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ON A RARE SKATE, THE SPECKLED RAY, *RAJA POLYSTIGMA* REGAN, 1923 (CHONDRICHTHYES: RAJIDAE) CAPTURED OFF THE COAST OF LANGUEDOC (SOUTHERN FRANCE, NORTHERN MEDITERRANEAN)

Christian CAPAPÉ, Olivier GUÉLORGET, Yvan VERGNE & Jean-Pierre QUIGNARD
Laboratoire d'Ichtyologie, case 104, Université Montpellier II, Sciences et Techniques du Languedoc,
F-34 095 Montpellier cedex 05, France
E-mail: capape@univ-montp2.fr

ABSTRACT

The capture of a rare skate, the speckled ray Raja polystigma *Regan, 1923 off the coast of Languedoc (the first record since 1965 in the area), is presented in this paper. A short description of the specimen and a brief comment on the occurrence of the species in the area are given.*

Key words: Chondrichthyes, Rajidae, *Raja polystigma*, coast of Languedoc, France, Mediterranean Sea

CATTURA DI UNA RAZZA RARA, LA RAZZA POLISTIMMA, *RAJA POLYSTIGMA* REGAN, 1923 (CHONDRICHTHYES: RAJIDAE) AL LARGO DELLA COSTA DI LANGUEDOC (FRANCIA MERIDIONALE, MEDITERRANEO SETTENTRIONALE)

SINTESI

L'articolo riporta la cattura di una razza rara, la razza polistimma Raja polystigma *Regan, 1923 al largo della costa di Languedoc. Si tratta della prima segnalazione della specie per quest'area dal 1965. Gli autori forniscono una corta descrizione dell'individuo catturato ed un breve commento sull'evidenza della specie nell'area di ricerca.*

Parole chiave: Chondrichthyes, Rajidae, *Raja polystigma*, costa di Languedoc, Francia, mare Mediterraneo

INTRODUCTION

Of the 12 rajid species previously reported off the coast of Languedoc (southern France, northern Mediterranean, see Quignard, 1965), only two have been recorded to date, the starry ray *Raja asterias* Delaroche, 1809 and the thornback ray, *R. clavata* Linnaeus, 1758, based on the observations carried out from 1988 till today. Recent investigations have confirmed the capture of a speckled ray *R. polystigma* Regan, 1923, which is considered a very rare species in the area (Quignard, 1965). This specimen is described in the present paper, with its Mediterranean occurrence commented and discussed upon.

