The Sale of Sawfish Rostra on eBay

Preliminary Results

Sawfish Recovery Team Meeting
August 3 – 5, 2004

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Topics

- Purpose & design of study
- Methodology for distinguishing rostra to species
- Historical data on trade in sawfish saws?
- Results
- Implications
Since 1999, I have observed sawfish rostra for sale on eBay.

I noticed that there were normally several rostra for sale on any day.

There is very little data available concerning trade in sawfish snouts.
Purpose

- To quantify the scope of one regular source of trade in sawfish rostra

- To characterize the rostra being sold:
  - Frequency of sale
  - Avg prices
  - Avg rostral lengths
  - Species involved
  - Source of rostra

- Characterize the buyers & sellers
Study Details

Study Period: Feb 1, 2004 - July 31, 2004

- 182 days
- 6 mos
- Ongoing – will be 1 year
Methods

- On bi-weekly basis, examined eBay listings for sawfish rostra internationally
  - Using only publicly available information
- When auctions completed, listing information and photograph were saved
- Sale details were then recorded to a spreadsheet
- Examined listing photograph to determine species, where possible
  - If species unclear and the photograph was taken straight-on, rostrum was measured using Adobe Photoshop to verify length / width proportions

<table>
<thead>
<tr>
<th>Item #</th>
<th>Start Date</th>
<th>Date Ended</th>
<th>Animal Name</th>
<th>Rostrum Name</th>
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<td>MD</td>
<td>United States</td>
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</tr>
</tbody>
</table>

Sales of Sawfish Rostra on eBay

- Avg Length (mm)
- Avg Length (ft)
- Avg Days Listed
- Max Price: Price / $:
- $124.78 / $64.28
- $124.78 / $11,384.54
- Percent of Rostra
- Percents of $100.0%
- Avg Bidder: 2.89
- Tooth Count: 5.32
- Origin: Torres Strait, Auc. 1900
- Capture C
What is eBay?

- eBay is the world’s largest online auction house
- Registered users can buy or sell items
- Little interference from eBay
- Unless item is objectionable or prohibited

**Huge Antique Sawtooth Shark Bill**

*You are signed in*

**Bidding has ended for this item** (quiverdog is the winner)

If you are quiverdog, Sign in for your status.

**Seller information**

- linfarmer (679 ⭐️)
- Feedback Score: 679
- Positive Feedback: 100%
- Member since Jun-30-98 in Australia
  - [Read feedback comments](#)
  - [Ask seller a question](#)
  - [View seller’s other items](#)

**Description**

Please note I am unable to sell this item outside Australia as to export it requires an export licence and information regarding the exact species which I am unable to do. So please do not bid unless you reside in Australia - sorry. I purchased this fabulous sawtooth shark bill at the deceased estate auction of a local racehorse owner/breeder. His wife attended the sale and verified that they had owned it for many years. It is a very impressive size measuring 58 inches/147 cms long! There is one area underneath which has slight damage (see pic 3) but this could be easily repaired with resin. There are 49 teeth on the bill and three are damaged. It is a wonderful example of the superb adapted bill of this now protected fish and would look terrific mounted behind glass. Offered here on ebay at NO RESERVE - High bidder to pay shipping and payment in cash, direct deposit, PayPal or Australian Post money order. Apologies once again, please remember no overseas bidders.
eBay: at a glance

Established: September 1995

Makes Money: charges a fee for listing an item, & takes a percentage of the final sale price

Gross Merchandise Sales (2003): $23.8 B

Annual Auctions Listed (2003): 971 M

Avg Sale Price per Auction (2003): $24.49

Registered Users (Q2 2004): 114 M

SOURCE:
“eBay Inc. Announces Second Quarter 2004 Financial Results”
http://investor.ebay.com/
How do you find items?

