

PURPLE OCTOPUS

Using Social Networks to Study Marine Species

Jon Chamberlain

A diver in a black wetsuit and blue goggles is underwater, holding a large camera and a light. The diver is positioned on the right side of the frame. In the lower-left corner, a sea turtle is visible, swimming towards the left. The background is a vibrant coral reef with various colors of coral and seaweed. The water is clear and blue.

More divers...

**...taking and sharing
more pictures**

How it works

RECREATIONAL DIVER



FACEBOOK



Jon Chamberlain

17 hrs

Any ID for this please? Indonesia 10m down



Like · Comment · Share

👍 Rob Durrant and 11 others like this.



Ron Silver Phyllidia varicosa

17 hrs · Edited · Unlike · 👍 3



Michael Fineberg common name: Varicose wart slug

Both pretty, and common! 😊

10 hrs · Edited · Unlike · 👍 1



Wayan Darma phyllidia varicosa

9 hrs · Unlike · 👍 1

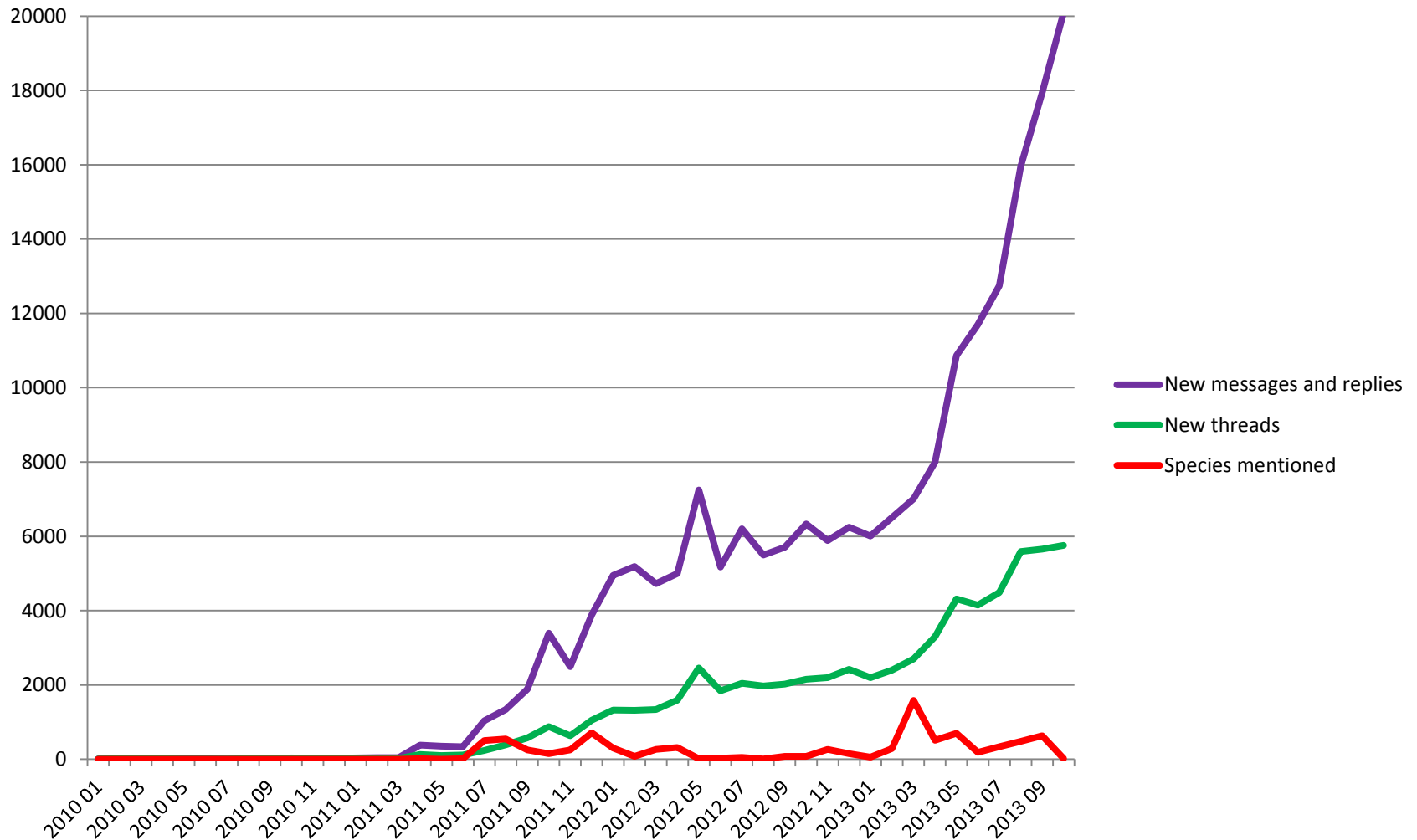
How much data

~ 25 million Facebook images

**even more on Flickr, Instagram,
Twitter, YouTube, Vimeo...**

**Uploaded by divers, aquarists,
researchers, shell collectors,
