

OCS

NEWSLETTER

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WELCOME NOTE

Welcome to the first newsletter for the Oceania Chondrichthyan Society for 2011 - it is already gearing up to be an exciting year! I am happy to introduce the new executive council: Michelle Heupel and Susan Theiss are continuing to do an excellent job as Vice President and Treasurer, respectively, and we also have a new face, Carley Bansemer, taking up the role as Secretary. I will be replacing William White who has stepped down from being president for the last three of the society's five years of running. Will was a founding member when the society began in 2006 and has always actively participated in all things OCS. During his three years of presidency, Will has overseen an OCS conference in Sydney and dinners at IPFC in Perth and Sharks International in Cairns. Will's vast knowledge of chondrichthyan taxonomy and Indonesian fisheries has been an invaluable asset to the society. Furthermore, Will's superbly offbeat sense of humour has led to the instigation of the Pseudocarcharhinidae award, which has become a beloved tradition at annual conferences. I would like to thank Will on behalf of the OCS for his tireless contribution to the society as past president and I hope that I can fill his shoes.

This year's conference has been confirmed for September and we are very excited to announce that it will be held at Sea World Resort and Water Park on the Gold Coast in Queensland. The conference organising committee, which currently consists of Susan Theiss, Peter Kyne, Carley Bansemer, Michelle Heupel and myself, are busy creating a fantastic event for everyone. The registration information will be up on the web shortly, so stay tuned. There will also be student prizes and travel grants sponsored by Passions of Paradise, so this is an opportunity not to be missed. OCS conferences are always a fantastic experience for those involved and, of course, the Pseudocarcharhinidae will be up for grabs again! I am looking forward to meeting all of you and to another great year with the OCS!

Lindsay Marshall

OCS President

OCS SHOP

Visit http://www.cafepress.com.au/ocs_shop to purchase any clothes or equipment with the OCS logo!

Purchasing the high quality branded clothing and gift items from Café Press will help support and promote the OCS and its activities.



NOTICES

Journal of fish biology special issue

The Journal of Fish Biology is inviting authors to submit papers to be considered in a Special Issue: "The Current Status of Elasmobranchs: Biology, Fisheries and Conservation" being edited by Steve Blaber and myself.

The Special Issue aims to cover a wide variety of topics as well as a variety of geographical locations around the world. Papers which review broader topics of elasmobranch science will be considered, as well as more specific, high-quality papers which meet the requirements of the Journal of Fish Biology.

Submissions need to be submitted online via the Editorial Manager website (<http://jfb.edmgr.com>) before the 1 August 2011.

When submitting, make sure that in the "Select Article Type" section that "Special Issue Paper" is selected. Please carefully follow the current Instructions to Authors for this journal.

Please let me know if you are interested in submitting a paper.

Regards
Will White
(OCS member)

OCS Conference 2011 Save the Date

It's been nearly three years since our conference in Sydney, and while OCS members have enjoyed successful and fun-filled dinners at the Indo-Pacific Fish Conference and Sharks International, it's time once again to hold our own official meeting. I am pleased to inform you that this year's OCS conference will be held September 13th -15th at Sea World Resort and Water Park on the Gold Coast. Specific details will be advertised shortly via the OCS mailing list and in the next newsletter but in brief, the conference will consist of a workshop on the 13th followed by two days of talks. A poster session will

take place on the 14th and the Annual General Meeting will also be held during the conference period, exact time TBA. Social events will include welcome drinks on the 13th and a conference dinner at the conclusion of the event on the 15th.

This year's conference is sure to be an exciting and productive one at a fabulous location, so please save the dates in your calendar to ensure your attendance. Opportunities will be available for student travel grants through continued sponsorship by Passions of Paradise. On behalf of the OCS Executive Committee, I look forward to seeing you there!

Susan Theiss,
OCS Conference Coordinator

Request for Information about Pacific Shark Tagging Activities

We are writing to you in connection with the Shark Research Plan currently being implemented by the Secretariat of the Pacific Community (SPC) on behalf of the Western and Central Pacific Fisheries Commission (WCPFC).

