PLASTIC INGESTION AND CHEMICAL POLLUTANTS PRESENT IN SEABIRDS OF GRAN CANARIA (CANARY ISLANDS, SPAIN)

A. Navarro*[1], A. Herrera[1], I. Martínez[1], J. Felipe de la Rosa[2], O.P. Luzardo[3], A. Acosta-Dacal[3], A. Macías-Montes[3], A. Suárez-Pérez[4], M. Gómez[1]

[1] Marine Ecophysiology Group (EOMAR), IU- ECOAQUA, ULPGC, Las Palmas de Gran Canaria, Spain
alberto.navarro106@alu.ulpgc.es
[2] Facultad de Veterinaria, ULPGC, Arucas, Las Palmas, Spain
[3] Toxicology Unit, Research Institute of Biomedical and Health Sciences (IUIBS), ULPGC, Las Palmas de Gran Canaria, Spain
[4] "La Tahonilla" Wildlife Recovery Center, Santa Cruz de Tenerife, Spain

Abstract:

Seabirds populations are showing a decreasing trend worldwide. Plastic pollution is one of the threats facing these species. This type of litter can affect birds directly through entanglement and ingestion, leading to injuries that can result in death. Moreover, the ability of plastics to adsorb and concentrate chemical contaminants makes them potential vehicles for the transmission of these substances to fauna. The Canary Islands are an important breeding and migration spot for several species of birds, nevertheless, studies analyzing the effect of plastics on these animals are scarce.

In this work, 88 birds of 14 species were sampled. Most of the animals were marine birds, although some freshwater birds were also included. The digestive contents were studied for the presence of plastic and their livers were analyzed for the detection of chemical contaminants using a QuEChERS-based method.

A high prevalence of plastic ingestion was detected in *Calonectris borealis* (88.9%, n = 45) and *Oceanodroma castro* (100%, n = 5) and a lower frequency in *Larus michahellis* (35%, n = 20). Plastic debris was also observed in one of the two *Chroicocephalus ridibundus* analyzed and in the only *Bubulcus ibis* sampled. Among the most frequently detected pollutants were PCB 153, hexachlorobenzene, DDE, naphthalene, PCB 138, fluorene and PCB 180.

Our results emphasize the problems posed to these species by plastic debris (mainly to seabirds) as well as organic pollutants, being necessary a biomonitoring in order to accurately define the impact of both issues.

Key words: seabirds, waterbirds, plastic ingestion, Canary Islands, organic pollutants

Acknowledgments: This work was financed by IMPLAMAC project (MAC2/1.1a/265) Interreg MAC (European Fund to Regional Development, Macaronesian Cooperation).