Transmitter fitment & monitoring - Appropriate techniques & technologies

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BACKGROUND

- Transmitters/tags used to facilitate studies of:
  - Spatial ecology
  - Behaviour
- Marked animals provided data in studies
  - Diel & seasonal activity budgets & movements
  - Home range
  - Resource selection
  - Social behaviour (courtship, nesting)

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TYPES

- Head caps (Yerbury 1977, Hutton 1884)
  - Cranial platform
  - 500-800g
  - Coloured reflectors
  - 62% after 3 years (Hutton 1984)
- Neck collar (Joanen & McNease 1970, Goodwin & Marion 1979 etc.)
  - Rubberised fabric, wooden strips
  - Attached to 4 nuchal scutes
  - Transmitter encapsulated in epoxy resin & metal case
  - 21 ounces, 8 month
  - Neck attachment method (nuchal scutes)
- Caudal attachment (Botha 2005 etc.)







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TYPES

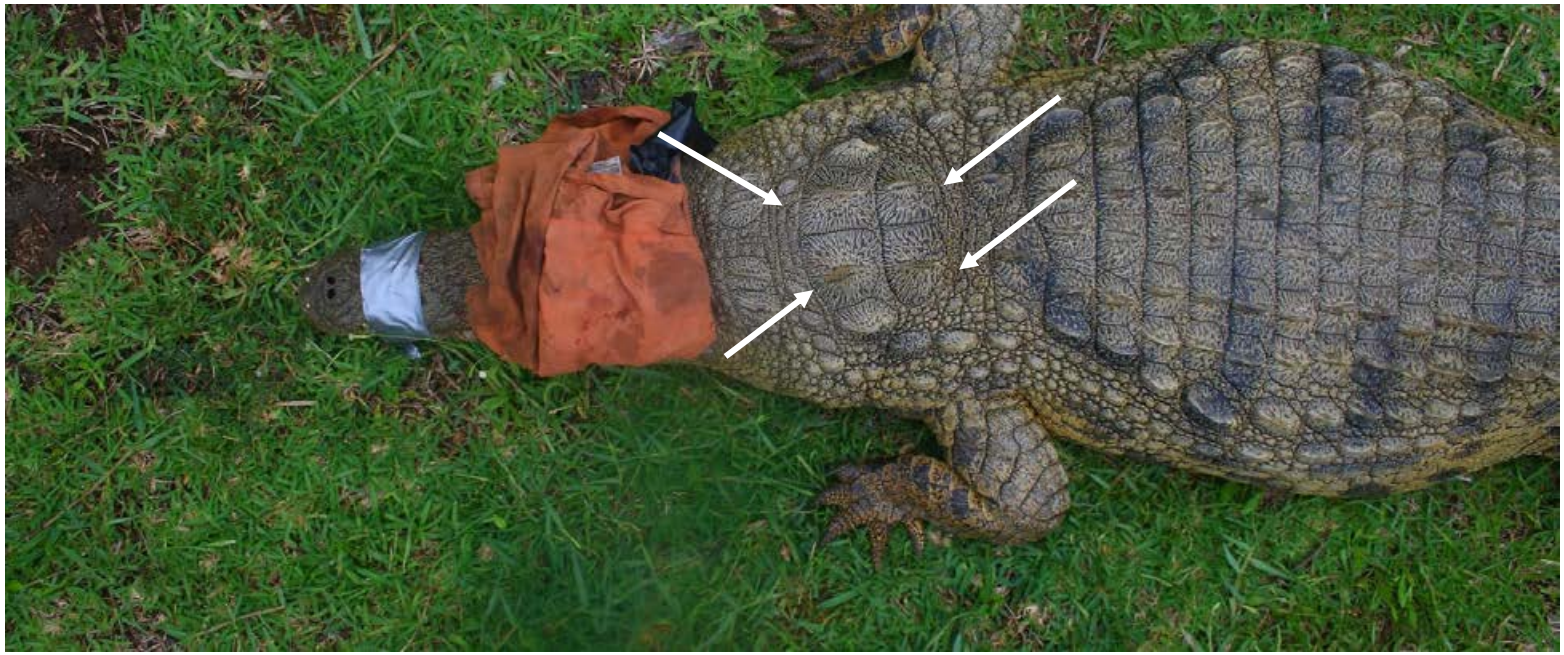
- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Nuchal rosette area of the crocodile is disinfected with povidone-iodine (Betadine)