The Shark Research Plan is designed to gather all relevant fisheries and biological information about key shark species in the Western and Central Pacific Ocean and to support shark stock assessments and inform future discussion of management measures. For more information about the Shark Research Plan please refer to <http://www.wcpfc.int/node/2950> and <http://www.wcpfc.int/doc/wcpfc7-2010-16/spc-progress-toward-shark-assessments>.

One of our new initiatives under the Shark Research Plan is the Shark Tagging Metadatabase Project. This project is designed to identify sources of biological information for highly migratory shark species through gathering and storing of information about shark tagging.

Our aim is not to compile actual tag

tracking data, but rather to compile metadata such as the numbers of species and tags attached and recovered, the study area and the type of tag. These metadata will be stored in a database and made freely available online at the conclusion of the project through the SPC website. As these data may be useful in identifying new information for our ongoing stock assessments, we need to work quickly to gather and understand what shark tag may be available and produce the database by the end of June 2011.

At the same time, we also hope this metadatabase can assist those who recover tagged sharks or unattached tags to return them to the researchers who attached them. In the longer term, we hope that the database can inform researchers about the existence of similar tagging programs in other parts of the Pacific and identify data gaps for various species and areas.

We would like to request your assistance in providing some information about tags attached to sharks in the Pacific by you or your colleagues. A suggested list of data fields can be provided on request. If you do not hold any shark tagging information but can refer us to other researchers who may, we would greatly appreciate hearing from you.

This project is being coordinated at SPC by Ms Lea Protoy so please contact her if you have any questions or require further information.

Lea Protoy
leap@spc.int

OCS Newsletter Submissions

If you have any recently published articles, items of interest, a photo to share or would like to showcase a project you are working on please send your submissions to the editors at: ocsnewsletters@gmail.com

Ash Roberts-Thomson and Lenore Litherland, Editors

MEET THE OCS COMMITTEE: PART 1

President: Lindsay Marshall

I have recently finished my PhD with the University of Tasmania, studying externally at CSIRO Marine and Atmospheric Science laboratories in Brisbane. My PhD research focused on using morphological characters to identify sharks from their fins in order to quantify Illegal shark fishing in Northern Australian waters. My other research interests are fisheries management, ecology, taxonomy and functional morphology. Through my research career I have thoroughly enjoyed working with an international network of colleagues and collaborators, and have been lucky enough to have conducted field work in places such as south west WA, Shark Bay, Ningaloo, Hervey Bay, Moreton Bay, Taiwan and Thailand. As well as a scientist, I am also a biological artist, and enjoy painting all kinds of creatures for scientific works. Currently I am working with Dr Gavin Naylor and Dr Peter Last as an Illustrator on the NSF Tree of Life project. My artwork can be viewed at www.stickfigurefish.com.au.



Supporting Lindsay in her role as OCS President is a team of hard working executive councilors and committee members. 2011 sees Dr. Michelle Heupel and Dr. Susan Theiss continuing in their roles as Vice President and Treasurer, respectively. Joining them is Dr Carley Bansemer in the role of Secretary.

Vice President: Dr Michelle Heupel

Dr. Michelle Heupel (michelle.heupel@jcu.edu.au) is an ARC Future Fellow and holds a joint position with AIMS and James Cook University in Townsville. Dr. Heupel completed her undergraduate studies at Colorado State University USA majoring in Zoology, before moving on to complete a PhD at the University of Queensland, Australia.

Dr. Heupel's chondrichthyan interests are in the field of movement ecology. Previous research projects that Michelle has undertaken have focused on the movement patterns and behavioural ecology of coastal elasmobranchs, with particular interest in the use of nursery habitats by juveniles. Dr. Heupel is highly skilled in the use of acoustic monitoring technology to investigate long-term movement and presence patterns in aquatic habitats. Michelle is currently investigating "the movement of reef predators in response to environmental conditions, efficacy of MPAs for predator species"

Dr. Heupel is always on the hunt for other interesting projects to keep herself and students learning new things.



MEET THE OCS COMMITTEE: PART 1

Treasurer: Dr Susan Theiss

Dr Susan Theiss (s.theiss@uq.edu.au) is a postdoctoral researcher at the University of Queensland in the School of Geography, Planning and Environmental Management. “I grew up in a small coastal town in Humboldt County in the northern part of California. The area is known for its beautiful rocky coastline, majestic redwood trees...and the cultivation and proliferation of certain illegal plant products. As a young girl, I may have crossed paths with Dave Ebert, who did his undergraduate degree at Humboldt State University, and whom with now I enjoy sharing reflections and memories about the area.”