Use search engine with keywords:

- sawfish - 55.9%
- saw fish - 13.6%
- saw shark - 3.4%
- swordfish
- sword fish - 1.7%
- saw tooth shark - 1.7%
- sawtooth
- poisson scie
- requin scie
- Sägefisch - 16.1%
- pesce sega
- pez sierra
- bill - 70%
- saw - 6.1%
- blade
- snout - 2.6%
- nose
- rostrum
- rostra
- proboscis
- tusk
- specimen
- sword
- teeth
- rostre
- Säge - 4.3%
- Schnauze
- Schwert - 9.6%
- Unterkiefer
- Zahn
- sierra
- hocico

Other Complications:
- After auction ends, listings are only searchable by title
- Many foreign auctions are not searchable at all after they end
Can we distinguish rostra to species?

- **Yes.** ✅

- **Not a new idea**
  - *Latham* (1794) used:
    - Tooth length
    - Tooth counts
    - Tooth shape
    - Rostral body shape

**But are these characters reliable?**

Rostral Characters: Tooth Length?

**Helpful?:** No. ❌

- Tooth length varies in individuals from the same population
- Seems to be impacted by differential wear

Jason Seitz: obtained film of *Pristis pectinata* from Flamingo, FL which had section of PVC pipe around the base of its saw
  - Seemingly prevented use of saw in mud-grubbing
  - Without this wear, rostral teeth became abnormally long

"The size of the teeth cannot be used as a specific character, as it is subject to much individual variation." p. 436

Rostral Characters: Tooth Counts?

Helpful?: Yes & no

- There is substantial overlap between the species
  - But tooth counts can help with initial sorting
  - And partial rostra can be misleading

Rostral Characters: Tooth Shape?

Helpful?: Yes & no.

- Can be used to sort *Anoxypristis* from *Pristis* spp.

- *Pristis* spp. teeth:
  - awl-form
  - posterior edge flat (neonate) or grooved

- *Anoxypristis* teeth:
  - lancet-form
  - anterior & posterior edges sharp
  - neonate teeth have barb on posterior edge

Rostral Tooth Cross Section

*Pristis* spp.  *Anoxypristis*

*Anoxypristis cuspidata* (Latham, 1794)

Matthew McDavitt ©2002
Proportion 1: Rostral Body Shape?

Helpful?: Yes.  

- Combined with other characters, rostral body shape is very useful in distinguishing spp.
- However, must standardize measurements:

  **Standard Rostral Length** (SRL) – length from anterior tip to posterior edge of posteriormost rostral tooth

  **Rostral Width Posterior** (RWP) – rostral body width at the posterior edge of posteriormost rostral tooth
**Proportion 2: Change in inter-tooth space?**

**Helpful?: Yes.**

- Combined with other characters, change in intertooth space is very useful in distinguishing spp.

> Combining rostral body shape proportion with change in intertooth space proportion yields species specific data.

*Photo courtesy Lyle Squire, Jr.*
Rostral Shape Data Collection

In 2002 & 2004, I examined all available specimens in my collection & the Smithsonian Museum of Natural History, n=122

**Collections Examined**

<table>
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<tr>
<th>Collection</th>
<th>Qty</th>
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<tr>
<td>USNM</td>
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<tr>
<td>McDavitt Collection</td>
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**Species Represented**

<table>
<thead>
<tr>
<th>Species</th>
<th>Qty</th>
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<td>Anoxypristis</td>
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<td>largetooth sp.</td>
<td>5</td>
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<tr>
<td>microdon*</td>
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<td>perotteti*</td>
<td>39</td>
</tr>
<tr>
<td>clavata</td>
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<tr>
<td>Pectinata</td>
<td>37</td>
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<td>zijsron</td>
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* By convention, largetooth sawfishes from the Americas and the Atlantic coast of Africa are designated *Pristis perotteti*, while Indo-Pacific examples are named *Pristis microdon*. Combined, 56 largetooth specimens.
Proportional Graph

USNM & McDavitt Collection Sawfish Rostra - Proportional Calculations

Interdental Space POS / Interdental Space ANT

Standard Rostral Length / Rostral Width POS

n = 118

* Specimens USNM 00232677, USNM 00260349, and MR-0019 not included, as these are probably incomplete.
Largetooth spp.

