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Additional records of honeycomb stingray *Himantura uarnak* (Chondrichthyes: Dasyatidae) off the Syrian coast (Eastern Mediterranean)

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□ ABSTRACT □

This paper aimed to present additional records of Honeycomb stingray *Himantura uarnak* (Forskal, 1775) (Chondrichthyes: Dasyatidae) off the Syrian coast (Eastern Mediterranean). Two specimens were captured in Syrian waters (Tartous coast) 35º 55' 31''E and 34º 42' 40'' N. The first specimen was an adult female, and the second an adult male; they measured 1078 mm and 840 mm disk width, and weighed 31.450 kg and 15.580 kg, respectively. Morphometric measurements were recorded to the nearest millimeter, and reported as percentage of the disk width (%DW). Pieces of skin and tail were deposited in the Ichthyological collection of the Marine Sciences Laboratory, Agriculture Faculty of Tishreen University, Syria.

Keywords: Chondrichthyes, *Himantura uarnak*, Syrian coast.

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تسجيلات إضافية من النوع السمكي الغضروفي، القوبع اللاسع *Himantura uarnak* (فصيلة Dasyatidae) في الساحل السوري

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□ ملخّص □

يهدف هذا المقال إلى تأكيد وجود نوع السمك الغضروفي (Forskal, 1775) *Himantura uarnak* في المياه البحرية السورية، من خلال توثيق إضافي لعينتين تم صيدهما، جنوب مدينة طرطوس (34º 55′ E & 35º 42′ N)، كانت العينتان بالغتين جنسياً، الأولى أنثى والثانية ذكر، بلغ عرض قرص العينة الأولى 1078 ملم والثانية 840 ملم، وبلغ وزناهما 31,450 كغ و15,580 كغ على التوالي. تم تسجيل القياسات التصنيفية المورفومترية للعينتين لأقرب ملم، ونسبت قياسات كل عينة إلى عرض قرصها، وحفظت قطع من الجلد والذيل من العينة الأولى ضمن المجموعة السمكية في مخبر علوم البحار بجامعة تشرين بكلية الزراعة (سوريا).

الكلمات المفتاحية: أسماك غضروفية، القوبع اللاسع، الساحل السوري.

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Introduction:

The species *Himantura uarnak* (Forskal, 1775) was confused with other related species (Deynat & Fermon, 2001). According to Compagno & Roberts (1982) and Compagno (2005), the genus *Himantura* comprises about 24 species. Compagno (2005) noted that *H. uarnak* is a 'complex species', so it needs a thorough revision, prior to delineate a more precise distribution (Golani *et al*.**,** 2002).

Honeycomb stingray, *Himantura uarnak* (Forskal, 1775) is a widely distributed Indo-Pacific species, known from Indo-Pacific to the Red Sea, eastern Africa to northern Africa and the Philippines (McEachran & Capapé, 1984; Golani ***et al*.,** 2002). It has recently expanded from the Red sea into the eastern Mediterranean via the Suez Canal (Golani *et al*., 2002). Ben uvia reported the first record in the Levant Basin (1955), then, other records were successively reported off Turkey (Ben-Tuvia, 1966; Basuta *et al*., 1988), Lebanon (Mouneimne, 1977) and Egypt (El Sayed, 1994), *H. uarnak* is found in the Levant Basin according to Golani (2005), and recently off the Syrian coast by Ali *et al*. (2010). A survey was conducted in the latter area from 2010 to date and two other honeycomb stingrays were collected and presented in this paper. Moreover, these additional records are a part of a national programme of elasmobranch species in the same area (Saad *et al*., 2004), and commented to assess the real status of this species in the Mediterranean Sea.

Research importance and objectives

Most of elasmobranchs have slow growth rates, late age-at-maturity and low fecundity compared to the bony fishes. They are subject to intensive and unregulated exploitation in Syrian marine water, despite their environmental and economic importance. This paper aims to confirm the presence of *Himantura uarnak* in the Syrian coast, delimit location, depth of fishing, and deposit pieces of the specimens in the fish collection in the Marine Science laboratory (Faculty of Agriculture, Tishreen University).

Materials and Methods

During the recent years, we continued the investigation on the cartilaginous species in the Syrian marine waters, by accompanying the fishermen, and observing these species in the main landing site in Lattakia city.

The fishermen use the various fishing gears, but the most important are the long line and the trawl, which are used along the coastal shelf from Rass Albassit in the north to the Lebanese border in the south (Fig.1). Most of the fishing was done at a water depth between 20-250m.

Two specimens of *H. uarnak* were caught using a bottom longline, at a water depth of approximately 40 m, on a sandy-muddy bottom. The morphological characteristics and measurements were carried out to the nearest millimeter according to Golani & Capapé (2004) for dasyatid species and Ali *et al.* (2010) for *H. uarnak* . The identification of both specimens as a *Himantura uarnak* (Forskal, 1775) was made according to McEachran & Capapé (1984) and Golani *et al.* (2002). Pieces of skin and tail base of the first specimen were deposited in a 8% buffered formaline.