Susan received a Bachelor of Science in Aquatic Biology, with a minor in Art History, from the University of California at Santa Barbara. During her final undergraduate year, Susan did a study abroad semester to UQ in Brisbane where she promptly fell in love with Australia and immediately returned after graduation to do a PhD.

Dr Theiss’s chondrichthyan interests include neuroethology, sensory biology and ecology, and environmental stimuli influencing movements and behaviour. “My current research project investigates the interactions between elasmobranchs and electromagnetic fields (EMF’s), and how EMF’s (environmental and man-made) might influence the natural behaviours of these animals. This project operates in conjunction with the establishment of an environmental sensing network project, which has future applications for tracking and correlating fine scale movements of elasmobranchs with biological and physical characteristics, including EMF’s.” Dr Theiss would like to continue conducting elasmobranch research in Australia. “There is a huge potential for a lot of wonderful and exciting projects here. Having said that, I am also keen to see more of the world and hope to be able to travel more for work and pleasure. “I suppose I wouldn’t mind being on ‘Shark Week’ just once!”



Shark research isn't as dangerous as some may think. Being attacked by a tuna turned out to be much more life-threatening!

Secretary: Dr Carley Bansemmer

Since 1998, Carley has worked for the Queensland Government in various roles relating to conservation management within marine parks (mainly Moreton Bay Marine Park). Carley has always forged and driven links between research and conservation management and demonstrates this through her active involvement in both realms.



Dr Bansemmer completed her PhD in 2009 on the 'Population biology, distribution, movement patterns and conservation requirements of the grey nurse shark'.

Look out for “Meet the OCS Committee Members: Part 2” featured in the next newsletter, introducing the OCS committee members and the newsletter team.

Available Marine Resources: Australian Animal Tagging and Monitoring Facility

Since 2006 the Australian Government has funded an array of oceanographic resources through the Integrated Marine Observing System (IMOS). A range of facilities is available through IMOS with all of the collected data freely available via the ocean portal on the IMOS website. This includes coastal radar data, weather station data, ocean gliders, argo floats, satellite remote sensing and many others (see: www.imos.org.au for more details).

One of the facilities that may be of high relevance to some of the OCS membership is the Australian Animal Tagging and Monitoring Facility (AATAMS - imos.org.au/aatams.html).

This facility uses acoustic technology, CTD satellite trackers and bio loggers to monitor coastal and oceanic movements of marine animals from the Australian mainland to the sub-Antarctic islands and as far south as the Antarctic continent. AATAMS deploys acoustic receivers at strategic locations around the Australian coast to assist researchers monitor the movements of animals fitted with acoustic transmitters.

IMOS is a sustained observing system and the intention of the coastal acoustic receiver network is to monitor over the long-term movements and migration patterns of coastal species.

