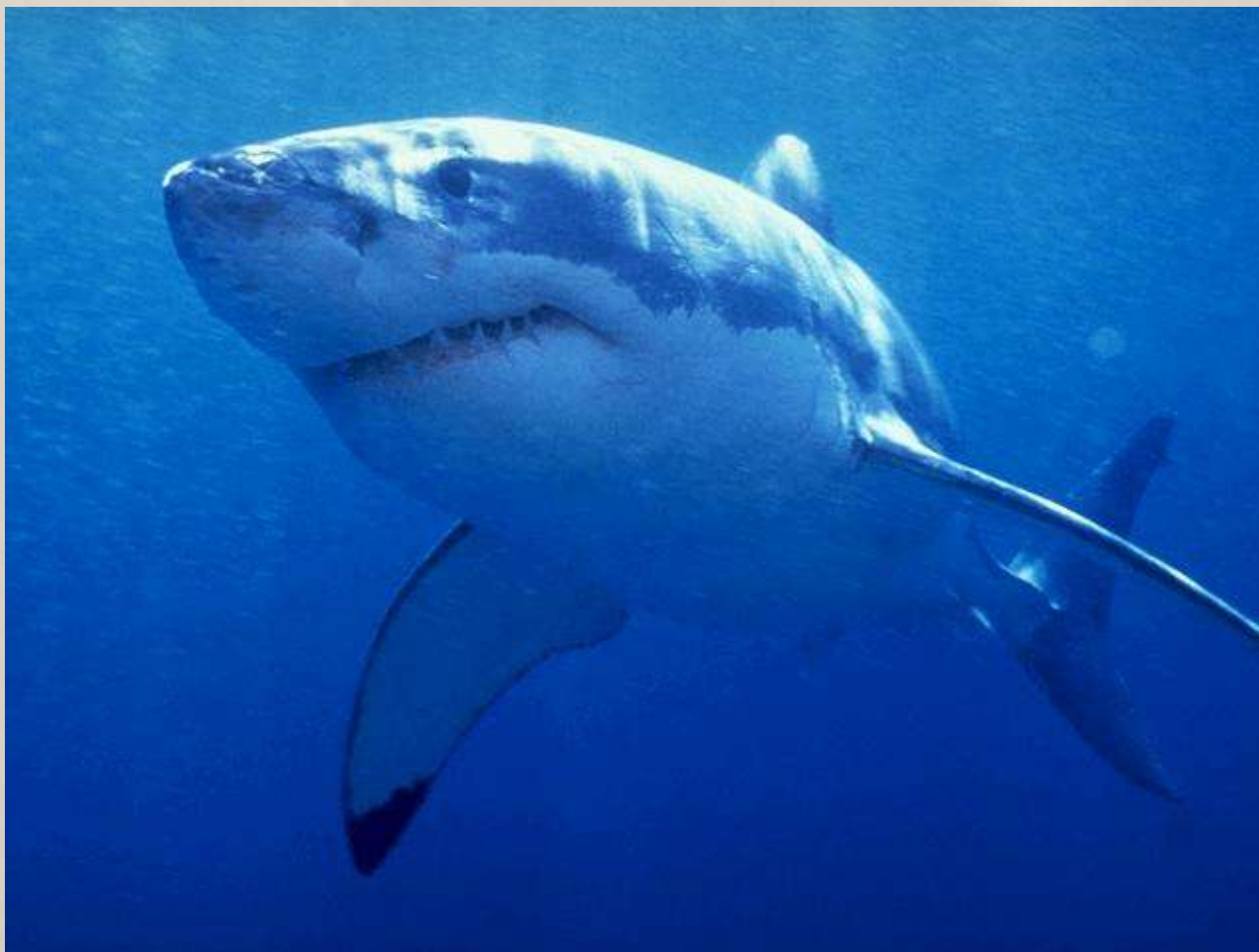


# SHARKS





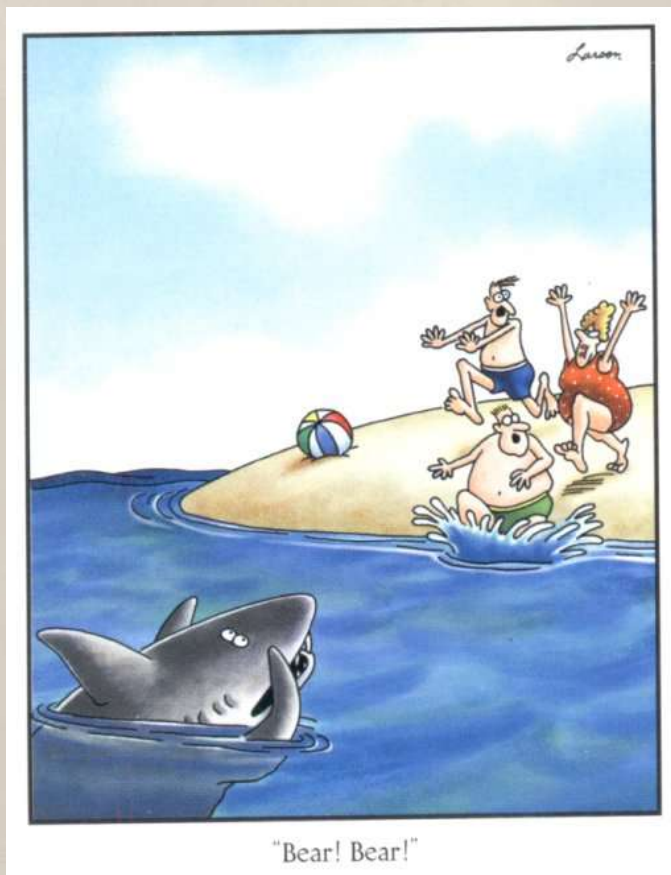
# Classification



- Cartilaginous fish
