

## APRIL BIRDS OF THE CAMARGUE.

BY FRANCIS HARPER.

*Plate XIX.*

FOR zoölogists, one of the most interesting phases of life in the A. E. F. was scraping acquaintance with a new fauna. This was particularly true after the signing of the armistice, when one's attention was not so exclusively concentrated on military duties, and leaves for traveling were occasionally obtainable.

In January, 1919, Lieut. Ludlow Griscom wrote me such a glowing account of a trip he had just made to the Camargue, that I naturally headed in the same direction when a leave was granted me in April.

This desolate, marshy country about the mouth of the Rhone may be fairly considered the 'birdiest' area in France. The richness of its avifauna was made known long ago by Crespon (1840; 1844), Von Müller (1856), and Jaubert and Lapommeraye (1859). The publications of more modern students, beginning with Eagle Clarke (1895; 1898), are listed in the appended bibliography. This includes the more important papers (as far as they have come to my notice) that deal in a general way with the bird life of the Camargue or closely adjoining areas; also certain shorter articles on one or several species of particular interest. The bibliography is presented in the hope that it will prove useful to those who may undertake further investigations in the region. My own list of identified species was limited by lack of previous acquaintance with many of the birds that occur in the Camargue. However, since few of the other writers have dealt particularly with the birds present in April, the migration dates as well as the notes on habits in the following account may be of some interest.

On Griscom's recommendation, I decided to make my headquarters at Les Saintes Maries de la Mer, a little village on the Mediterranean littoral, and the terminus of a narrow-gauge railroad from Arles. An enforced stop at the latter city during the afternoon of April 8 yielded only a few birds, but it enabled me to see the Roman amphitheater and the Roman theater—

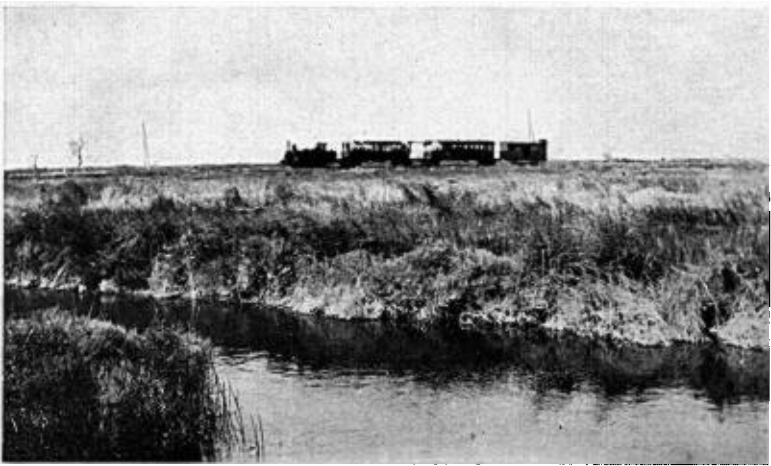
striking monuments of the early Christian era—and also the Museon Arlaten. Among the treasures of the latter, I recall a photograph of Flamingo nests and a letter from President Roosevelt to Frédéric Mistral. A statue of this noted Provençal poet, who drew an intimate picture of wild nature as well as of human nature in the Camargue and thereabouts, adorns the Place du Forum and is looked upon with reasonable pride by his compatriots.

Early the next morning (April 9) I set out on a railroad journey of two and a half hours to Les Saintes Maries, a distance of 40 kilometers. The country is very level, and is given over largely to the cultivation of the vine and other crops. As the train approaches the coast, however, after passing the intermediate stations of Signoret, Albaron, Les Bruns, Balarin, Pioch-Badet, Icard, and Maguelonne, most of the cultivated districts are left behind, and wide marshes and wastes, interspersed with ponds and sloughs, extend to a treeless horizon.

Certain portions of the marshes, especially in the vicinity of various sloughs and ditches, are occupied by beds of reeds, and are too wet for comfortable walking. The reeds look much like that familiar cosmopolitan species, *Phragmites communis*, but I am not sure of their identity. There are also extensive areas where the ground is rather dry, and where the most abundant and characteristic plant is glasswort (*Salicornia*). Walking is fairly easy over these 'wastes,' as Eagle Clarke calls them. Here and there on the drier ground are straggling tamarisk bushes, or even small trees.

Close to Les Saintes Maries there are numerous shallow ponds, up to a mile or so in diameter. Near their borders are certain patches of ground sufficiently elevated and dry to be cultivated, and here the villagers tend various small crops. A couple of good roads are built upon causeways through the marshes, and there are also some indifferent cart-paths. The banks of drainage ditches through the marshes afford the pedestrian another convenient means of getting about.