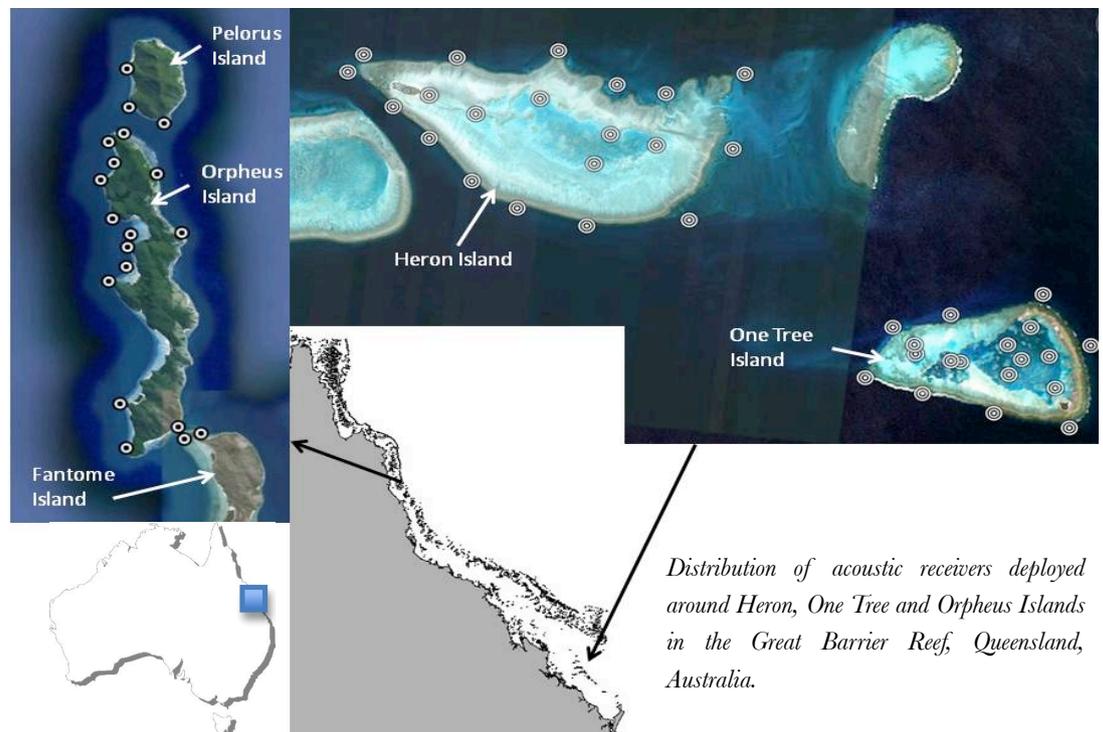
The specific aims of the acoustic monitoring stream of AATAMS are to:

- Form a national network and increase collaboration between tracking researchers.
- Invest in over 500 permanent, strategically located receivers (VR2Ws and VR3s) to maximise national benefit and form a continental array with existing infrastructure.
- Lead the Southern Hemisphere section of an internationally coordinated Marine Animal Tracking program: Ocean Tracking Network.
- Act as a central repository for data from collaborating institutes and researchers around the Nation.
- Assess climate change in the Southern Oceans

One of the more recent enhancements of AATAMS has been to deploy a series of acoustic receivers at several of the island research stations in Queensland. Receivers are now deployed around Heron, One Tree and Orpheus Islands (see map).

AATAMS acoustic monitoring arrays are available for use by anyone researching in array regions. The only requirement is that you contact AATAMS to let them know you intend to deploy transmitters in that area so use of the system can be coordinated and ensure no transmitter overlap occurs. Informing AATAMS of your code numbers also ensures you have access to all detections of your individual across the entire national network and on the global array managed by the Ocean Tracking Network.

If you have questions about the Qld deployment feel free to contact AATAMS or Michelle Heupel (m.heupel@aims.gov.au).



THE FRENZY

Auckland anglers assist research on great white sharks

<http://blog.doc.govt.nz/2011/03/04/great-white-sharks/>
Conservation Blog, Department of Conservation, New Zealand Government, March 4, 2011

Research into sustainable fishing

<http://www.sunshinecoastdaily.com.au/story/2011/03/18/sustainable-fishing-jaws-of-life-for-sharks/>
Patrick Williams, Sunshine Coast Daily, Australia- March 18, 2011

Hygienic sharks go to cleaner stations

http://news.bbc.co.uk/earth/hi/earth_news/newsid_9427000/9427886.stm
Victoria Gill, BBC Earth, UK- March 18, 2011

Great white shark tagging resumes off NZ coast

<http://www.odt.co.nz/news/national/152700/shark-tagging-resumes>
Otago Daily Times, March 22, 2011

Sharks navigate using 'mental maps'

<http://www.bbc.co.uk/news/science-environment-12612655>
Richard Black, BBC News, UK-March 2, 2011

Australian abalone Industry calls for more shark shield tests

<http://www.portlincolntimes.com.au/news/local/news/general/call-for-more-shark-shields-tests/2106689.aspx>
Bonnie Puckridge, Port Lincoln Times, Australia- March 17, 2011

It is wrong to claim that the global shark population is declining

<http://www.guardian.co.uk/commentisfree/cif-green/2011/mar/09/wrong-to-claim-shark-population-declining>
Ken Okaniwa, The Guardian, UK-March 9, 2011

Lawmaker urges shark fin trading ban

http://www.china.org.cn/china/2011-03/10/content_22097340.htm
Ma Shukun, Cao Guochaun, China- March 10 2011