- No morphometric difference between Atlantic & Indo-Pacific largetooth sawfishes
- It may be that there is a single species?

Rostral Proportional Range

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<tr>
<td><strong>L / W</strong></td>
<td>4.4 - 5.8</td>
<td>5 - 6</td>
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<td><strong>Intertooth Space Chg</strong></td>
<td>1.1 - 1.9</td>
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Chg intertooth space

- Largetooth species
- Pristis pectinata
- Pristis zijsron
- Anoxypristis cuspidata
- Pristis clavata
Pristis clavata

- Length / width proportions fall within range for largetooth spp.

  - However, in the three rostra examined, the intertooth space change is higher, between 2.1 – 2.5

    - the range for largetooth spp. is: 1.1 – 1.9

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Rostral Proportional Range

<table>
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<th>McDavitt</th>
<th>Compagno &amp; Last 1999</th>
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<td>6</td>
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<tr>
<td></td>
<td>2.1 – 2.5</td>
<td>2</td>
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</table>

Photo courtesy Lyle Squire, Jr.
Pristis pectinata

- Proportions midway between the largetooth spp. and *P. zijsron*
Pristis zijsron

- Much proportional variation with this species
- Most zijsron rostra have dramatic increase in inter-tooth space at the basal sets of teeth

- overlap with *pectinata* is not problematic
  - zijsrons which overlap are below 227 mm (0.7 ft)
  - pectinatas which overlap are above 734 mm (2.4 ft)

- overlap with Anoxypristis is not problematic
  - no way to confuse the two species based on tooth shape alone
**Anoxypristis cuspidata**

- Proportions overlap with zijsron, but no way to confuse the two:
  - **Tooth shape**
  - **Color (most are light gray)**
  - **Tip is often turned up**
  - **Basal quarter of saw is toothless**

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<td>10 – 12 *</td>
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<td>2.6 – 5.7</td>
<td>4 - 9</td>
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*Measured to rostral base, not posteriormost tooth.

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**USNM & McDavitt Collection Sawfish Rostra - Proportional Calculations**

![Graph showing rostral proportional calculations](image)
Species I.D.’s from photos?

- **Problem**
  - Most eBay photos are small, low resolution
  - Many are taken at an angle
    - Thus, measurements cannot be taken on most eBay photos

- **Solution**
  - Look for character traits of species
    - **Anoxypristis**: teeth, and toothless basal ¼
    - **P. zijsron**: dramatic basal intertooth space
    - **Largetooth**: wide base and evenly spaced teeth

Positive I.D. possible in **84.4%** of the listings
Trade in sawfish saws?

TRAFFIC has little data:

**East Africa**
- “frequently available in many curio stalls in mainland Tanzania and Zanzibar”
- Price range: US $14.30 – 35.70, depending on size & condition

**Madagascar**
- “the saws of sawfish are sold occasionally to tourists. . . . for up to about. . . . US $28”
- “no evidence of an organized trade”

*Scope of trade?*

Sources:
Trade in sawfish saws? II

Patricia Charvet-Almeida
Museu Paraense Emílio Goeldi, Brazil

Northern Brazil

- She has been documenting trade in sawfish rostra in northern Brazil for several years

**MONTHLY SALES (dry season – 6 mos)**

- **Market:** Vigia
  - 150 to 200 small/med saws (200 – 1,000 mm)
  - 10 to 20 large saws (over 1,200 mm)
    - ½ these figures during 6 mos wet season

**ANNUAL SALES (estimated)**

- Assuming each of the five major markets have similar numbers as Vigia:

**Annual Trade:** would equal at least 7,200 – 9,900 rostra per year

**Note:** annual estimates are the author's. Charvet-Almeida only provided monthly figures for two markets.

**Sources:**
Trade in sawfish saws? II

Patricia Charvet-Almeida
Museu Paraense Emilio Goeldi, Brazil

Northern Brazil

Who is buying them?