beachcombers...**

Data added per month



Accuracy

Messages cached and analysed

39k threads from 14k users in 34 groups mentioned 14k species

A sample of 61 difficult to identify images from 2 high-performing groups showed an accuracy of 93%

Language Processing

Jon Chamberlain I was thinking this was **Coryphella browni**, but someone suggested it might be **Facellina bostoniensis** due to the long tentacles and more upright rhinophores. Any thoughts?

Jon Chamberlain Found at 8m at Salthouse, Norfolk in Sept (chalk reef).

Ian Smith typical **F. bostoniensis**. Lamellate rhinophores not on **C. browni**

Rob Spray There are a few key features I think help spot a **Facelina** straightaway 1) pink 'glow' of the mouth within the head, 2) BIG oral processes 3) long, luxurious cerata :-). Then you just ID which species...

Becky Hitchin luxurious ... glow ... sounds like a female nudi!]

Rob Spray Our slugs are quite hedonistic out here in the east :-)



Species name and location extracted by string matching

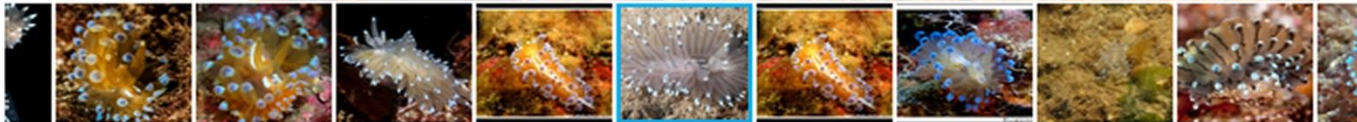
Sentiment analysis and entity recognition is challenging