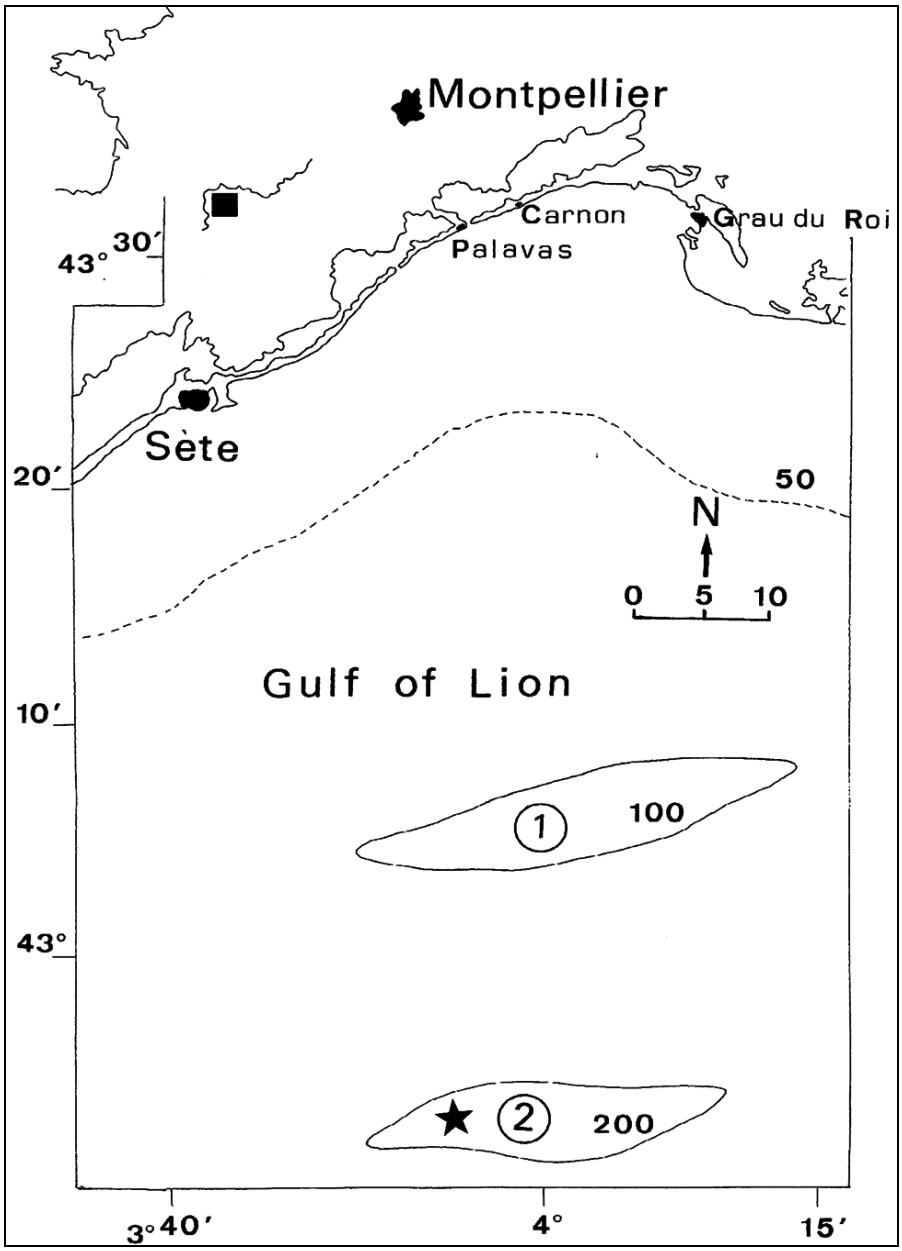

Fig. 1: Map of France with the coast of Languedoc and the capture site of *Raja polystigma* ***in the 'pits' from off Sète where the small spotted catshark,*** *Scyliorhinus canicula* ***① and the blackmouth catshark*** *Galeus melastomus* ***② are the dominant elasmobranch species (redrawn from Capapé*** *et al.*, ***2000).***
Sl. 1: Zemljevid Francije z obalo province Languedoc in lokaliteto, na kateri je bila ujeta *Raja polystigma*, ***in sicer v eni izmed "jam" v bližine Sèteja, kjer iz podrazreda morskih psov in skatov prevladujeta navadna morska mačka*** *Scyliorhinus canicula* ***① in morska mačka vrste*** *Galeus melastomus* ***② (po Capapé*** *et al.*, ***2000).***

RESULTS

The Languedocian specimen was caught on 9 May 2006 by a trawler off the coast of Languedoc between Sète and Palavas (Fig. 1), on muddy-sandy bottom at depths between 150 and 200 m, together with several specimens of the blackmouth catshark, *Galeus melastomus* (Fig. 2). The specimen was preserved in 5% buffered formalin solution and deposited in the Ichthyological Collection of the Laboratoire d'Ichtyologie de l'Université Montpellier II, Sciences et Techniques du Languedoc, under Cat. No Raj. poly. 1 (Fig. 2).

The measurement method and counts follow Regan (1923), Clark (1926), Tortonese (1956), Bini (1967), Hulley (1972), Capapé *et al.* (1980) and Mejri *et al.* (2004). They are summarized in Table 1.

Disk sub-quadrangular, obtuse in front, with snout slightly marked and rounded, anterior margin slightly concave at level of eyes and outer corners; outer angles broadly rounded; posterior margins convex. Pelvic quite separate from pectoral fins, bilobed with anterior lobe connected with posterior lobe along outer margin of fin. First dorsal larger than second dorsal.