- Ancient class – Chondrichyees
- About 370 species worldwide



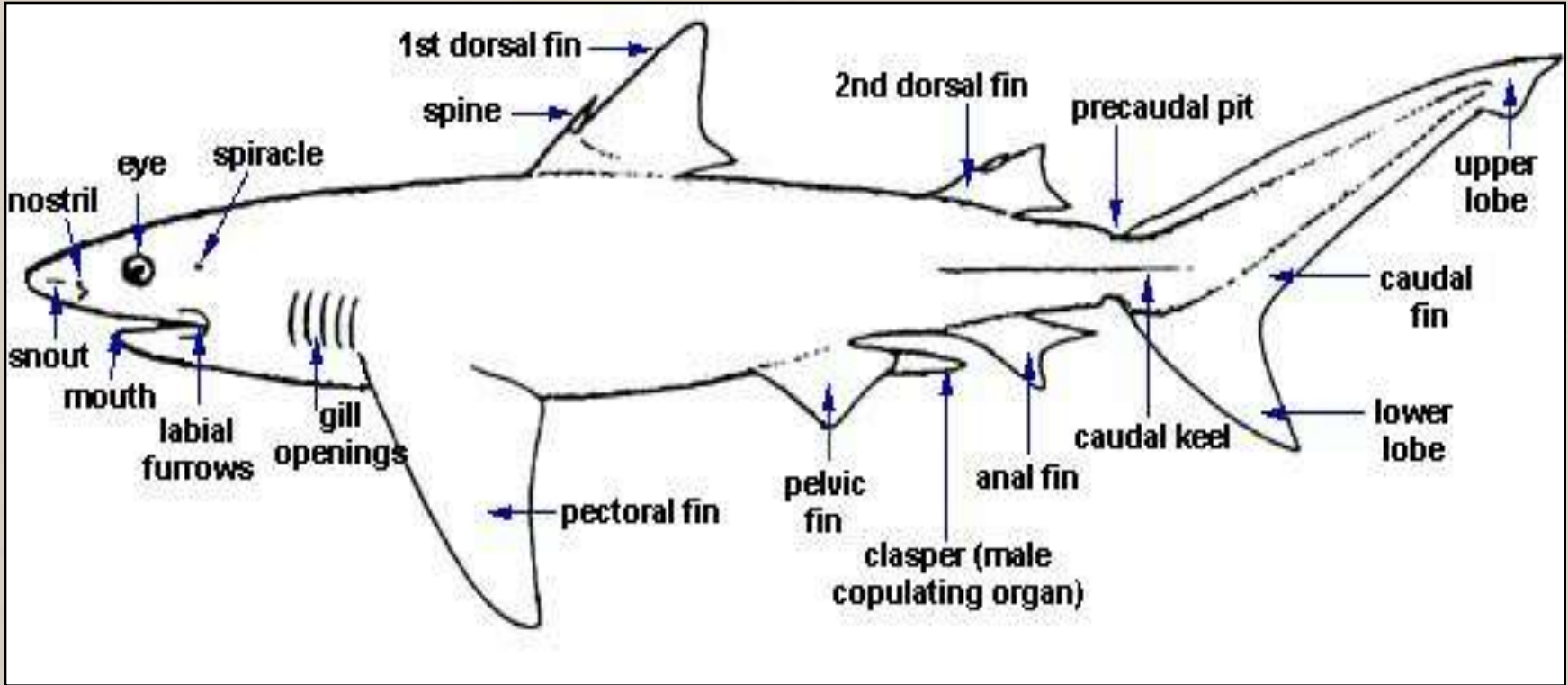
# They must be doing something right...



