



Garganey drake

STATION BIOLOGIQUE DE LA TOUR DU VALAT

by L. Hoffmann

THE Camargue never fails to bewitch visiting biologists, and if crude duty did not call them back to their country after a short or long time, most of them would stay and we would see a growing concentration of radiant people displaying field-glasses and living as in paradise. For the writer of these lines fate was not so cruel as for most others when he first visited the Camargue in 1947. He was just towards the end of his biological studies in Switzerland and no duty called him. So he ceded himself to the bewitchment, settled down in this beautiful country and developed his estate into a biological station.

From that it is clear that the station is neither devoted to a particular group of animals nor to particular problems, but to the Camargue itself. What we would like to find out is the web of conditions bringing together this wonderful land, and what we wish is to keep it safe for future generations.

In 1950 we began, M. Müller as assistant of the station, and I, with purely ornithological work. Soon we found out that we ought to know more about the ecology of the Camargue plants and invertebrates if we were to come to a deeper understanding of the ecology of the Camargue birds. So, in collaboration with the 'Centre National de la Recherche Scientifique', in 1953 and 1954 we began as a team on a basic quantitative ecological programme. M. Bigot follows the invertebrate animals and plants on some typical terrestrial Camargue stations, and M. Aguesse does the same work on some typical aquatic stations (mostly brackish water). As M. Müller and I simultaneously do regular census work on some birds, we have already a good numerical idea of the annual cycles of some birds and the biotic factors which may influence them. After a longer time we hope to be able to follow the long-term evolution which the Camargue undergoes under the influence of growing cultivation by irrigation. If we can find the outlines of these processes, we may be able to control them to a certain extent for the good of Camargue wildlife, working in collaboration with the 'Société nationale d'Acclimatation', the administrator of the 'Réserve de Camargue'.

Among the birds to which we pay special attention are the Flamingos, wildfowl, herons and waders. The Flamingos of the Camargue were already the object of several studies, and the books of Gallet and Yeates are well

known throughout the world. A less known and largely unpublished, but in fact probably the most important, study ever made of the behaviour and breeding-biology of Flamingos was done by H. Lomont, former chief warden of the Camargue Reserve, so that we already had much solid knowledge on which to base our own ecological observations. In recent years we have determined the breeding success and taken mud and water samples on the main feeding-places. Since 1950 we have ringed 2364 chicks, driving them into a net corral when they are two months old, thus using the method of Peter Scott and others developed to catch moulting flightless geese. This ringing work brought us, up to 1 January 1957, 99 recoveries throughout the western Mediterranean and the Atlantic coast from Portugal down to Morocco.

Wildfowl are the dominant bird group in the Camargue during winter-time, and there is perhaps no other European country where such big flocks live in such comparatively little space. The lower part of Petite and Grande Camargue and Plan de Bourg holds on a surface of roughly 350 square miles a winter population of at least 150,000 wildfowl, most of them being surface-feeding ducks. Teal are the commonest, followed by Wigeon. Mallard and Gadwall are approximately equal third. We try to do census work on these wintering flocks. M. Müller makes weekly counts on the marshes belonging to the station. I fly over the whole region several times each winter, estimating the total population. Estimates are made by comparing during the flight the flock size with photographs of flock models.

We began ringing ducks in 1950, before the census work was started. As water is everywhere in the Camargue and the control of its level difficult, we thought that portable funnel-entrance traps would be better for us than decoys. The first seasons brought only very low catches, but in February 1953, after I had seen General Wainwright's traps at Abberton, we changed bait, following his advice and had bigger catches. Finally, we much increased the catches by constructing bigger traps, built in shallow water, in and around tamarisk tree groups, which give the ducks protection against the prevailing winds, and by baiting with big quantities of locally produced rice and millet. We think that we created with these great amounts of food really new habitats which were specially liked by the ducks when wind kept them from feeding on most of their usual places. In this way we ringed 6846¹ ducks in the 1955-56 season and had, with recaptures of birds already ringed, a total catch of 9978. This is the highest season catch of ducks, not only by any single station but even by any whole nation in Europe. At the end of the 1956-57 season our total of ringed ducks amounted to 12,288 birds, of which three-quarters were Teal, followed by Mallard and Garganey. Up to 1 January 1957 these birds brought us 4362 recaptures in our own traps and 1100 recoveries abroad—in France, in nearly all other European countries and in western Siberia.

Among the waders, we care chiefly about the common species such as Stilt and Avocet in the breeding season and Wood Sandpiper and others during migration. Raymond Lévêque made an ecological study of the Avocet, chiefly concerned with limiting factors.

We have found that several species of sandpiper and plover stay in the Camargue for a long time in early autumn, moulting their wing-feathers.

The Herons were first watched by our Spanish friend, J. A. Valverde, who made an ecological study on Egrets and Night Herons. In summer 1957,

¹ The claim that the Trust's total of 5882 in the same season was a European record (*8th Annual Report*, p. 15) evidently should not have been made.—EDITORS.

Graham Williams, a member of the British Trust for Ornithology, made a breeding and food research on the Purple Heron.

Our intentions for the future are to follow the same line, and to learn more and more of the biological web called the Camargue, using two methods simultaneously: (a) quantitative surveys of the complete fauna and flora on some typical stations, (b) monographic studies on some typical species.



Teal drake