Giving birth to live young facilitates family life in reptiles

Reptiles who give birth to live young are more likely to bond with their offspring, leading to family life, compared to reptiles who lay eggs, new research has found.

Researchers from the University of Tasmania and Lund University (Sweden) studied the family life of more than 1,000 species of reptiles to gain insights into what triggered the early evolution of family environments.

Dr Ben Halliwell and Dr Geoff While, from the University of Tasmania’s School of Biological Science - along with colleagues Dr Barbara Holland (University of Tasmania, Mathematics/Physics) and Professor Tobias Uller (Lund University, Sweden) - compared the social life of the reptiles and examined the factors that have been important in the early evolution of family life.

Dr Halliwell said the species analysed, including snakes and lizards, exhibited very simple forms of family living characterised by a prolonged association between parents and their offspring.

“Our research shows that giving birth to live young, rather than laying eggs, was an important first step in the evolution of these simple parent-offspring associations,” he said.

“Furthermore, it shows that these simple parent-offspring associations then formed the foundation for the evolution of a more stable family life similar to what we see in many birds and mammals, including humans.”

“These are fundamental and novel insights into the early evolution of family living,” Dr Geoff While said.

“Since almost all birds and mammals take care of their offspring, so far there has been little knowledge of the earliest evolutionary steps towards parental care and family life.

“The study is therefore unique because it provides an answer to what is needed for the process to initially get started.”

Professor Uller said the evolution of family life could also take other routes.
“For example, that parents take care of their eggs before they hatch has been important for the evolution of family life in birds,” he said.

“While some lizards and snakes also take care of their eggs, the results from this study show that this has not resulted in the evolution of family life in the same way as giving birth to live young in reptiles.”

The research, 'Live bearing promotes the evolution of sociality in reptiles’, was recently published in *Nature Communications*. It can be viewed at [https://www.nature.com/articles/s41467-017-02220-w](https://www.nature.com/articles/s41467-017-02220-w)

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