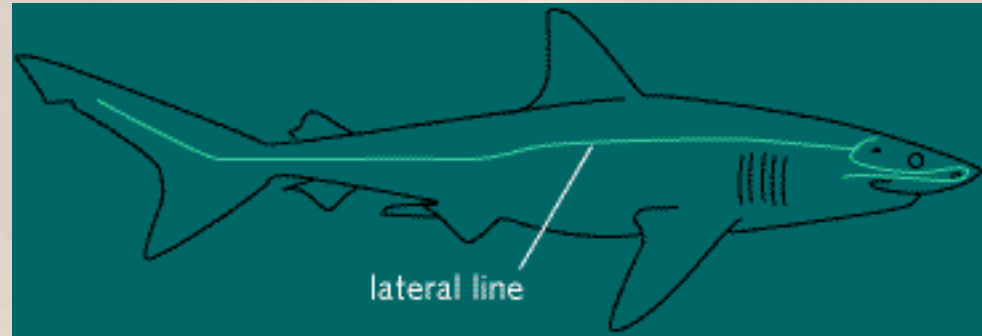
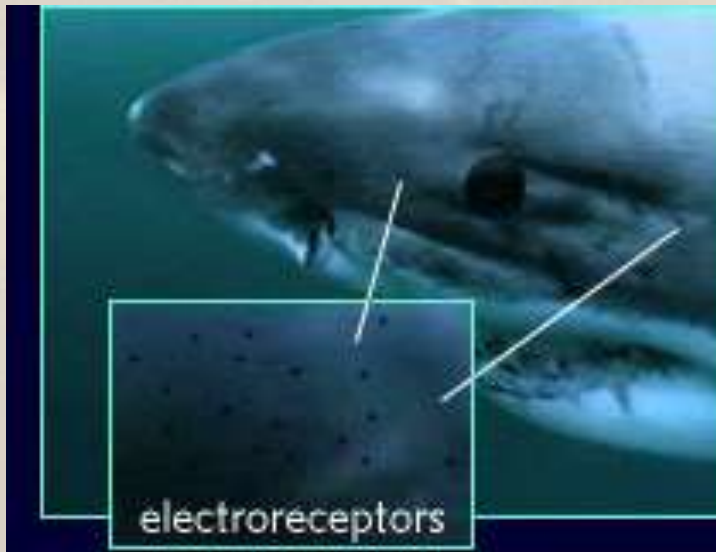