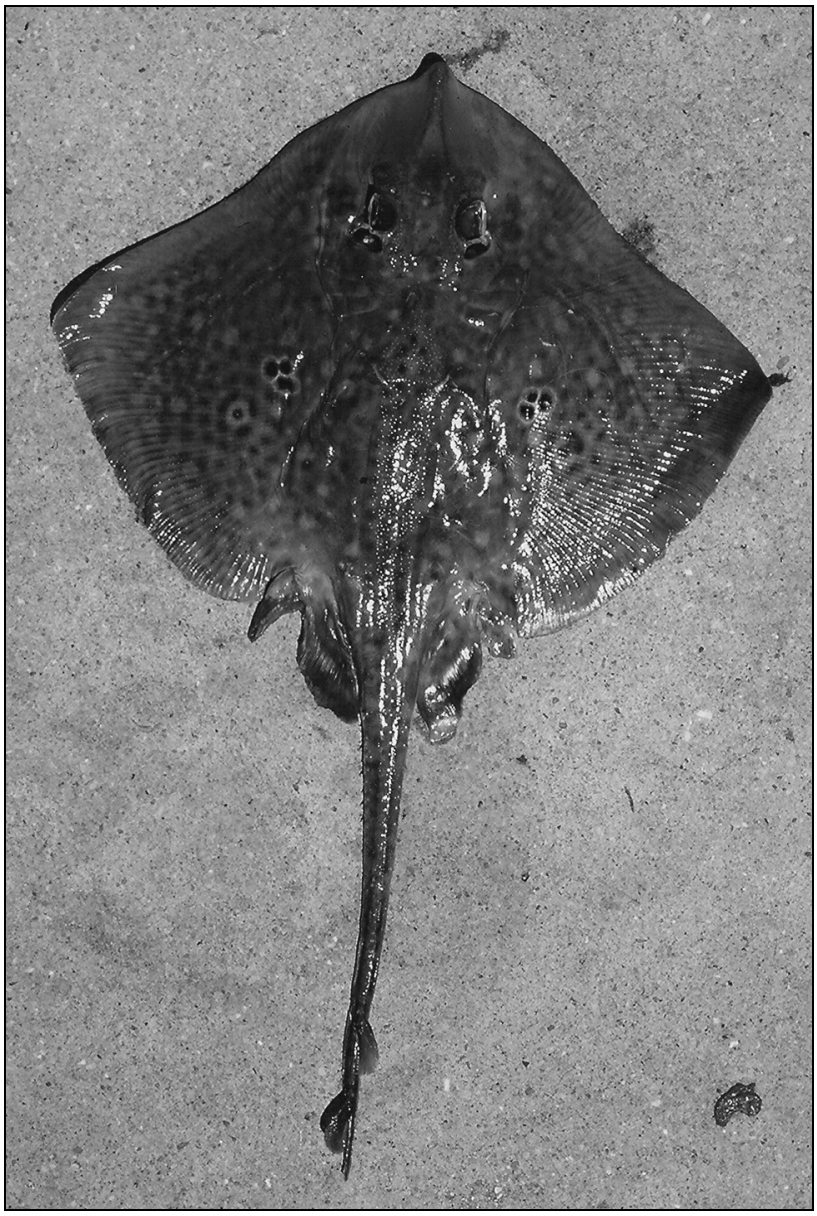

Fig. 2: *Raja polystigma* ***(Ref: Raj. poly. 1) captured off the coast of Languedoc.***
Sl. 2: *Raja polystigma* ***(Ref: Raj. poly. 1), ujeta v obrežnih vodah Languedoca.***

Tab. 1: Total mass (g), measurements (mm) with percentages of disk-width, and other morphological parameters of** Raja polystigma **caught off the coast of Languedoc.
Tab. 1: Skupna masa (g), mere (mm) z odstotki širine diska, in drugi morfološki parametri pri raži** Raja polystigma**, ujete v obrežnih vodah francoske regije Languedoc.

Reference	**Raj. poly. 1**	
Total mass (g)	883	
Measurements	**mm**	**% DW**
Total length	570	1.7
Disk-length	262	0.5
Disk-width (DW)	340	1.0
Disk-depth	20	0.06
Eyeball length	25	0.07
Cornea	22	0.06
Pre-orbital length	63	0.18
Inter-orbital width	50	0.15
Spiracle length	17	0.05
Spiracle width	11	0.03
Inter-nasal width	53	0.16
Nasal curtain	40	0.11
Inter-spiracular width	45	0.13
Pre-oral length	80	0.23
Mouth width	44	0.13
First gill slit	24	0.07
Second gill slit	24	0.07
Third gill slit	24	0.07
Fourth gill slit	24	0.07
Fifth gill slit	23	0.07
Width between first gill slit	74	0.22
Width between fifth gill slit	60	0.18
Snout tip to eye	70	0.21
Snout tip to mouth	92	0.27
Snout tip to first gill slit	140	0.41
Snout tip to fifth gill slit	176	0.52
Snout tip to pelvic fin	240	0.71
Snout tip to vent	260	0.76
Pectoral fin anterior margin	230	0.68
Pectoral fin posterior margin	193	0.57
Pectoral fin inner margin	49	0.14
Pelvic fin anterior margin	53	0.16
Pelvic fin posterior margin	48	0.14
Pelvic fin inner margin	44	0.13
Span of pelvic fins	96	0.28
Tail base width	65	0.19
Tail base depth	22	0.06
Tail length	270	0.79
Snout tip to first dorsal	460	1.35
Snout tip to second dorsal	497	1.46
Superior caudal edge	32	0.09
Inferior caudal edge	33	0.09
First dorsal anterior edge	33	0.09
First dorsal posterior edge	34	0.1
First dorsal base	22	0.06
Second dorsal anterior edge	33	0.09
Second dorsal posterior edge	32	0.09
Second dorsal base	23	0.06
Inter-dorsal distance	39	0.08
Second dorsal to caudal birth	41	0.12
Counts		
Tooth rows	58/60	
Pectoral rays	56	
Trunchal vertebrae	28	
Pseudobranchial lamellae	16	
Nictitating eye lamellae	12	