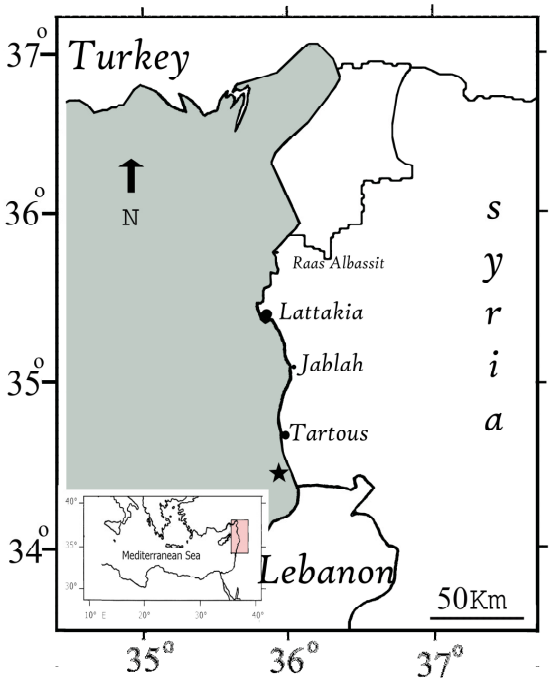
Results and Discussion

Two specimens of *H. uarnak* were captured on the 15th April 2012 using a bottom longline, at a water depth of approximately 40 m, on a sandy-muddy bottom. The capture site was at 8 km of north Lebanon borders (35º 55′ E and 34º 42′ N) (Fig. 1). The first

specimen was an adult female (Fig. 2), and the second an adult male; they measured 1078 mm and 840 mm disk width, and weighed 31.450 kg and 15.580 kg, respectively. Pieces of skin and tail base of the first specimen were deposited in the Ichthyological collection of the Marine Sciences Laboratory, Agriculture Faculty of Tishreen University, Syria, under the catalogue numbers 249 M.S.L and 250 M.S.L.

The identification of both specimens was made according to McEachran & Capapé (1984) and Golani *et al.* (2002). Morphometric measurements were recorded to the nearest millimetre according to Golani & Capapé (2004) for dasyatid species and Ali *et al.* (2010) for *H. uarnak*; and summarized in Table 1.

Golani *et al*. (2002) noted that the species establishment in the eastern Mediterranean was prevalent with steady population. The first Mediterranean records of *H. uarnak* occurred in the Levant Basin, Ben-Tuvia (1955) reported the capture of several specimens ranging from 440 to 1000 mm disk width; Ben-Tuvia (1966) recorded a pregnant female carrying two embryos, with 125 mm and 132 mm disc width, respectively. Basuta *et al.* (1998) recorded in Turkish waters a male measuring 515 mm disc width and weighing 4034 g, and it was considered as the northernmost exentsion range of the species in the Mediterranean, while the Egyptian coast constitutes its southernmost extension range (El Sayed, 1994). *H. uarnak* was also reported off the Lebanon coast close to the Syrian coast., three large specimens were previously recorded off this area, by Ali *et al.* (2010): two females and a male having 1486 mm, 1400 mm and 1147 mm disc witdth, and weighing 150 kg, 70 kg and 60 kg, respectively.



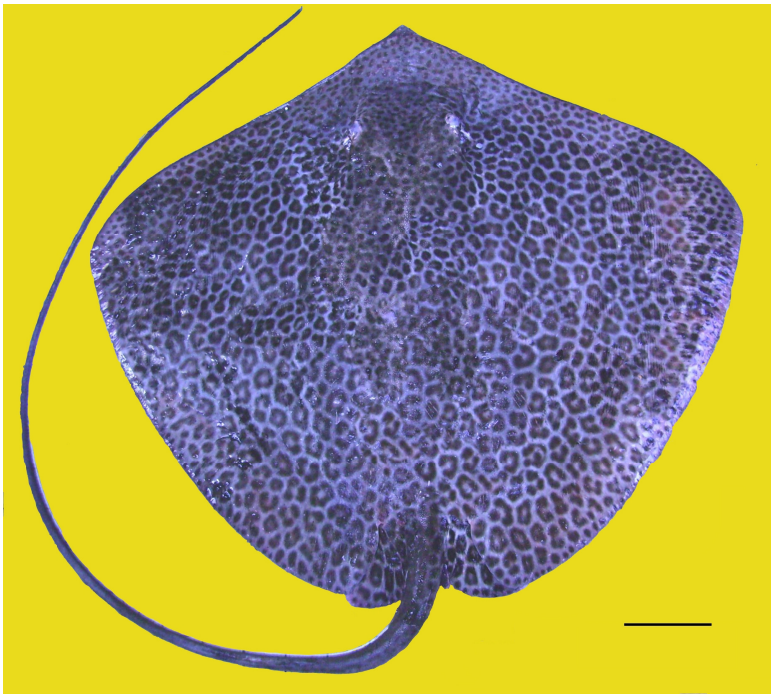
(Fig. 1) Map of the Syrian coast (Eastern Mediterranean) pointing out the specimens collecting Locality of *H. uarnak* (black star).