# ANATOMY



# SENSES

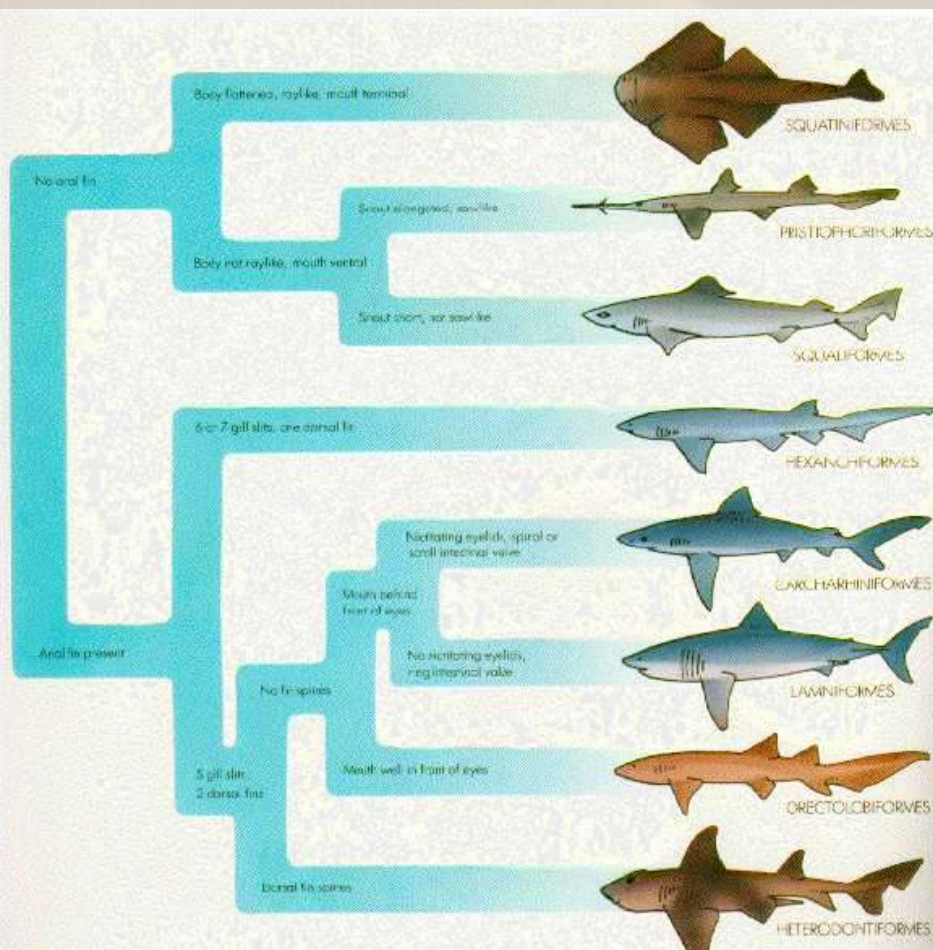


- Electoreception
- Feel
- Hearing
- Smell
- Sight





# Mediterranean sharks



## FAUNAL SYNOPSIS, August 1997

<b>Order Hexanchiformes:</b>	3
<b>Order Squaliformes:</b>	11
<b>Order Squatiniformes:</b>	3
<b>Order Lamniformes:</b>	9
<b>Order Carcharhiniformes:</b>	21
<b>CONFIRMED TOTAL:</b>	47
<b>Unconfirmed:</b>	6
<b>Possible Total:</b>	53
<b>Species exceeding 300cm TL:</b>	16
<b>Species potentially dangerous:</b>	15





