WHERE ARE THE MEDITERRANEAN FIN WHALES WHEN THE SUMMER IS OVER?

GUINET, C. (1), MATE, B. (2), BENTALEB, I. (3), ANDRÉ, J.-M. (4), MAYZAUD, P. (5), STEPHANIS De, R. (6)

(1) CEBC-CNRS, 79360 Villiers-en-Bois, France; (2) Oregon State University, Hatfield Marine Science Center, 2030 Marine Science Drive, Newport, OR 97365, USA; (3) Université Montpellier II ISE-M UMR 5554, Paléontologie, Paléobiologie, Phylogénie Bat. 22 cc 064, Place Eugène Bataillon 34095 Montpellier cedex 05, France; (4) LODyC-UPMC, T26-E4, 4 Place Jussieu, 75 252 Paris Cedex 05, France; (5) LOV, BP 28, 06 230 Villefranche sur Mer; (6) CIRCé Cabeza de Manzaneda 3, Pelayo, 11390 Algeciras, Cadiz, Spain; (6) LAV, Laboratorio de Acústica y Vibraciones de la Universidad de Cádiz, CASEM, Polígono Río San Pedro S/N, Cadiz, Spain

Fin whale (*Balaenoptera physalus*) is the largest marine predator currently observed in the Mediterranean Sea. The population was found to be genetically distinct from the fin whales found in the north Atlantic. Each summer, an estimated 1000 to 2000 individuals concentrate in the Northern part of the occidental basin (Ligurian sea and Gulf of Lion) where they mainly feed on the zooplankter (*Meganyctiphanes norvegica*). However no clear picture has emerged so far about their year round distribution and the question of possible migration between the Mediterranean Sea and the Atlantic remains unanswered. Information about the level of isolation of that population is highly needed to determine its status and to insure its conservation. In order to describe the yearly distribution of this fin whale population we combined several indirect means of investigation. Firstly stable isotopes ratios of carbon (13C/12C) and nitrogen (15N/14N) were measured along 13 baleen plates collected on stranded animals on the French-Spanish Mediterranean (n=11) and Atlantic coasts (n=2). Analyses of 15N/14N indicate that these whales were mainly feeding on the secondary trophics levels. The comparison of 13C/12C isotopic patterns of baleen plates and the whale's krill prey sampled in the Mediterranean sea and Atlantic suggests that whales sampled in the Mediterranean sea exhibited two different migratory behavior 8 fin whales appeared to be resident to the Mediterranean while 3 individuals exhibiting large variation of their 13C/12C ratio consistent with regular migrations to the Atlantic. Secondly, inward and outward fin whale movements through the strait of Gibraltar were observed throughout the year. Finally, in August 2003, 11 fin whales were tagged in the Ligurian sea with Argos satellite-monitored radio tags to provide direct information on their distribution and movement thorough the year.