In April, at least, there seems to be, as the inhabitants say, 'toujours un grand vent'—doubtless the *mistral*. An almost constant wind, often brisk or strong, with an unobstructed sweep over the marshes, certainly was enough to mar one's enjoyment of



SCENES ABOUT LES SAINTES MARIES, BOUCHES-DU-RHÔNE, FRANCE.  
UPPER.—THE VILLAGE. MIDDLE.—A CHANNEL THROUGH THE MARSHES.  
LOWER.—SHALLOW POND (ETANG), MUD-FLAT AND GLASSWORT 'WASTE.'

bird-gazing. In spite of the wind, there seemed to be a very small surf on the Mediterranean shore. Incidentally, there was a marked scarcity of birds on or over the sea.

The notorious Camargue mosquitoes were already troublesome by the time of my arrival, on April 9. In a few more days sandflies of some sort became annoying, and wood ticks, crawling up my legs, reminded me of those on Gardiner's Island, N. Y.

The following notes were obtained on daily excursions from April 8 to 17. Unless some other locality is specifically mentioned, all records refer to the immediate environs of Les Saintes Maries, within a radius of a couple of miles.

The sequence of species is that of Hartert's 'Die Vögel der Paläarktischen Fauna' (1903-23). The French names of birds, which are given after their English names, have been compiled from various texts.

The specimens collected were deposited in the United States National Museum.

1. **Corvus corone corone** L. CARRION CROW; CORNEILLE NOIRE.—Several seen near Les Saintes Maries almost every day from April 10 to 16, and near Balarin, April 9 and 16.

2. **Pica pica pica** (L.). MAGPIE; PIE ORDINAIRE.—Only a few seen near Les Saintes Maries, April 11 to 14, doubtless on account of the scarcity of trees in this vicinity. Much commoner in the better wooded country between Arles and Icard, April 9 and 16.

3. **Carduelis carduelis carduelis** (L.). CONTINENTAL GOLDFINCH; CHARDONNERET ÉLÉGANT.—Several were seen among the few shade trees along the streets of the village, April 10 to 16. Here, as elsewhere in France, it seems to be a favorite cage-bird. One kept at the hotel was a frequent singer.

4. **Passer domesticus domesticus** (L.). HOUSE SPARROW; MOINEAU DOMESTIQUE.—Common about the village of Les Saintes Maries, April 10 to 15, and at Arles, April 17.

5. **Emberiza calandra calandra** L. CORN BUNTING; BRUANT PROYER.—Noted in small numbers near Les Saintes Maries daily, April 11 to 16; also between Pioch and Signoret, April 9 and 16. This is a bird of the open country, such as grassy fields and meadows. It suggests our own Savannah Sparrow (*Passerculus sandwichensis savanna*) in its choice of habitat as well as in its appearance. Its song is much like that of the Grasshopper Sparrow (*Ammodramus savannarum australis*), but not quite so insignificant. For a singing perch it seeks a telephone wire, a fence, or a bush.

6. **Emberiza tschusii compiler** Mathews and Iredale. WESTERN LARGE-BILLED REED BUNTING; BRUANT DE MARAIS.—Small numbers of this species were observed daily, April 11 to 16. The black-headed males were very conspicuous, but females were scarcely in evidence. The bird seems to find its proper home in the extensive beds of reeds, but often resorts to a small tree or bush on a slightly elevated part of the marsh for the purpose of singing. Its calls are of two sorts: a clear, almost whistled *tyee*, and a harsher *jhee-jhee*. Its not unpleasing little song is very slightly suggestive of the Song Sparrow's (*Melospiza melodia melodia*): *jhee, jhee, jhee, twee-twee-twee-t-t-t-twee*. There is a little rasp in the song as well as in the double call-note.

Two males were collected, April 11 and 12.

7. **Galerida cristata cristata** (L.). CRESTED LARK; COCHEVIS RUPPÉ.—A few of these interesting Larks were found near Les Saintes Maries, April 10 to 16. They frequented some slightly elevated patches of cultivated ground beside one of the larger ponds. One was observed singing at a general height of about 400 feet for a period of six minutes; it was there both when first noticed and when lost sight of. Meanwhile, facing the breeze, it kept its wings moving. It did not seem to sing quite continuously, as is the Skylark's habit. Interspersed in its song were notes somewhat resembling its clear, spirited call, *kee-tee-doo*, and easily heard at a distance of several hundred yards.

8. **Alauda arvensis arvensis** L. SKYLARK; ALOUETTE DES CHAMPS.—The Skylark was found very commonly on the drier areas, from April 9 to 16. The birds were in full song at this season, and were continually mounting in the air to pour out their exuberant melodies. A specimen was collected on April 13.

On one occasion I met with two youngsters who were setting out small wire spring-traps for such birds as Larks on some open ground near the village. They were baiting the traps with live and wriggling insect larvae.