# Blacktip reef shark (*Carcharhinus melanopterus*)

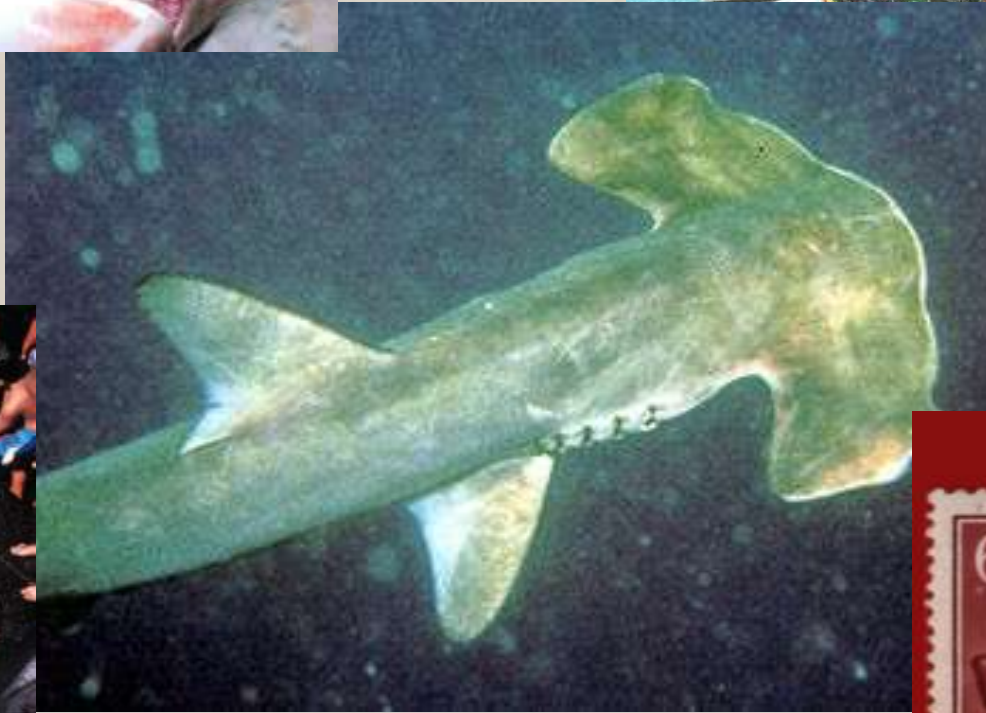


# Blue shark (*Prionace glauca*)





# Smooth hammerhead (*Sphyrna zygaena*)





# Angelshark (*Squatina squatina*)







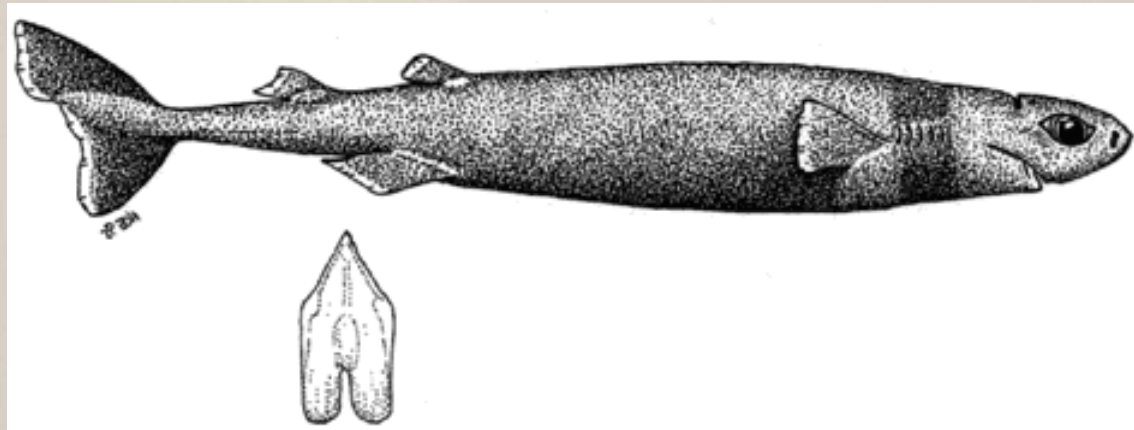
# Bluntnose six-gill shark (*Hexanus griseus*)