When shark activists bite back

<http://www.theglobeandmail.com/life/food-and-wine/trends/trends-features/when-shark-activists-bite-back/article1951826/page2/>
Wency Leung, The Globe and Mail, March 22, 2011

Taiwan working hard on shark conservation

http://focustaiwan.tw/ShowNews/WebNews_Detail.aspx?Type=aALL&ID=201101270030
Lin Shu-yuan & Sofia Wu, Focus Taiwan, Taiwan-January 27, 2011

Let Us Eat Shark: Angry fishermen

<http://www.sunshinecoastdaily.com.au/story/2011/02/17/let-us-eat-shark-says-angry-fisherman-paul-johnson/>
Kathy Sundestrom, Sunshine Coast Daily, Australia-February 17, 2011

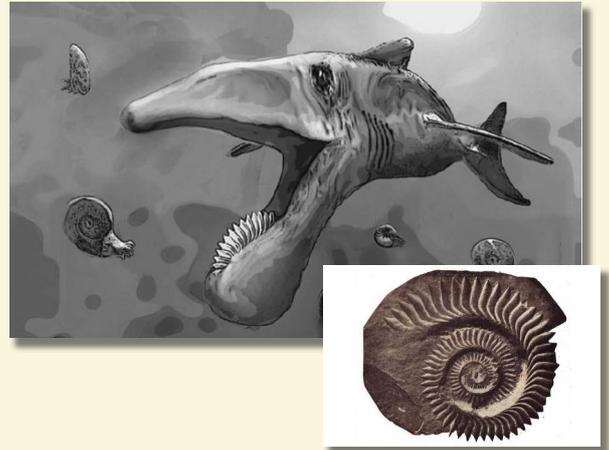
Sharks may be colourblind

http://www.underwatertimes.com/news.php?article_id=79010536148
Anon. UnderwaterTimes.com.au, Australia-January 19, 2011

Unraveling the nature of the whorl-toothed shark

<http://www.wired.co.uk/news/archive/2011-03/11/analysis-pictures-whorl-toothed-shark>

Brian Switek, Wired.co.uk, UK- March 11, 2011 (photo Lebedev, 2009)



Whale sharks worse off in worst case Ningaloo oil spill model

<http://www.watoday.com.au/wa-news/whale-sharks-worse-off-in-worstcase-ningaloo-oil-spill-model-20110308-1bmj7.html>

Aja Styles, WAtoday- Australia- March 9, 2011



The Ningaloo Reef - famous for its whale sharks - has been added to the world heritage list.

Research Highlights: Spot a Basking Shark Project

The basking shark (*Cetorhinus maximus*) is the second largest shark species in the world, reaching a total length of up to 10 m. The species has been reported globally from high latitude seas, including arctic waters, to the lower latitudes including the tropics. The eastern North Pacific basking shark population has now been designated a “Species of Concern” by the National Marine Fisheries Service (NMFS). It fits this criteria for three main reasons: 1) the population observed off Canada and California appears to have declined dramatically. Where thousands of individuals were once observed early in the 1900’s now only a few individuals, if any, are seen in a given year; 2) although there have been no targeted fisheries for basking sharks in the eastern North Pacific for more than 50 years, there does not appear to

be any increase in population size and in fact it may have declined significantly. This dramatic decline and lack of recovery is common across the globe where basking sharks have been targeted. This lack of recovery may be linked to persistent, undocumented mortality, their low intrinsic population growth rates, and/or potential changes in contemporary distribution patterns; 3) a severe lack of data makes it difficult to develop a recovery plan. Therefore, given the lack of knowledge on its abundance, population status, and occurrence along the Pacific coast, a collaborative project has been initiated between the Pacific Shark Research Center and the NMFS to investigate the abundance, distribution, and population status basking sharks.

This project also involves Canadian and Mexican colleagues since the basking shark are known to migrate long distances making transoceanic and even transequatorial movements based on research conducted in the North Atlantic. It would not be unexpected that in the Pacific this shark makes long distance migrations across the Pacific to Japan and China as well as to the southern hemisphere.

