

The use of different tagging methods for European lobsters (*Homarus gammarus*)

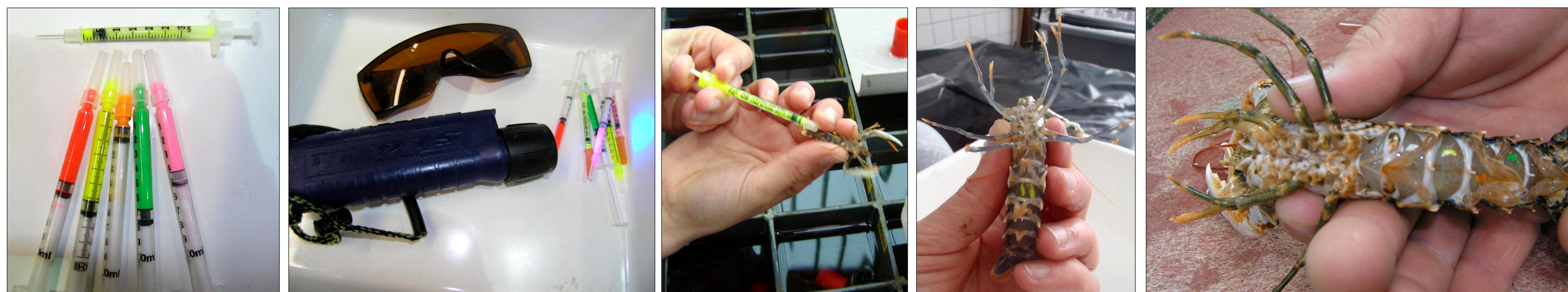
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Different tagging methods are used for a mark-recapture study on lobsters at Helgoland, German Bight. Colour tags are suitable for marking small and adult lobsters. Colour tagged lobsters can be individually identified even more than five years later. External numbered tags (T-bar anchors, streamers) and internal transponder are applied for larger and adult lobsters. Tag loss is related to moulting. Therefore, external tags can be used only for a short-term study. Additional marking by V-notches in of the tail fan can help to identify the animal.

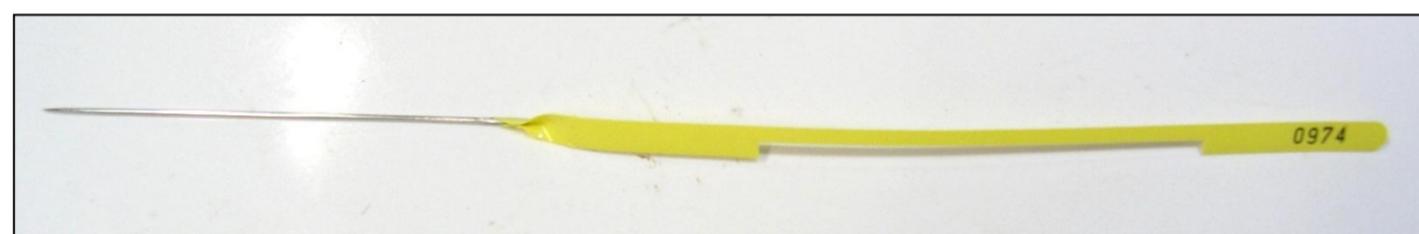
COLOUR TAG: Visible Implant Fluorescent Elastomer^(1,2)



The elastomer tag (liquid at 0°C) are injected with a needle ventrally along the pleon under one or more intersegmental membranes. The tags fluoresce under UV Light and remain visible about five or more years.

Used for lobsters >3 cm in total length. 1550 individually tagged lobsters were released and 127 lobsters were recaptured.

