

# Rice Memorial Fund 2011

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The Rice Memorial Fund was established by donations following the death of Barbara Rice in 2009. It honours her memory by encouraging field research. Distributions from the fund support two prizes.

The Rice Memorial Field Research Award for 2011 was won by Jessica Boomer on the basis of her seminar at the annual postgrad conference at Macquarie University in November. Jessica works on gummy sharks. These are small (1-1.5m) shy sharks that swim close to the sea floor from the coast out to about 300 m depth. They are an important food resource across much of Oceania. In southern Australia and New Zealand they are often the “fish” in “fish and chips”. Jessica uses molecular genetics to address taxonomy, stock structure, mating systems, genetic diversity and effective population size. Since commercially caught sharks are brought back to shore as dressed carcasses, she goes out on fishing boats to collect the morphometric data and DNA samples she needs. She has worked on very small boats and on very large boats, in estuaries and on the southern ocean, sometimes overnight and sometimes for a couple of weeks. The boats were smelly but the fishers were friendly and supportive, provided Jessica helped with baiting hooks.

Jessica's results have shown that a single species of gummy shark (*Mustelus antarcticus*) is targeted by the commercial fishery in southern Australia and a separate species (*Mustelus lenticulatus*) is caught in New Zealand.

Conventional tagging studies indicate these sharks do not move very far, suggesting each species might consist of multiple genetically distinct stocks. However, Jessica found no evidence of genetic structure within south Australian waters, whether based on philopatry, reproductive timing, isolation by distance or sex-biased dispersal.



*Jessica Boomer with gummy shark*

Jessica had a baby Evie at the beginning of 2011. She comments that babies and science careers both call for a lot of commitment and emotion. She is learning to be more efficient and mostly to disregard housework. She finds Evie is a very good listener when it comes to voicing ideas or practicing seminars but she hopes her first words aren't “DNA” or “gummy sharks”.

The 2011 Rice Memorial Field Research Proposal Award was won by Dalila Rendon on the

basis of her proposal towards field research during 2012. For Dalila's masters of environmental management in the United States, she worked in collaboration with the Xerces Society to develop outreach programs educating farmers and agencies about beneficial insects and biological control. Her PhD in Australia is supported by an Endeavour Postgrad Award.

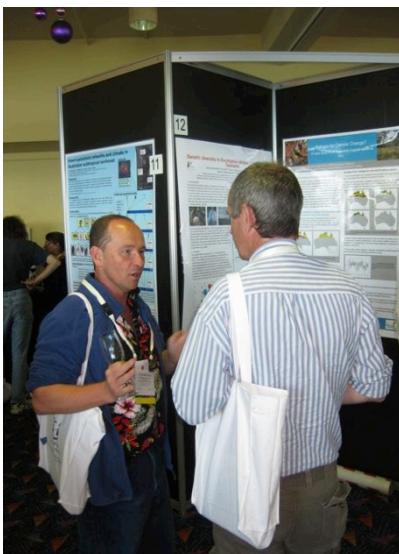
Dalila's proposal is to investigate the effect of different tillage practices in cotton crops on natural enemies of the bollworm *Helicoverpa*, and especially on ground-dwelling lycosid spiders ("wolf spiders"). A standard element of integrated pest management has been ploughing after cotton harvest to destroy *Helicoverpa* pupae in the soil. However, disrupting the soil and ground cover reduces spider populations. Dalila's work will first compare abundance and diversity of spiders between tilled and no-till cotton crops using pitfall traps. Then second, the feeding ecology of the lycosids will be quantified by searching at night with a flashlight, recording what prey spiders have taken and following some individual spiders over a period.



*Dalila Rendon*

### **Rice Memorial Poster Session, Nov 2011 in Hobart**

The poster session at the annual meeting of Ecological Society of Australia was supported in Barbara Rice's name (though not, strictly speaking, through the Rice Memorial Fund). The system is that when you have an intelligent conversation with a poster-giver they will give you a sticker. Then you can trade stickers for drinks. The effect is to shout drinks for Australian ecologists in Barb's memory, plus a lively poster session.



*photos courtesy Mike Crisp and Mike Fleming*