Species Morphology

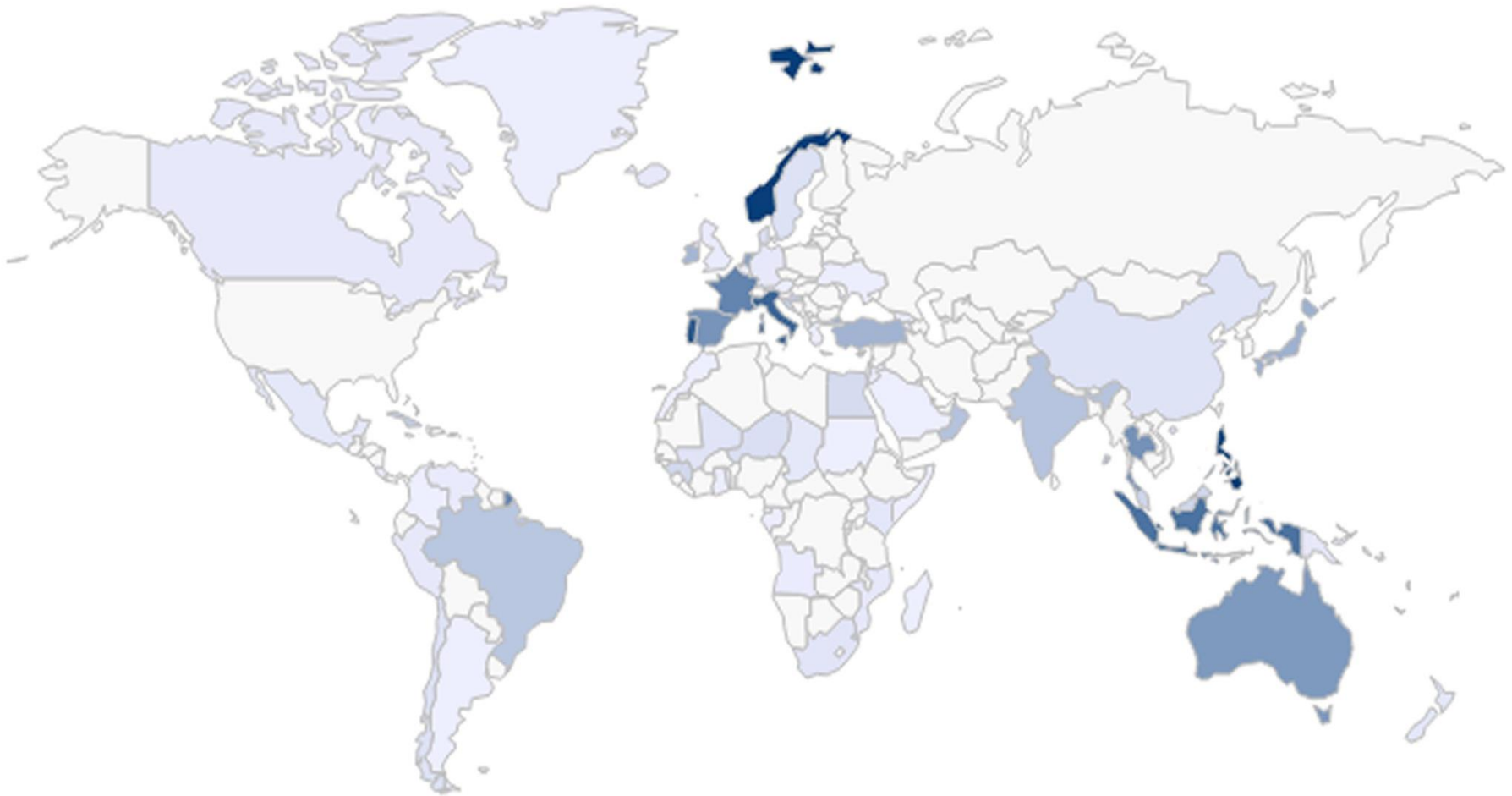
Janolus cristatus (delle Chiaje, 1841)

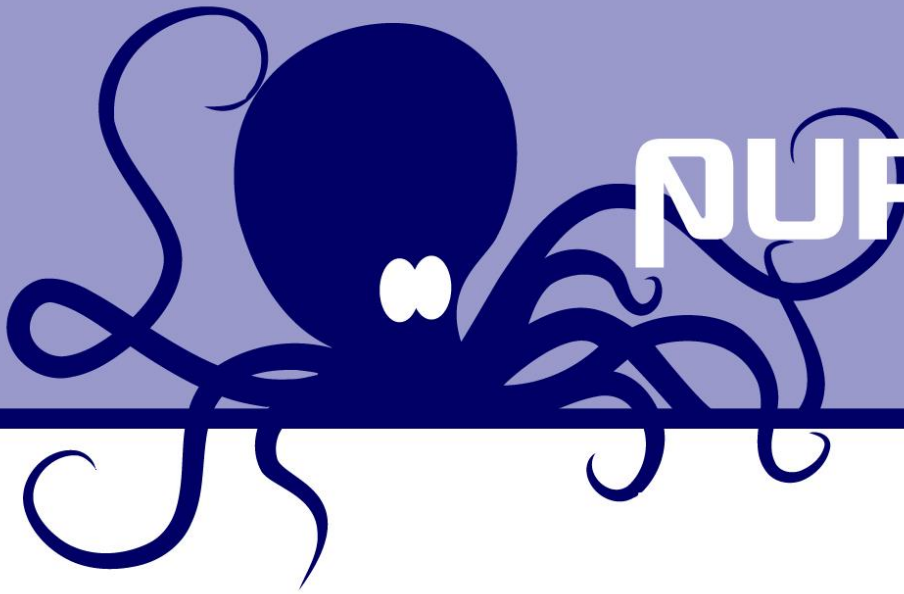


Erling Svensen



Worldwide Diversity





PURPLE OCTOPUS

Accessing the large and expanding resource of marine species images on social networks

High accuracy of labels, even when the image is difficult

www.purpleoctopus.org