

Occurrence of *Squatina aculeata* Cuvier, 1829 (Elasmobranchii, Squatinidae) from the Aegean Sea, Turkey

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Özet: *Ege Denizi'nde (Türkiye) Squatina aculeata Cuvier, 1829 (Elasmobranchii, Squatinidae) türünün bulunuşu. Squatina aculeata Cuvier, 1829 türüne ait bir örnek Gökova Körfezi'nden elde edilmiştir. Daha önce Türkiye'nin sadece doğu Akdeniz kıyılarından kaydedilen türün Gökova Körfezi'nden bulunmasıyla birlikte dağılım sınırları güney Ege'ye genişlemiştir.*

Anahtar Kelimeler: Elasmobranchii, Squatinidae, *Squatina aculeata*, dikenli keler balığı, güney Ege Denizi.

Abstract: A single specimen of the sawback angel shark, *Squatina aculeata* Cuvier, 1829, was obtained from Gökova Bay (southern Aegean Sea). Previous record of the species was confined to the İskenderun Bay (eastern Mediterranean coast of Turkey). According to this finding, its distribution range at Turkish seas has extended to the southern Aegean Sea.

Key Words: Elasmobranchii, Squatinidae, *Squatina aculeata*, sawback angelshark, southern Aegean Sea.

Introduction

Fish of the genus *Squatina* Duméril, 1806 are marine species inhabiting benthic tropical and subtropical waters from the Atlantic and Pacific Oceans (Froese and Pauly, 2005). The genus is represented in the Mediterranean and Black Sea by three species: *Squatina oculata* Bonaparte, 1840 occurs in Mediterranean and Morocco to Angola; *Squatina squatina* (Linnaeus, 1758) distributes along Atlantic coasts from Morocco to British Isles and southern North Sea; also, Mediterranean and Black Sea (Whitehead *et al.*, 1984; Fischer *et al.*, 1987; Froese and Pauly, 2005). The sawback angelshark, *Squatina aculeata*, is a middle sized species, attaining a maximum total length of 1.88 m (Compagno, 1984; Froese and Pauly, 2005). It is relatively common within a Western Mediterranean range extending from Gibraltar to the Gulf of Gabes, Tunisia; also Spanish coasts, Cote d'Azur, and Western Italy to Sicily (Ferguson, 2005). It's an Atlanto-Mediterranean coastal shark in continental shelf and uppermost slope of the warm-temperate and tropical eastern Atlantic, on or near the bottom at depths of 50 to 500m (Compagno, 1984; Ferguson, 2005; Froese and Pauly, 2005).

On 1st April 2005, a 965 mm total length (5200 g total weight) specimen of *S. aculeata* (Fig. 1) was caught by a commercial trawl (C/V Ali Kaptan), in Gökova Bay (36° 58' N, 27° 59' E). According to our personal communications, the specimen was captured from a depth of approximately 130 m (maximum depth at the site was 650-700 m) during day time (between 10.00-10.45 a.m.). Our observations showed that this species could not be exist in this area below 210 m.

The specimen was identified according to Whitehead *et al.* (1984). The single male specimen obtained was frozen and stored in the Ege University Faculty of Fisheries, Turkey.

In this paper, we present data on the occurrence of *S. aculeata* from the Aegean Sea coast of Turkey and its morphologic characters.

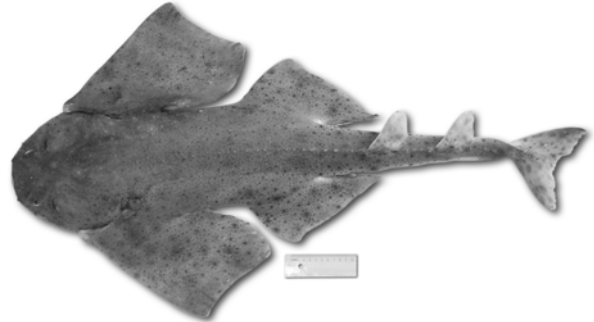


Figure 1. *Squatina aculeata* (TL 965 mm) collected off the Aegean Sea of Turkey.

Diagnosis

An angelshark with heavy dorsal spines, heavily fringed nasal barbels and anterior nasal flaps, and no ocelli on body (Compagno, 1984). Eye larger than spiracle. Frontal cephalic membranes lobed; external nasal flap strongly fringed; spiracle with 13-14 pseudobranchial lamellae. Teeth 19-24/19-23, mean 21/21. Pectoral fin base at least half fin length; hind tips of pelvic fins reaching level of first dorsal fin origin. Denticles on back large-based, almost pyramidal, with a line of strong median spines; lower surfaces with denticles only on outer front edges of pectoral and pelvic fins and down centre of tail. Vertebrae 63-64 to level of first dorsal fin. Color of the species was light brown mottled with dark brown, with some

round white spots arranged symmetrical on head and body, no ocelli (eye-spots) on body (Whitehead *et al.*, 1984).

Morphometric measurements are taken according to Bass *et al.* (1975) (Table 1). Twenty-eight body measurements were recorded to the nearest millimeter. The width of the mouth was taken as the distance between the inner edges of skin folds covering the corners of the mouth.

In the western Mediterranean, *S. aculeata* has a distribution from Gibraltar to the Gulf of Gabes, Tunisia; also Spanish coasts, Cote d'Azur, and Western Italy to Sicily (Ferguson, 2005). For east part of Mediterranean Golani (1996) has simply listed the *S. aculeata* among the fishes distributed in the Eastern Levant Sea but with no reference being cited and no explanation of the date, location, morphometric measurements etc. Then, Basusta (2002) reported a single specimen captured by a trawl (120-200 m depth) in Iskenderun Bay (36° 20'N, 36°00'E). In addition, to the best of our knowledge, it was not recorded from the Aegean Sea coast of Turkey (Bilecenoglu *et al.*, 2002), but Machias *et al.* (2001) recorded this species in the Greek waters as discarded fish (around Cyclades Isles plateau, 2 specimens, sampled by bottom trawl; pers. comm.).

Table 1. Measurements and counts of *Squatina aculeata* compared with specimen caught off Iskenderun Bay, Turkey (Basusta, 2002). (Morphometric measurements are shown in millimeters followed by percentage in total length in paranthesis).

Morphometrics	Basusta (2002)	Present study
Total Length	798.9	965
Snout to eye	-	31 (3.2)
spiracle	-	51 (5.3)
1st gill-slit	-	140 (14.5)
pectoral	-	184 (19.1)
1st dorsal fin	481.4	595 (61.7)
2nd dorsal fin	-	706 (73.2)
pelvic fin	-	393 (40.7)
anal opening	-	440 (45.6)
Eye diameter	17.7	15 (1.6)
Interorbital distance	-	70 (7.3)
Spiracle length	-	21 (2.2)
Distance between spiracles	-	75 (7.8)
First to last gill-slits	-	26 (2.7)
1st to 2nd dorsal origins	56.4	111 (11.5)
Pectoral to pelvic	-	209 (21.7)
Mouth width	-	118 (12.2)
length	-	33 (3.4)
1st dorsal base	37.4	45 (4.7)
height	-	88 (9.1)

2nd dorsal base	-	40 (4.1)
height	-	82 (8.5)
Pectoral base	-	130 (13.5)
inner edge	-	161 (16.7)
length	274.5	260 (26.9)
Pelvic - lateral lobe	-	104 (10.8)
median tip	-	235 (24.4)
Clasper length	-	55 (5.7)
Meristics		
Dorsal spin number		
Snout to 1st dorsal		29
Between 1st and 2nd dorsal		4
Between 2nd dorsal and caudal		2

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