All Mediterranean records of *H. uarnak* concerned male and female specimens, juveniles and adults, of varied sizes; they occurred in a rather limited region, such pattern was probably due to the fact that this species was not prone to large migrations, probably because it could locally find sufficient hydrobiological conditions to develop and reproduce. They confirm that a substantial population of *H. uarnak* is definitively established at present in the eastern Mediterranean; however migrant specimens incoming from the Red Sea cannot be totally excluded.

Characteristics, measurements, and all the diagnostic features of our specimens of *H. uarnak* are in agreement with previous Mediterranean reports (Mc Eachran & Capapé, 1984 ; Golani *et al*., 2002) and permit to confirm the occurrence of this fish species in Syrian marine waters.

It remains to note that *Himantura uarnak* is an ovoviviparous species, feeds on shrimps, carbs, worms and jellyfishes. It occurs inshore on soft substrates; often on sandy

beaches and sandy bottoms around coral reefs. Its venomous tail spine can inflict painful wounds.



(Fig. 2) *Himantura uarnak* adult female caught off the Syrian coast . Scale bar = 100 mm.

(Table 1) Morphometric measurements (mm) and as a percentage of disk width (%DW) of the two specimens of *Himantura uarnak* captured off the coast of Syria.

Sex	Female		Male	
Total weight in gram	31450		15580	
Morphometric measurements	mm	% DW	mm	% DW
Disk width	1078	100	840	100
Disk length	981	91.0	720	85.7
Disk depth	148	13.7	115	13.7
Total length	2470	229.1	2130	253.6
Eyeball length	37	3.4	16	1.9
Cornea	6	0.6	6	1.1
Pre-orbital length	234	21.7	180	21.4
Interorbital width	158	1407	115	13.7
Spiracle width	39	3.6	31	3.7
Spiracle length	68	6.3	45	5.4
Nasal curtain	229	21.2	174	20.7
Interspiracular width	172	16	136	16.2
Mouth width	88	8.2	182	21.7
First gill slit length	30	2.8	25	3.0
Second gill slit length	28	2.6	30	3.6
Third gill slit length	29	2.7	30	3.6
Fourth gill slit length	25	2.3	30	3.6
Fifth gill slit length	25	2.3	25	3.0
Width between first gill slits	210	19.5	155	18.5
Width between second gill slits	201	18.6	146	17.4
Width between third gill slits	193	17.9	137	16.3
Width between fourth gill slits	174	16.1	122	14.5
Width between fifth gill slits	150	13.9	105	12.5

Snout tip to eye	247	22.9	194	23.1
Snout tip to mouth	236	21.9	183	21.8
Snout tip to first gill slit	342	31.7	255	30.4
Snout tip to second gill slit	383	35.5	275	32.7
Snout tip to third gill slit	411	38.1	295	35.1
Snout tip to fourth gill slit	442	39.1	325	38.7
Snout tip to fifth gill slit	468	60.1	345	41.1
Snout tip to pelvic fin	905	84.0	603	71.8
Snout tip to vent	843	78.2	580	69.0
Snout tip to sting 1	1262	117.1	910	108.3
Pectoral fin anterior margin	648	60.1	500	59.5
Pectoral fin posterior margin	727	67.4	590	70.2
Pectoral fin inner margin	139	12.9	100	11.9
Pelvic fin anterior margin	167	15.5	140	16.7
Pelvic fin posterior margin	153	14.2	-	-
Pelvic fin inner margin	54	5.0	-	-
Pelvic fin base	72	6.7	-	-
Clasper inner length	-	-	60	7.1
Clasper outer length	-	-	45	5.4
Tail base width	52	4.8	58	6.9
Tail base depth	42	3.9	35	4.2
Tail length	1495	138.7	1460	173.8
Sting length	-	-	-	-
From sting origin to point out skin	68	6.3	90	10.7
Snout tip to max. disc width	358	33.2	-	-
Snout prenasal length	167	15.5	138	16.4
Anus length	78	7.2	45	5.4
Snout angle	120°		118°	

Conclusions

The number of the recorded cartilaginous species in the Syrian coast is still limited comparing to other regions of the Eastern Mediterranean Basin, this indicates that the cartilaginous species which could be present in the Syrian marine waters have not been reported yet.

The migration increment of fish from the Red Sea to the Mediterranean through the Suez Canal, the impacts of global environmental change, and the human activities, motivate us to recommend the continuation of scientific research in order to record all the cartilaginous species in the Syrian marine water.

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