- **Locals**
  - Grind up pieces or small (inexpensive) saws to make asthma cure

- **Cock Fighting Trade**
  - Rostral teeth used as artificial spurs for roosters
  - This sport is illegal in Brazil, so rostral teeth exported
    - Sophisticated consumers

- **Asian Buyers**
  - Buy the large rostra for high prices (US $150 – 500)
  - Use and destination unknown... Presumed to be decorations
  - Pay in US $ cash

Sources:

Some Examples:

- **Sotheby’s**
  - *Paul de Grande*, May 4, 2004
    - Species: large tooth sp. rostrum
    - Length: ?
    - Price: $563.54 US

- **Arcade Auction** – Sep 3, 2002
  - Species: 1 zijsron & 2 Anoxypristis
  - Length: zijsron: 590 mm; Anoxy 360 & 340 mm
  - Price: $337.81 US total

- **The Marine Sale** – May 29, 2002
  - Species: zijsron
  - Length: 1,385 mm
  - Price: $343.03 US

- **Antiques Roadshow**
  - *Estimate*… April 5, 2001
    - Species: ?
    - Length: 1,200 mm
    - Estimate: $717 – 1,148 US

- **Antique Week**
  - *Unstated* – Jan 6, 2003
    - Species: zijsron
    - Length: 1,524 mm
    - Price: $800 US
### rostral sales overview

#### Feb 1 - Jul 31, 2004

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
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<td>Auction listings for sawfish rostra</td>
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<tr>
<td>Auctions ended during study</td>
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<td>Auctions active at study end</td>
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<tr>
<td>Ended auctions resulting in sale</td>
<td>102</td>
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<tr>
<td>Ended auctions remaining unsold</td>
<td>28</td>
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<tr>
<td>Unsold items relisted</td>
<td>17</td>
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**% sold of ended**: 78.5%

**% unsold of ended**: 21.5%
eBay sawfish rostra – sales statistics

Study Duration: Feb 1 - Jul 31, 2004

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<td>Rostra Offered</td>
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<tr>
<td>Rostra Sold</td>
<td>105</td>
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<td>Avg Length (mm)</td>
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<td>Avg Auction Duration (days)</td>
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<td>Avg Price / 300 mm *</td>
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<td><strong>Total Sales</strong></td>
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Projected Annual Sales on eBay

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<tr>
<td>Rostra Offered</td>
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<td>Rostra Sold</td>
<td>210</td>
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<td><strong>Total Sales</strong></td>
<td><strong>$25,084</strong></td>
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Assumes current trends continue

* Prices exclude culturally modified rostra
### eBay: Stats by Species

#### Rostra Offered by Species

<table>
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<th>Species</th>
<th>Unique Rostra Offered</th>
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<td>Anoxypristis</td>
<td>49</td>
<td>40.2%</td>
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<td>largetooth spp.</td>
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<td>zijsron</td>
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<td>16.4%</td>
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<td>15.6%</td>
</tr>
<tr>
<td>pectinata</td>
<td>13</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

**Note:**
- **indeterminate** means either *P. pectinata* or *P. zijsron*, where photo was insufficient to make positive I.D.
Indeterminate category

Indeterminate
- partial rostra
- Where photo insufficient to make I.D.
  - Mostly *pectinata* & *zijsron*

15.6% of sawfish rostra offered
Culturally Modified

- Some rostra are painted, or fashioned into artifacts (*7 in this study*)
- This enhances their value
  - *These were excluded from price averages*

