



## Japan

### Tracking pelicans in Kazakhstan

We are tracking the Dardanian pelican, *Pelecanus crispus*, in Kazakhstan where the greatest number of the pelicans breeding in the Eurasian Continent are found. However, some important breeding sites, such as the Aral Sea, are suffering losses or have disappeared. This study is a part of our project on the Aral Sea ecosystem restoration plan.

Pelicans were captured at Chardala Lake, 40 km north from Almaty, Kazakhstan on July 24, 2002. The lake is an artificial reservoir of 80 km<sup>2</sup> with a small island. Approximately 200 pairs of *P. crispus* made nests here in the year. We attached 95g PTT-100 satellite telemetry transmitters on the dorsal surface of the pelicans between the wings.



Dardanian Pelican

Photos courtesy of Yukihiro Morimoto and Osman Hamid, respectively



Yoshiro Natuhara

Three pelicans successfully flew from the breeding site and migrated. The departure dates from the breeding site were between September 8 and October 6. The migration route was similar among the three. At first, they moved to the northwest and arrived at the Chew River (one pelican stopped over at the delta of the Ili River), next, they moved to the southwest and arrived at the Syldaria River, they then moved toward the south. They overwintered at an artificial lake in Turkmenistan from mid-October to March.

So far, 1,133 individuals of *P. crispus* have been tagged using various methods in Kazakhstan, but only six were rediscovered. All of them were rediscovered only once. Interestingly, the pelicans stayed at artificial lakes most in their migration.

Our research reports the first recorded migration route of pelicans breeding in Central Asia. We will deploy new 70g Argos/GPS solar transmitters this year.

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Some important Dardanian pelican breeding sites, such as the Aral Sea, are suffering losses or have disappeared.



## Réunion Island

### Satellite tracking of tropical seabirds in the southern Mozambique Channel

There is a widespread paradigm among seabird biologists that tropical seabirds live in a poor environment and rely on unpredictable food resources that are patchily distributed in the blue water of tropical oceans. This unpredictability and patchiness is supposed to have shaped the specific life histories and breeding strategies of tropical seabird species. However, very few studies have tested this idea and the foraging strategy and at sea behavior of typical tropical species like boobies, frigatebirds or tropicbirds remains virtually unknown.

We used satellite telemetry (PTT-100, lithium and solar powered) to study foraging trips of breeding red-footed boobies, *Sula sula*, and great frigatebirds, *Fregata minor*, at Europa Island, a major seabird breeding place of the southern Mozambique Channel. This study was completed by at sea surveys, collection of food samples, and various other telemetry studies including altimeters, accelerometers and depth recorders as well as GPS to precisely describe the foraging behavior of these widespread tropical species, and to link this behavior with the characteristics of their oceanic environment.



Matthieu Le Corre faces a red-footed booby returning to its nest



Red-footed booby on nest

Photos courtesy of Henri Weimerskirch

Frigatebirds are capable of very long trips during incubation whereas red-footed boobies remain closer to the island. These results and others will be of great interest to discover the way these fascinating and mysterious seabirds exploit the tropical marine environment.

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