STREAMER⁽³⁾



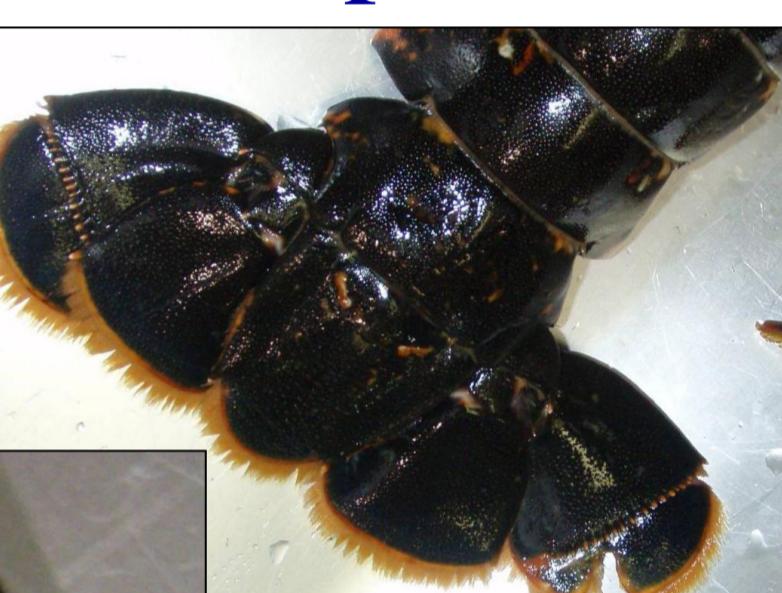
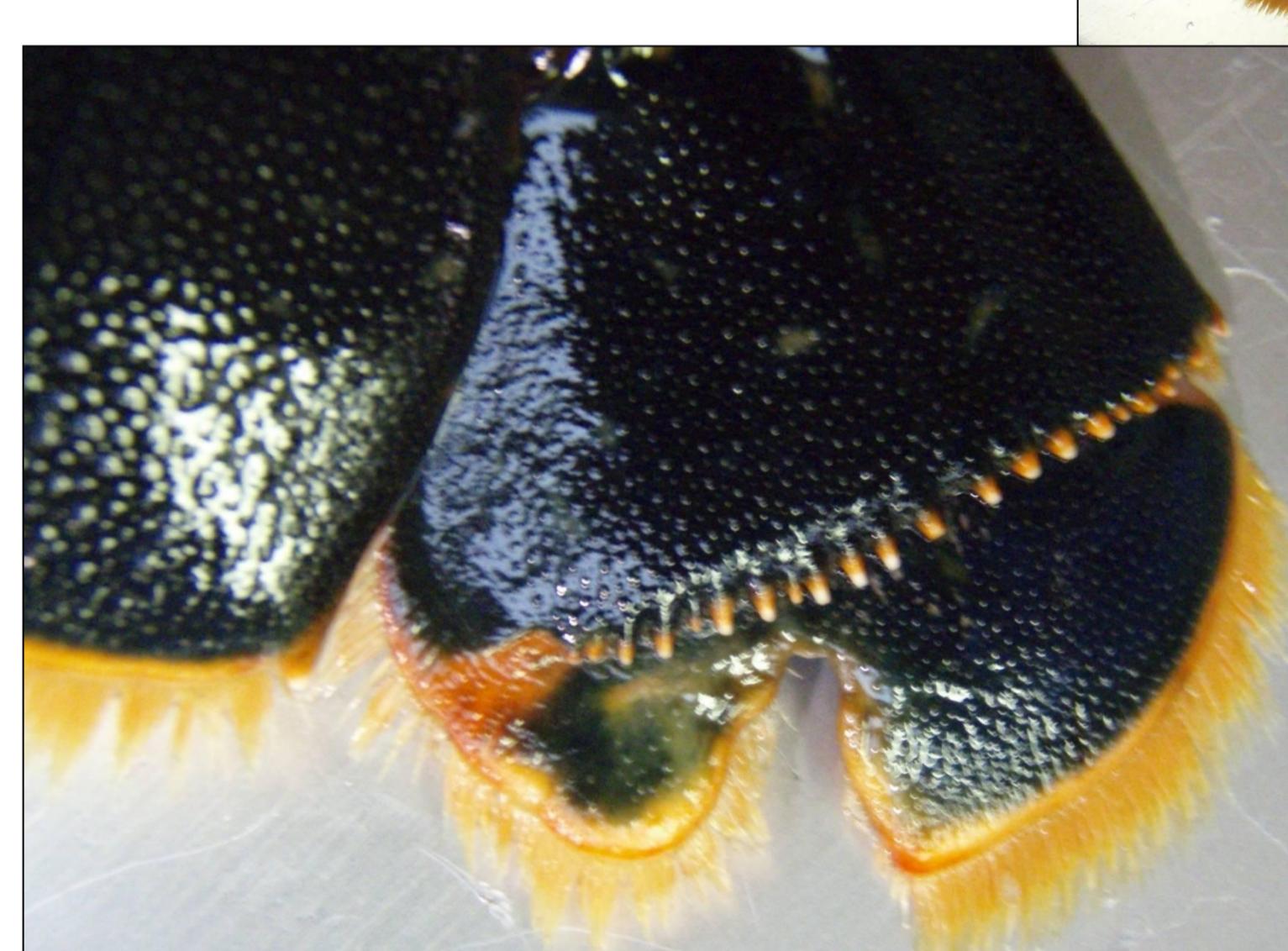
The polyethylene streamer tags are attached to one side with a needle (length 5.8 cm).