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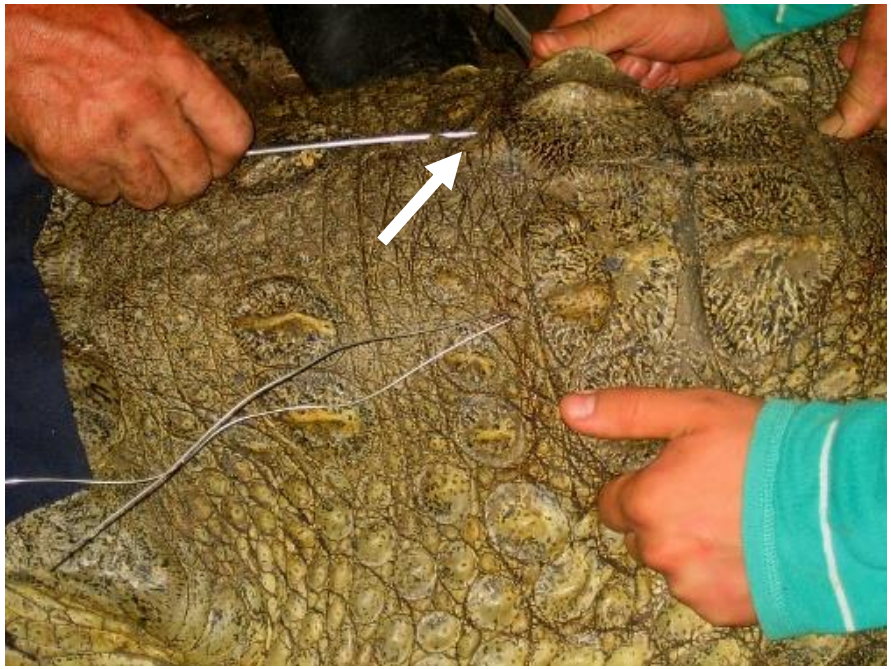
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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Nuchal rosette area of the crocodile is disinfected with povidone-iodine (Betadine)
  - 20 ml Lignocaine (4 x 5 ml)



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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Sharpened stainless steel rod guided subcutaneously under the left osteoderms of the rosette



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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Orthopaedic stainless steel wire fed through the hole in the rod and folded back onto the rod

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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - The stainless steel rod drawn with the aid of pliers completely through the skin until the wire, now protruding on both sides of the nuchal rosette, were equal in length





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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Cut one of the wires 5 mm from the posterior hole in the rod & removed the rod





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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - The exact procedure was now repeated for the right nuchal scutes, until four wires and two strands of nylon was protruding both posteriorly and anteriorly from the nuchal rosette





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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - The transmitter was positioned on the nuchal rosette



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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - The subcutaneous wires and nylon were threaded through tubes along the bottom of the transmitter and the attachment loops were tightened and locked with crimped aluminium



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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - Clear Vertex cold-curing dental acrylic (260 g) is mixed with Vertex cold-curing liquid (152 ml)
  - When mixture was clay-like, the four openings where wire and nylon was protruding through the skin, were covered
  - Due to considerable heat generated the transmitter and acrylic mould are cooled with cold water in the final stages of setting





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- Subcutaneous (Brien, Webb, Manolis, Lindner & Ottway 2010)
  - 555 days later no evidence of infection
  - Discolouration





Acknowledgements