Disk-depth 7.0%, disk-length 77.1%, pre-oral length 23%, pelvic span 28%, pelvic fin anterior margin 16%, all in disk-width. Pre-orbital length 1.26 times, width between first gill slits 1.48 times, width between fifth gill slits 1.2 times interorbital width.

Dorsal surface greyish-brownish with dark and whitish spots, generally the latter being surrounded by the former. On each middle part of disk, one eye-spot formed by three black spots (two anterior, one posterior) surrounded by white edge. Belly beige with outer margin of disk slightly brownish.

Dorsal and ventral surfaces entirely smooth except on rostrum and anterior margin of pectoral fins, while tail entirely granulous on both surfaces. Tail width a medial row of 26 thorns before first dorsal fin, and one row of 25 thorns on each tail side, two thorns on interdorsal fins space.

DISCUSSION

Raja polystigma is probably endemic to Mediterranean Sea (Capapé, 1989), and was reported in some areas such as the Catalan Sea (Matallanas, 1977), off Toulon (southern France, see Capapé, 1977), Italian seas (Tortonese, 1956; Arbocco, 1966), off Greece (Economidis, 1973; Kaspiris, 1974), Algeria (Dieuzeide *et al.*, 1953) and the Tunisian coast (Capapé & Quignard, 1978; Capapé *et al.*, 1980; Bradaï *et al.*, 2004). In this latter area only, *R. polystigma* was abundantly captured and its reproductive biology was studied by Capapé & Quignard (1978) and Capapé (1980). The Languedocian specimen, 340 mm DW, was probably an adult female, although we have not dissected it.

Off the Languedocian coast, no specimen was available for confirmation. Measurements and counts of this specimen are in agreement with Regan (1923), Clark (1926), Tortonese (1956), Quignard (1965), Bini (1967) and Capapé *et al.* (1980).

Disappearance of rajid species off the coast of Languedoc is due to fishing pressure such as in other marine areas (Du Buit, 1989; Dulvy & Reynolds, 2002; Garofalo *et al.*, 2003), considering that skates are the most vulnerable exploited fish related to their morphology and life-history.

No *R. polystigma* has been recorded off the coast of Languedoc since 1965 (see Quignard, 1965), the capture of the specimen did not suggest a recovery of the species in the area, but it occurred in deep biotope previously unexploited by usual fishing methods according to information provided by fishermen.

O REDKI RAŽI VRSTE *RAJA POLYSTIGMA* REGAN, 1923 (CHONDRICHTHYES: RAJIDAE), UJETI V OBREŽNIH VODAH LANGUEDOCA (JUŽNA FRANCIJA, SEVERNO SREDOZEMLJE)

Christian CAPAPÉ, Olivier GUÉLORGET, Yvan VERGNE & Jean-Pierre QUIGNARD
Laboratoire d'Ichtyologie, case 104, Université Montpellier II, Sciences et Techniques du Languedoc,
F-34 095 Montpellier cedex 05, France
E-mail: capape@univ-montp2.fr

POVZETEK

Prispevek obravnava primerek redke raže vrste Raja polystigma *Regan, 1923, ujete v vodah francoske regije Languedoc (prvi zapis vse od leta 1965 v tem območju). Predstavljena sta kratek opis primerka in jedrnat komentar o pojavljanju vrste v tem delu Sredozemskega morja.*

Ključne besede: Chondrichthyes, Rajidae, *Raja polystigma*, obrežne vode Languedoca, Francija, Sredozemsko morje

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