The streamer are inserted dorsally between the cephalothorax and the first abdominal segments.

Used for lobsters > 20 cm TL.

48 tagged lobsters were released and no animal was recaptured.

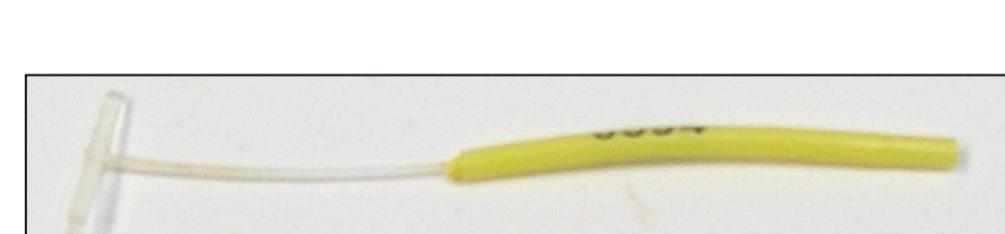
NOTCH



Holes or V-notches are punched in one segment of the tail fan for additional marking of larger lobsters.

Despite moulting, the notches are not repaired completely.

T-BAR⁽³⁾



The T-bar anchor tags are inserted with a tagging gun (needle length: 2 cm) dorsally between the cephalothorax and the first abdominal segments at the right or left side.

Used for lobsters > 30 cm TL.

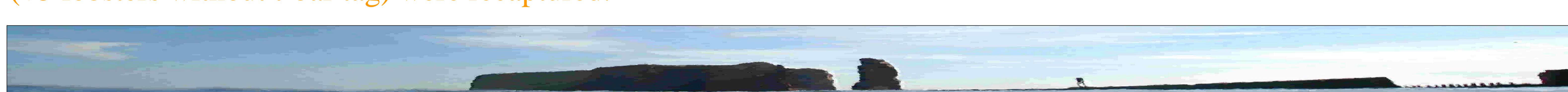
567 tagged lobsters were released and 10 animals (+5 lobsters without t-bar tag) were recaptured.

TRANSPONDER



Transponder chips (0.1 x 0.8 cm) are inserted into the merus of the 5th pereiopod. The identification number can be read by a scanner.

Used for lobsters > 30 cm TL. The method is currently in test.



References: (1) Schmalenbach et al. 2011, Fisheries Research 108, 22-30. (2) Northwest Marine Technology Inc. (3) Hallprint Pty. Ltd.

Acknowledgements: Thanks are due to T. Nonnewitz for supply of the transponder chips and M. Janke for help in technical support.