# Cookie cutter shark (*Isistius brasiliensis*)



# Shortfin mako (*Isurus oxyrinchus*)



# Sandtiger shark (*Carcharias taurus*)





# Basking shark (*Cetorhinus maximus*)



# Thresher shark (*Alopias vulpinus*)

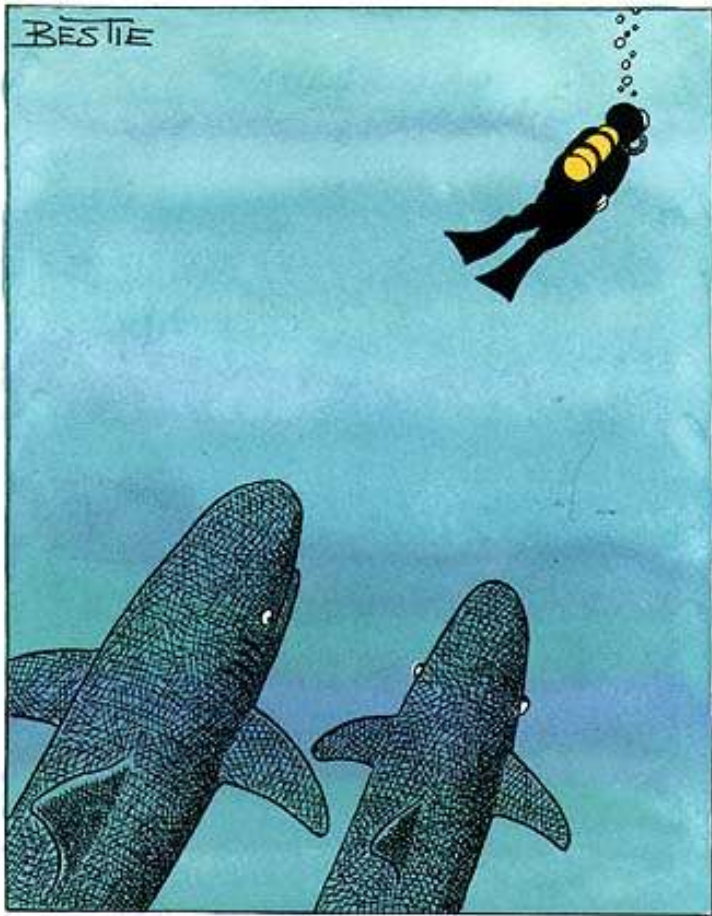


# Great white shark (*Carcharodon carcharias*)

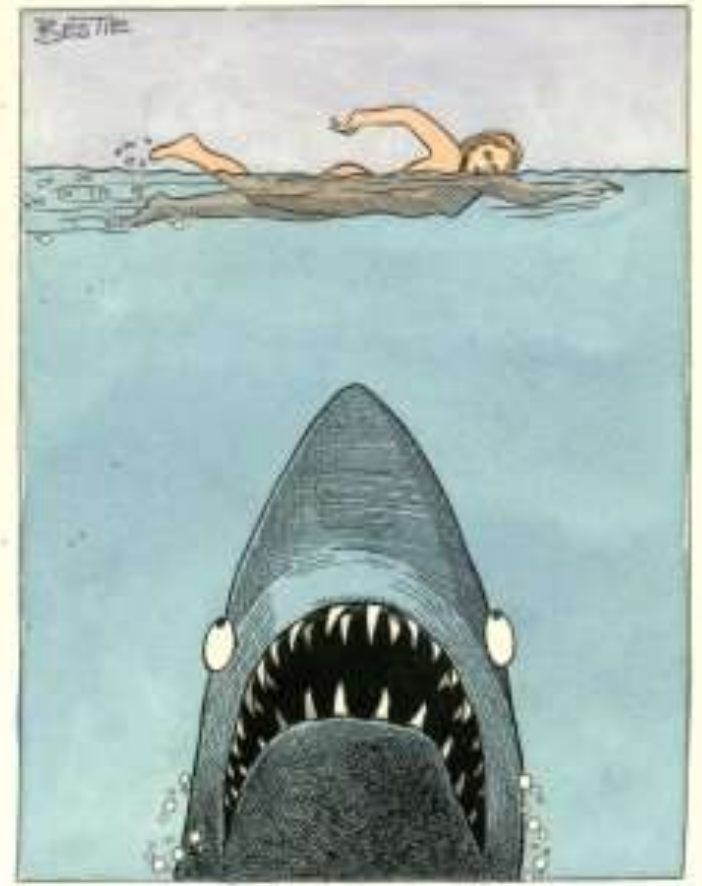








"DON'T EAT THE HARD BIT ON ITS BACK,  
THEY MAKE YOU FART!"



