Baleen Whales

North Atlantic

Baleen Whales

Southern Hemisphere


A
B
C
A

Small Cetaceans

Other

The photograph catalogue is hierarchically organised according to the size and location of individual marks along the fluke edge enabling flukeprints from the Ecuador catalogue to be easily compared visually to those in the existing Galápagos catalogue. Flukeprints from the two catalogues were also compared through the use of a computer matching routine. When a match was found, the new flukeprint was given the old whale number and the best photograph of this whale was put into both catalogues.

Galápagos identifications

Each flukeprint from a whale identified in the Galápagos area was matched by eye and through the use of the digitising program to the existing Galápagos catalogue. When a match was made, the new flukeprint was given the old whale's number and if the new photograph was of a higher quality, it was used to replace the existing catalogue print.

Test of hypothesis

Female and immature sperm whales in the Galápagos area have been shown to belong to stable units (Whitehead and Arnbom, 1987; Whitehead and Waters, 1990; Whitehead *et al.*, 1992) and identifications were therefore considered to be non-independent of one another. In order to correct for this non-independence in statistical testing, a calculation of average group size of identified whales was made by dividing the number of all individuals resighted in 1991 by the number of groups resighted. Individuals were considered to belong to the same group if they were seen within 24 hours of each other in two separate years of study. The actual number of resights in each area was then divided by this average group size to obtain a value for the number of 'independent' resightings in the two study areas. The term 'group' is used here to mean a collection of identified individuals whose movements could not be considered as independent of one another and does not relate to the actual size of social units. Using these corrected resighting data, a chi-square test was performed to test the hypothesis that the female and immature sperm whales in the Galápagos and Ecuador areas belong to the same population with complete mixing over a two-year period.

Regional mark type analysis

The computer catalogue stores the position and type of each mark along the trailing edge of the fluke (Whitehead, 1990). Fig. 2 shows a few examples of flukeprints of distinctive individuals and indicates examples of marks used to identify sperm whales. Additionally, the notch of the fluke is the meeting point of the left and right sides. Notch types are recognised as being either open, if the sides do not meet or overlap (Figs 2a,2c,2d), or closed, if they do (Fig. 2b). Any photographs of sufficiently poor quality to prevent this comparison were classified as having an indistinguishable notch type. A BASIC program was written which counts the number of each type of mark on each whale by reading data directly from the existing catalogues. This information was used to perform Pearson Chi-Square and Mann-Whitney U–Tests to determine if the distributions of the different mark types were different in the two regions. Whales seen in both areas were compared to the Ecuador and Galápagos whales to see if they could be categorised as being more like either group.

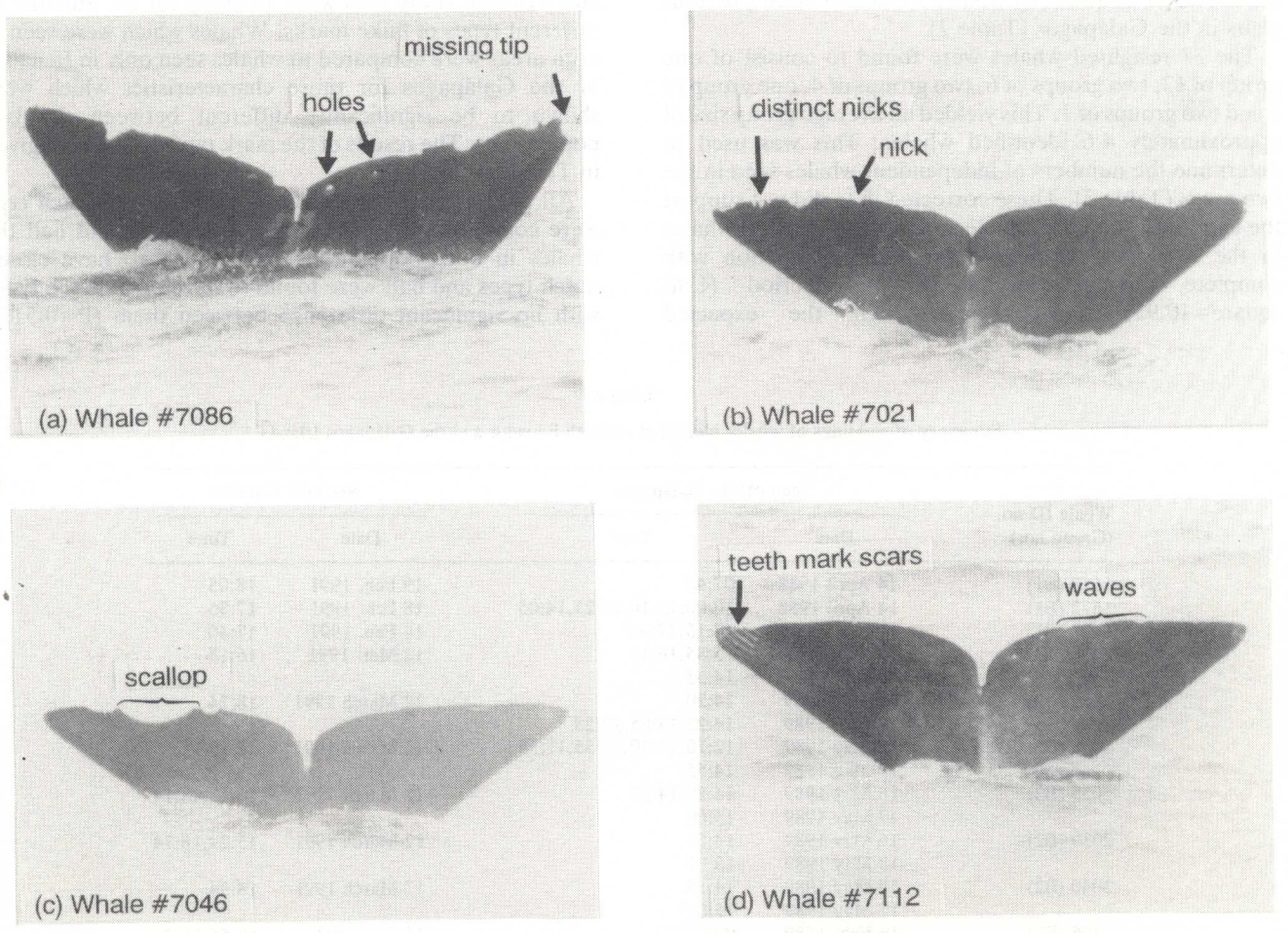

Fig. 2. Flukeprints of distinctive whales showing the different types of marks used to identify them.

Résumé Section

This section includes Résumés of those papers presented to *the Scientific Committee* but not published in this volume. They are provided for information only and do not constitute publication; and as such should not be cited in papers without consultation with authors. Copies of the full papers are available at cost price from the IWC Secretariat.

Common dolphin off the coast of Spain, September 1981.
Photograph by G. Donovan.