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FOR IMMEDIATE RELEASE

Can Crocodiles Put the Bite on Alligators? **Antibiotics in Crocodile and Alligator blood**



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ATTACHED PHOTO: Ominous view of a saltwater crocodile, but ironically crocodiles and alligators may soon be saving lives themselves (Big Gecko, permission is given for use with articles based directly on this press release, contact us directly for a higher resolution version if required)

This week American scientist Dr Mark Merchant (NcNeese State University, Louisiana) presented the results of his research to the American Chemical Society showing that the blood of American alligators contains a remarkable antibiotic that offers hope in combating MRSA and other antibiotic-resistant bacteria.

These findings mirror those of Territory crocodile scientist Dr Adam Britton, who discovered nearly a decade ago that Australian saltwater and freshwater crocodiles both contain powerful antibiotic agents that could be used to fight MRSA. Dr Britton's team named this substance "crocodillin" in homage to penicillin because they felt it would have a big impact on the medical world. Dr Merchant suggests naming the alligator agent "alligacin".

Dr Adam Britton, a crocodile specialist with Darwin-based consultancy Big Gecko, is continuing forward with this important research into crocodile blood, despite challenging difficulties encountered in recent years. He hopes that by pushing forward with this research it will put Australia's saltwater crocodiles (and its natural resources) into the global spotlight which might otherwise be stolen by American alligators. However, in the spirit of international cooperation Dr Britton is collaborating with Dr Merchant whose lab offers the kind of specialist analytical methods required to study the blood.

Dr Britton had the following to say about this research. “There are very clear human medical benefits that can come out of these studies, and it underscores the value of speculative research into the biology and physiology of animals that have spent millions of years getting things right – in this case their immune system.”

He added, “It seems ironic that saltwater crocodiles could offer medical breakthroughs that can save peoples’ lives” says Dr Britton. “But it highlights the value of crocodiles in Australia.”

BACKGROUND

In 1998 Dr Adam Britton, a Darwin-based crocodile scientist, tested a hypothesis about crocodile blood that had major repercussions around the world. He observed that crocodiles could suffer horrific injuries while fighting, but that those injuries never seemed to become infected even in filthy water. Working with an American colleague Dr Gill Diamond (New Jersey Medical School) they discovered that crocodiles have an extremely powerful immune system capable of tackling even antibiotic-resistant bacteria like MRSA, and that it may have major medical implications for humans.

We know that crocodiles have powerful antimicrobial peptides in their blood – part of their innate immune system. Innate immunity is often thought of as being the most primitive part of an animal’s immune system, but there is nothing primitive about its effectiveness. In humans, innate immunity assists the adaptive immune system to fight bacteria and viruses in our bodies. Crocodiles simply have better and stronger innate immunity that we might be able to harness.

Dr Britton can be contacted for further information, comments or interviews on either 0407 185182 or 08 89884607 or by email at gecko@crocodilian.com

Big Gecko is a Darwin-based consultancy focussed on research and conservation of crocodiles. Further information about Big Gecko is available at <http://crocodilian.com/big-gecko>