SUDDENLY TERROR STRUCK  
~ HE'D NEVER SEEN A NAKED WOMAN BEFORE



# Types of shark attacks

- Hit & run
- Sneak attack
- Bump & bite



# OVERVIEW, MEDSAF RECORDS FROM 1890 - 2003



- (A) Unprovoked Injurious Interactions with Swimmers / Divers**  
**N(incidents)=33; N (victims)=36, Fatal=18 (50%);**  
**annual rate: 0.29p/a**
- **Latest Injurious Interaction; swimmers: 03**  
September 1993 at 08.00hrs  
**Location:** Playa de les Arenes, Valencia (Catalonia),  
Costa Blanca, Spain.
  - **Latest Fatal Interaction: 02 February 1989 at 10.30hrs**  
**Location:** Golfo di Baratti, near Piombino (Tuscany),  
Italy.

**So if something does go for**



**you...**

**Species confirmable, or reliably attributable, as implicated in above cases:**

**White shark: N=37 (58.7%)**

**Blue shark: N=3 (4.8%)**

**Bluntnose sixgill: N=1 (1.6%)**





**Totals by Country (confirmed incidents only)  
(NB: Revised 21-6-2003; Greece)**



**WESTERN ITALY & SICILY: 25 (Boats=9)  
Latest record: 30 July 1991, Non-Fatal, Santa Margherita Ligure (Liguria)**

**ADRIATIC ITALY: 8 (Boats=1)  
Latest record: 22 August 1988, Non-Fatal, Ippocampo (Manfredonia)**

**GREECE: 5 (Boats=0)  
Latest record: (summer) 1981, Non-Fatal, Pagastikos Kolpos, near Volos**

**CROATIA: 5 (Boats=1)  
Latest record: 10 August 1974, Fatal, Omis**

**MALTA: 4 (Boats=2)  
Latest record: 20 July 1956, Fatal, Il-Munxar (St Thomas Bay)**

**LEBANON: 3 (Boats = 0)  
Latest Record: (details to follow)**