*Sale Price: $422  (2.5 times expected price given size)*
# Stats by Species

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>pectinata</th>
<th>Anoxypristis</th>
<th>indeterminate</th>
<th>Largetooth spp.</th>
<th>zijsron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rostra Offered</td>
<td>122</td>
<td>13</td>
<td>49</td>
<td>19</td>
<td>21</td>
<td>20</td>
</tr>
<tr>
<td>Rostra Sold</td>
<td>105</td>
<td>11</td>
<td>41</td>
<td>17</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Avg Length (mm)</td>
<td>726</td>
<td>597</td>
<td>600</td>
<td>666</td>
<td>766</td>
<td>1,116</td>
</tr>
<tr>
<td>Avg Price ($)</td>
<td>$112.79</td>
<td>$66.41</td>
<td>$71.96</td>
<td>$114.56</td>
<td>$90.07</td>
<td>$261.17</td>
</tr>
<tr>
<td>Max Price ($)</td>
<td>$1,242.00</td>
<td>$178.50</td>
<td>$333.92</td>
<td>$489.95</td>
<td>$500.00</td>
<td>$1,242.00</td>
</tr>
<tr>
<td>Price per 300 mm</td>
<td>$47.92</td>
<td>$36.96</td>
<td>$37.02</td>
<td>$51.00</td>
<td>$37.19</td>
<td>$71.05</td>
</tr>
<tr>
<td>% of Rostra Off'd</td>
<td>100%</td>
<td>10.7%</td>
<td>40.2%</td>
<td>15.6%</td>
<td>17.2%</td>
<td>16.4%</td>
</tr>
</tbody>
</table>
What are rostra worth? — *Length vs. Price*

- Species is *not* the factor influencing price
- **Size is . . . .**

### Avg Price per 300 mm:

<table>
<thead>
<tr>
<th>Rostral Length</th>
<th>Price / 300 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 or less</td>
<td>$36.56</td>
</tr>
<tr>
<td>301 - 600</td>
<td>$31.25</td>
</tr>
<tr>
<td>601 - 900</td>
<td>$43.41</td>
</tr>
<tr>
<td>901 - 1200</td>
<td>$53.17</td>
</tr>
<tr>
<td>1201 - 1500</td>
<td>$53.86</td>
</tr>
<tr>
<td>1501 plus</td>
<td>$148.07</td>
</tr>
</tbody>
</table>

*Sawfish Rostra*

*Price per 300 mm by Rostral Length*

*Data excludes culturally modified rostra (which have above normal prices)*
Comparison: sawfish vs. swordfish

<table>
<thead>
<tr>
<th></th>
<th>Swordfish Bills (Xiphias)</th>
<th>Sawfish Rostra (Pristidae)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dates Tracked</td>
<td>Feb 15 - Apr 6, 2004</td>
<td>Feb 1 - July 31, 2004</td>
</tr>
<tr>
<td>Total Days</td>
<td>52</td>
<td>182</td>
</tr>
<tr>
<td>Sales</td>
<td>22 *</td>
<td>99 *</td>
</tr>
<tr>
<td>Avg Length (mm)</td>
<td>604</td>
<td>706</td>
</tr>
<tr>
<td>Avg Price (US $)</td>
<td>$17.89</td>
<td>$112.79</td>
</tr>
<tr>
<td>Max Price</td>
<td>$32</td>
<td>$1,242</td>
</tr>
<tr>
<td>Avg Price / 300 mm</td>
<td>$8.88</td>
<td>$47.92</td>
</tr>
<tr>
<td>Avg # Bidders</td>
<td>2.0</td>
<td>3.6</td>
</tr>
<tr>
<td>Avg Auction Duration</td>
<td>3.7</td>
<td>7.7</td>
</tr>
<tr>
<td>% Sold of Listed</td>
<td>76.7%</td>
<td>79.8%</td>
</tr>
<tr>
<td>Avg Active Listings / Day</td>
<td>3</td>
<td>6.7</td>
</tr>
</tbody>
</table>

* sales exclude culturally modified examples which inflate average values
Listed & Sold per Month

Avg New Listings for Rostra per Month: 22.7

Avg Rostral Sales per Month: 17.5

Projected Annual Listings & Sales

<table>
<thead>
<tr>
<th></th>
<th>Listed</th>
<th>Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rostra Listed</td>
<td>272</td>
<td></td>
</tr>
<tr>
<td>Rostra Sold</td>
<td></td>
<td>210</td>
</tr>
</tbody>
</table>

