/A	N/A	15,748
VIIId	N/A	N/A	N/A	N/A	N/A	1,044
VIII, IX	N/A	N/A	N/A	N/A	N/A	6,423

(All figures in tons. European Union; 2009)

Since 2008 European countries have been required to record most skate and ray landings by species to give a clearer picture of the status of populations in EU waters (ICES, 2008). Some Sea Fisheries Committees (SFC) around the UK have byelaws which stipulate a minimum disc width (DW) for landed skates and rays, measured from the extreme tips of the pectoral fins. The SFC's which implement these and the details are shown in the table below.

THREATS, CONSERVATION, LEGISLATION

SFC	DW (cm)	Other
Cumbria	45	Cannot land wings less than 22cm in their maximum dimension
Kent & Essex	40	Cannot land wings less than 19cm in their maximum dimension
Southern	40	Cannot land wings less than 20cm in their maximum dimension
South Wales	45	Cannot land wings less than 22cm in their maximum dimension
States of Guernsey	36	

(Cumbria SFC, Unknown; Kent & Essex SFC, Unknown; South Wales SFC, Unknown; Southern SFC, 2006; NFFO, 2004)

However, such localised management strategies are unlikely to be significant for the conservation of regional populations (Fowler *et al.*, 2005). Many recreational anglers return any sharks, skates and rays they catch alive and some angling clubs have begun tag and release programmes (Holt, 2005). As with most European skate and ray species, there is very little effective management in place to protect the Sandy Ray.

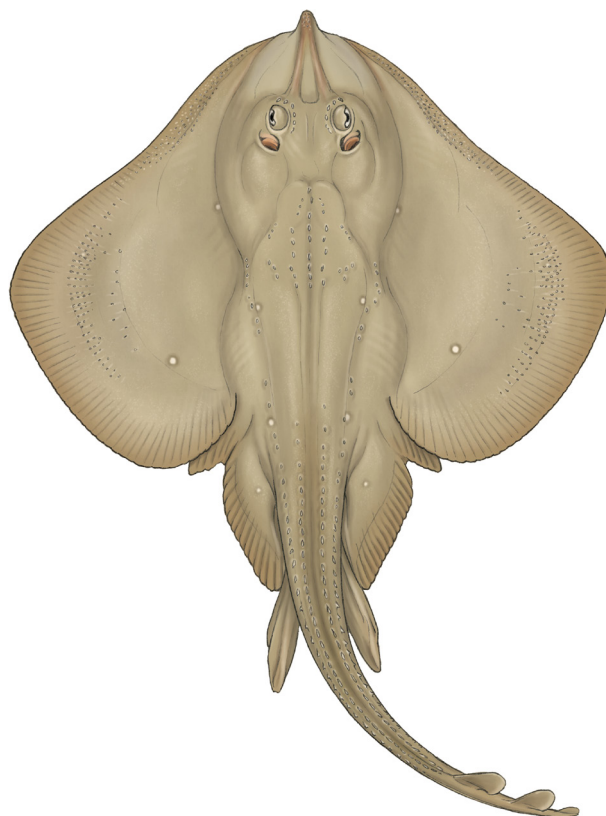
IUCN RED LIST ASSESSMENT

Vulnerable (2008).

Endangered in Mediterranean.

HANDLING AND THORN ARRANGEMENT

- Handle with care.
- Rows of thorns on midline.
- Orbital and snout thorns.
- Body covered in thorns and spines.



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