From a population perspective the geographic range of the population, connectivity throughout the Pacific and population dynamics are currently unknown. This information is critical to assessing potential sources of mortality outside the United States, Canadian, and Mexican Economic Exclusive Zones as well as the relative impacts of human interactions and environmental effects on population trends. The goal of the project is to fill vital information gaps in order to develop a recovery plan that will maximize the potential to rebuild the basking shark population in the eastern North Pacific.

More information on the project can be found at:

<http://psrc.mlml.calstate.edu/current-research/basking-shark>

Thanks to Dr Ebert for this newsletter contribution!



Alex Mcleod ©

Photo: Alex Mcleod ©

RECENT LITERATURE

Brunnschweiler J.M., Baensch H. (2011) Seasonal and long-term changes in relative abundance of bull sharks from a tourist shark feeding site in Fiji. *PLoS ONE* 6(1): e16597

Brunnschweiler J.M., Nielsen F., Motta P. (2011) In situ observation of stomach eversion in a line-caught Shortfin Mako (*Isurus oxyrinchus*). *Fisheries Research* (in press)

Ebert, D.A., White, W.T., Goldman, K.J., Compagno, L.J.V., Daly-Engel, T.S., Ward, R. 2010. Reevaluation and redescription of *Squalus suckleyi* (Girard, 1854) from the North Pacific, with comments on the *Squalus acanthias* subgroup (Squaliformes: Squalidae). *Zootaxa*, 2612: 22-40.

Ebert, D.A. & Winton, M.V. 2010. Chondrichthyans of high latitude seas. In: *The Biology of Sharks and their Relatives*, volume 2. (Eds.) Carrier, J.C., J.A. Musick, & M.R. Heithaus. CRC Press, Chapter 3: 116-158

Kemper, J.M., Ebert, D.A., Compagno, L.J.V., & Didier, D.A. 2010. *Chimaera notafriicana* sp. nov. (Chondrichthyes: Chimaeriformes: Chimaeridae), a new species of chimaera from southern Africa. *Zootaxa*, 2532: 55-63.

Kemper, J.M., Ebert, D.A., Didier, D.A., & Compagno, L.J.V. 2010. Description of a new species of chimaerid, *Chimaera bahamaensis* sp. nov., from the Bahamas (Holocephali: Chimaeridae). *Bulletin of Marine Science*, 86(3): 649-659.

Perez, C.R., Cailliet, G.M., & Ebert, D.A. 2011. Age and growth of the sandpaper skate, *Bathyraja kincaidii* (Garman, 1908). *Journal of the Marine Biological Association of the United Kingdom*

Pierce, S. J., Scott-Holland, T.B., Bennett, M.B. (2011) Community composition of elasmobranch fishes utilizing intertidal sand flats in Moreton Bay, Queensland, Australia. *Pacific Science*, 65 (2): 235-247

Walsh, J.H., Ebert, D.A., & Compagno, L.J.V. 2011. *Squatina caillieti* sp. nov., a new species of angel shark (Chondrichthyes: Squaliformes: Squatinidae) from the Philippine Islands. *Zootaxa* 2759: 49-59.

Williams, E.H., Bunkley-Williams, L., & Ebert, D.A. 2010. An accidental attachment of *Elthusa raynaudii* (Isopoda, Cymothoidae) in *Etmopterus* sp. (Squaliformes, Etmopteridae). *Acta Parasitologica*, 55 (1): 99-101.

Yopak, K.E., Ainsley, S.M., Ebert, D.A., and Frank, L.R. 2010. Exploring Adaptive Evolution in the Brains of Bathyal Skates (Family: Rajidae): Phylogenetic and Ecological Perspectives. *Brain, Behavior, and Evolution*, 75: 316.

Member Gallery



Photo from the gift store of Ocean Park in Hong Kong. Over 6 million people attend this park each year, a large number from mainland China.

STUDENT FOCUS



Christopher Neff

My name is Christopher Neff (Christopher.neff@sydney.edu.au) and I am an American student and second-year PhD candidate at the University of Sydney, in the Faculty of Arts and Social Sciences. My research looks at the social meaning given to shark bites and the ‘politics’ of shark attacks in Australia, South Africa and the U.S.