Sawfish Rostra Listed & Sold on Ebay

by month 2004

Feb 24 Listed, 14 Sold
Mar 26 Listed, 21 Sold
Apr 19 Listed, 17 Sold
May 17 Listed, 15 Sold
Jun 26 Listed, 19 Sold
Jul 24 Listed, 19 Sold
Active Listings

Avg Active Listings

per day: 6.7
min: 1
max: 15

Example: 7 days x 6 listings = 42

Cumulative Days per Week
with Active Sawfish Rostra Listings
Feb 2 - Jul 31, 2004
Repeat Sellers

- 85 successful sellers; 105 rostra sold
- 60% were one-time sellers of sawfish rostra
- 11.8% of sellers sold two rostra

Top 3 repeat sellers:

<table>
<thead>
<tr>
<th>eBay I.D.</th>
<th>Rostra Sold</th>
<th>Total Earned $</th>
<th>Nationality</th>
<th>% of Rostra Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>peterpansemper</td>
<td>7</td>
<td>$452.18</td>
<td>Australia</td>
<td>6.7%</td>
</tr>
<tr>
<td>e-consignor</td>
<td>4</td>
<td>$81.00</td>
<td>U.S.A</td>
<td>3.8%</td>
</tr>
<tr>
<td>cshelloz</td>
<td>3</td>
<td>$139.08</td>
<td>U.S.A</td>
<td>2.8%</td>
</tr>
</tbody>
</table>
#1 Repeat Seller – Noosa Antiques

- Shop located in Cairns, Australia
  - eBay ID: peterpansemper

**During Study period:**

<table>
<thead>
<tr>
<th>Listings</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique rostra</td>
<td>10</td>
</tr>
<tr>
<td>Sales</td>
<td>7</td>
</tr>
</tbody>
</table>

**Since Dec. 2002** (based on website information)

Noosa has offered (mostly on eBay): at least 52 sawfish rostra

<table>
<thead>
<tr>
<th>Qty</th>
<th>Avg L (mm)</th>
<th>Overall eBay Avg L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anoxypristis</td>
<td>44</td>
<td>718</td>
</tr>
<tr>
<td>microdon</td>
<td>2</td>
<td>1027</td>
</tr>
<tr>
<td>zijsron</td>
<td>6</td>
<td>1113</td>
</tr>
</tbody>
</table>

**Also of interest:** Noosa includes scientific name with all rostra – which were correct 100% of the time.
Where are they getting these saws?

- Two possibilities near Cairns:

<table>
<thead>
<tr>
<th>Annual Reported Bycatch of Sawfishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Prawn Fishery</td>
</tr>
<tr>
<td>QLD beach shark-meshing</td>
</tr>
</tbody>
</table>

**Total Annual Bycatch: 2,447 sawfishes**

Sources:
Repeat Buyers

- 80 unique buyers; 105 total rostra sold
- 88.8% were one-time buyers of sawfish rostra

Top 5 repeat buyers:

<table>
<thead>
<tr>
<th>eBay I.D.</th>
<th>Rostra Purchased</th>
<th>Total Spent $</th>
<th>Nationality</th>
<th>% of Rostra Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>dorevera</td>
<td>12</td>
<td>$1,258.79</td>
<td>Belgium</td>
<td>11.4%</td>
</tr>
<tr>
<td>lamna344</td>
<td>5</td>
<td>$230.22</td>
<td>Italy</td>
<td>4.8%</td>
</tr>
<tr>
<td>luvcash</td>
<td>3</td>
<td>$359.74</td>
<td>U.S.</td>
<td>2.9%</td>
</tr>
<tr>
<td>oldriverroad10i2</td>
<td>3</td>
<td>$156.00</td>
<td>U.S.</td>
<td>2.9%</td>
</tr>
<tr>
<td>sawfishcreek</td>
<td>3</td>
<td>$2,094.50</td>
<td>U.S.</td>
<td>2.9%</td>
</tr>
</tbody>
</table>
Nationality of Buyers & Sellers