**EGYPT: 3 (Boats=0)  
Latest record: 8 August 1899, Non-Fatal, Port Said**

**SPAIN: 3 (Boats=1)  
Latest record: 3 September 1993, Non-Fatal, Valencia (Catalonia)**

**TUNISIA: 3 (Boats=0)  
Latest record: June 1976, Non-Fatal, Bechateur (near Bizerte)**

**FRANCE: 2 (Boats=0)  
Latest record: August 1986, Non-Fatal, Gruissan (Gulf of Lyons)\* (NB -based on media report)**

**ISRAEL: 1 (Boats=0)  
Latest record: 5 February 1945, Non-Fatal, Tel Aviv**

**TURKEY: 1 (Boats=1)  
Latest record: 1930, Non-Fatal, Santo Stefano (Bosphorus)**







# European Attacks since 1907

**Italy 14 (4)**

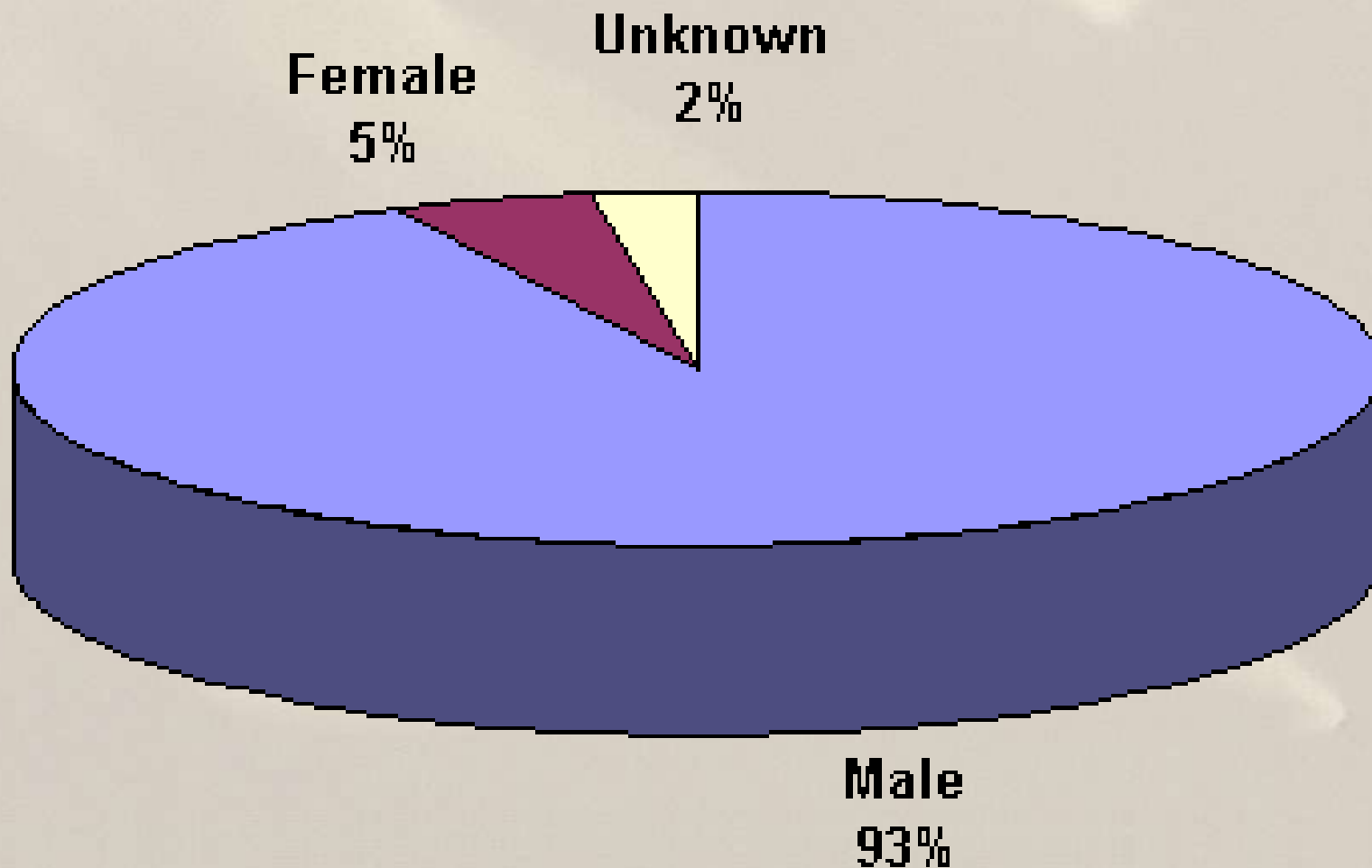
**Greece 9 (8)**

**Croatia 5 (4)**



# Sex of Victim

WORLDWIDE  
(N=248)



# Relative Risk – Injuries for one year in NY city



<b><u>Biting Injury</u></b>	<b><u>1981</u></b>	<b><u>1984</u></b>	<b><u>1985</u></b>	<b><u>1986</u></b>	<b><u>1987</u></b>
<i>Dog bites human</i>	12,656	10,593	9,809	8,870	8,064
<i>Human bites human</i>	*	<b>1,589</b>	<b>1,591</b>	<b>1,572</b>	<b>1,587</b>
<i>Cat bites human</i>	826	*	879	*	802
<i>Wild rat bites human</i>	60	*	311	*	291
<i>Squirrel bites human</i>	81	*	*	*	95
<i>Hamster bites human</i>	52	*	*	*	*
<i>Rabbit bites human</i>	37	*	*	*	*
<i>Raccoon bites human</i>	18	*	*	*	11
<i>Horse bites human</i>	18	*	*	*	*
<i>Gerbil bites human</i>	17	*	12	*	*
<b>Shark injuries in U.S.A.</b>	<b>12</b>	<b>14</b>	<b>12</b>	<b>6</b>	<b>13</b>