I was definitely a “shark kid” by age 10. I had books and there was an infinite amount of “Jaws” watching in my house. I was raised on a lake in New England and fell in love with the ocean immediately. Politics is my second love. I enjoy the debates, analysis and problem solving that comes with tough issues. I graduated from James Madison University in Virginia in 1999 with a Bachelors degree in Political Science and began working in the Senate, and was later a lobbyist and consultant.

My political client now is sharks. This month I am working on the history of the phrase shark “attack” and how it related to beach-safety policies. I am studying how the framing of shark bites impacts the development of shark control and shark conservation policies in Australia, South Africa and the U.S. Simply put, it is socially acceptable to kill sharks because of the framing of shark “attacks” and this limits shark conservation success. My goal is to analyze how different policies come about and establish best practices for re-thinking shark management in a balanced way.

I am very excited to head to Cape Town and to do field work in June. This is a dream destination for me and I will be going to Florida as well (which I also love) to do field work as well. When I am finished, I hope to work in academia, teaching, writing and secretly thinking about taking Zoology classes! www.christopherneff.com

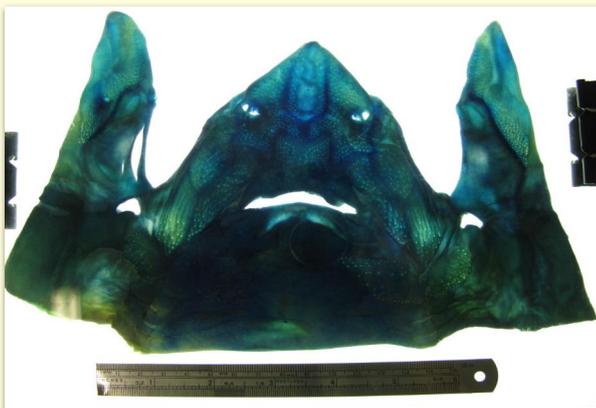
Ryan Kempster

Ryan Kempster is a PhD candidate at the University of Western Australia in the School of Animal Biology and The UWA Oceans Institute. Originally hailing from in the UK, Ryan completed his undergraduate work at Bangor University, Wales, U.K. Ryan’s Chondrichthyan interests include sensory biology and neuroecology.

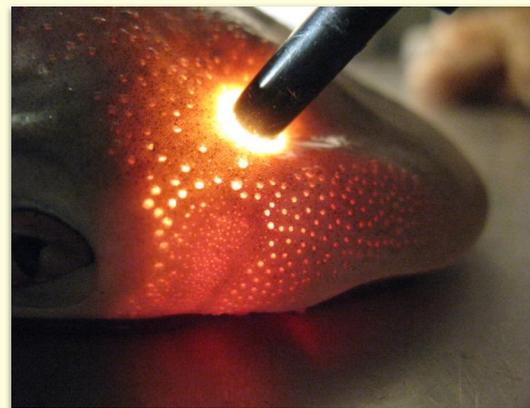
Ryan’s PhD research focuses on the role of electroreception in the feeding behaviour of Chondrichthyan’s: “The ampullae of Lorenzini are complex sense organs, unique to Chondrichthyan’s, that show a range of distribution patterns. To date, relatively little work has been done on the distribution patterns of the ampullary system in species from a wide range of habitats and different genera. The significant role that electroreception plays in feeding behaviour enables us to learn a great deal from a comprehensive analysis of the distribution of receptors, their sensitivity, their relative input to the CNS and their plasticity either during development or during migration from one habitat to another. An understanding of the contribution of passive electroreception in shark feeding can increase our knowledge of how we can prevent attacks on humans.”

Currently, Ryan is working on the embryonic development of the electrosensory system in the banded bamboo shark, *Chiloscyllium punctatum*. By using a series of behavioural trials and tract tracing techniques he hopes to ascertain the point in the development at which *C. Punctatum* becomes electrosensitive.

Ryan would like to continue his research with sharks and rays in the future by expanding into other aspects of sensory biology. “More specifically, I would like to compare the nervous input of each sensory system to the CNS to establish the importance of each sense in a variety of species.”



The skin of a shortnose spurdog shark (*Squalus megalops*), dyed with methylene blue and mounted on a light box to highlight the pores and canals.



A fibre optic light shining through the head of a nervous shark (*Carcharhinus caudatus*). The light transmits through the gel within the canals, and then shines out the pores, clearly distinguishing their pattern.