Listings with Nationality Data: 138

Domestic Sales: 64.3%
International Sales: 35.7%

### Nationality of Sellers

<table>
<thead>
<tr>
<th>Country</th>
<th>Rostra</th>
<th>% TTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>45</td>
<td>33%</td>
</tr>
<tr>
<td>Australia</td>
<td>36</td>
<td>26%</td>
</tr>
<tr>
<td>UK</td>
<td>32</td>
<td>23%</td>
</tr>
<tr>
<td>Germany</td>
<td>20</td>
<td>14%</td>
</tr>
<tr>
<td>France</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Canada</td>
<td>1</td>
<td>1%</td>
</tr>
</tbody>
</table>

Based on all listings

### Nationality of Buyers

<table>
<thead>
<tr>
<th>Country</th>
<th>Rostra</th>
<th>% TTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>40</td>
<td>40%</td>
</tr>
<tr>
<td>UK</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>Germany</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Belgium</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Australia</td>
<td>8</td>
<td>8%</td>
</tr>
<tr>
<td>Italy</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1</td>
<td>1%</td>
</tr>
</tbody>
</table>

Excludes 4 buyers whose identity was kept private
Pristis pectinata sales by country

- 13 offered for sale
- 11 sold
  - 7.7% of listings for this species mentioned its protected status

<table>
<thead>
<tr>
<th>Seller</th>
<th>Buyer</th>
<th>Qty Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>U.S.A.*</td>
<td>5</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>Belgium</td>
<td>4</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>Canada</td>
<td>1</td>
</tr>
<tr>
<td>U.K.</td>
<td>U.K</td>
<td>1</td>
</tr>
</tbody>
</table>

* of rostra sold domestically in the United States, it remains unknown how many were interstate purchases, but logically most would be

*Ebay does not release Buyer state of residence except to law enforcement for a specific investigation*

Source: Joe Sullivan, eBay Prohibited Items Dept., contact: jsullivan@ebay.com
Where are the rostra coming from?

- Total non-duplicate listings: **119**
- Of these, **30.3%** had data on where seller obtained rostrum:

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estate sale</td>
<td>33.3%</td>
</tr>
<tr>
<td>Inherited from relative</td>
<td>33.3%</td>
</tr>
<tr>
<td>Found in house / furniture</td>
<td>13.9%</td>
</tr>
<tr>
<td>Private collection</td>
<td>11.1%</td>
</tr>
<tr>
<td>Purchased from business</td>
<td>8.3%</td>
</tr>
<tr>
<td>Caught by seller, relatives</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Implication:**
- *rostra appear to be older*
- *Compare to swordfish bills:* 86.4% stated to have been caught off Grand Banks
Capture Data?

- **Total non-duplicate listings: 119**
  - 14.3% provided capture location / origin
  - 6.7% provided capture date

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Australia</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Papua New Guinea</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Indonesia</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>India</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Oman</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Africa</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Florida</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>stated Greece</td>
<td></td>
</tr>
</tbody>
</table>

**Reported Capture Dates**

- c. 1900
- c. 1920
- c. 1923
- 1937
- 1950
- 1950’s
- c. 1960
- 1968

**Observations:**

- rostra appear to be older
- Apparently capture details are not retained for the majority of rostra
Final Thoughts

What have we learned?:
- Sawfish trade on eBay is regular
  - With an average of 6.7 active listings on any given day
- Sawfish rostra are valuable
  - i.e. more valuable than swordfish bills
- Many (or all) species are represented, from diverse regions
- Most sales are between buyers & sellers who do not regularly deal in sawfish rostra
- Capture details are not available for the majority of rostra offered

Use of this data?:
- Provide information about illegal sales of *Pristis pectinata* for FWS / NOAA law enforcement
- Facilitate communication between FWS / NOAA & eBay Prohibited Items Dept.
- Quantitative data for CITES proposals
- Information for other countries protecting sawfish populations (ex.: *Australia*)