9. **Motacilla flava flava** L. BLUE-HEADED WAGTAIL; BERGERONNETTE PRINTANIÈRE.—This beautiful Wagtail was one of the most characteristic birds of the Camargue marshes in April. Near Les Saintes Maries it was observed in numbers practically every day from the 9th to the 16th, and on the last-mentioned date one was noticed at Pioch. It makes a striking figure as it sits atop the low marsh vegetation and utters its quaint and distinctive *weezip*, or *zzezip*. This note is also given during its undulating flight. The species was generally noted singly, but sometimes in an association of two or three individuals. It feeds on the ground, but spends considerable time in maintaining a wary lookout from the top of some marsh plant, and is very difficult of approach. A male was collected on April 14.

10. **Motacilla alba alba** L. WHITE WAGTAIL; HOCHÉQUEUE GRISE.—On April 8 one was seen flying about the old Roman amphitheatre at

Arles, alighting on the upper part, and then going down into the arena itself. With its trim, martial aspect, enhanced by its mincing steps, and by its black crown and jugulum suggesting helmet and shield, respectively, the presence of this bird seemed peculiarly in keeping with the atmosphere of the place. Even its gray coat harmonized with the ancient stones of the structure.

11. *Parus major major* L. CONTINENTAL GREAT TIT; MÉSANGE CHARBONNIÈRE.—Two seen at Balarin on April 9.

12. *Lanius senator senator* L. WOODCHAT SHRIKE; PIE-GRIÈCHE ROUSSE.—A tailless individual seen in the shrubbery on the dunes along the sea-front, April 16.

13. *Phylloscopus trochilus trochilus* (L.). WILLOW WARBLER; POUILLOT FITIS.—Small numbers of *Phylloscopus* were noted commonly from April 9 to 16. They appeared for the most part in small bands of two or three to seven or eight individuals, as if migrating, and were quite silent. Though sometimes seen in the wastes grown with *Salicornia*, they frequented more particularly the straggling tamarisk bushes on the slightly elevated and drier areas. They were perhaps the least shy of the excessively wary Camargue birds, sometimes allowing an approach to within 20 feet or so. The four specimens collected are referable to the above-mentioned form.

14. *Sylvia conspicillata conspicillata* Temminck. SPECTACLED WARBLER; BABILLARDE A LUNETTES.—This little bird of elegant plumage seems a characteristic species of the Camargue wastes. Its particular haunt is among the glasswort (*Salicornia*) that forms a thick, low growth over wide areas. Now and then it appears on the top of this vegetation, watching one's approach with a wary, bespectacled eye, and perhaps giving a rolling little chatter. It was observed in rather small numbers from April 9 to 13, and two males were collected.

15. *Cisticola juncidis juncidis* (Rafinesque). FANTAIL WARBLER; BÈC-FIN CISTICOLE.—This sprite finds a congenial home in the extensive beds of reeds in the marshes about Les Saintes Maries, and was noted commonly and daily from April 11 to 16. It frequently mounts into the air to a height of 50 or 75 feet above the reeds, where it maintains a rather aimless, undulatory flight for a period varying from half a minute to several minutes; meanwhile, as it exerts its wings at the commencement of each upward movement, it simultaneously gives voice to a very sharp and rather grating *dzeep*. If this be a love song, it is about the simplest and poorest attempt imaginable, relieved only by the accompanying flight maneuvers. The bird seems to be extraordinarily and unaccountably wild; it does not skulk in the reeds like a Sedge Warbler (*Acrocephalus schoenobaenus*), but at the first sign of an intruder is awing and away, often to a distant spot.

16. *Turdus merula merula* L. BLACKBIRD; MERLE NOIR.—On April 15, during a strong westerly wind, a Blackbird was seen along the shore causeway, far from any suitable haunt for it.

17. *Oenanthe oenanthe oenanthe* (L.). WHEATEAR; TRAQUET MOTTEUX.—On April 9 a little band of three individuals gave me an opportunity to become acquainted with this decidedly interesting species. I found them along the causeway that extends eastward from Les Saintes Maries, bordering the desolate coast. They fed over the ground, but now and then assumed a perch on a bush or a post. In flight the white area at the base of the tail, set off by the black wings, makes a very striking field mark; but at the moment of alighting it is blotted out by the folded wings. Thus the Wheatear, in suddenly transforming its 'high visibility' into 'low visibility' at this often important moment, suggests the more or less analogous cases of such diverse forms as the Mockingbird (*Mimus*), the Meadowlark (*Sturnella*), and the Cottontail Rabbit (*Sylvilagus*).

When on the ground, watching one's approach, a Wheatear will express its nervousness by making as quick a bow as perhaps any bird is capable of. It seems almost to throw itself, with a wing-flirt, on its face, but on the instant it has recovered an upright position again. The eye can scarcely follow the movement, it is accomplished with such lightning speed. I did not hear a note from this species.

Two males were collected on April 9, and on several other days (April 13, 14, and 16) single individuals were observed in the vicinity.

18. *Saxicola rubetra rubetra* (L.). WHINCHAT; TARIER ORDINAIRE.—On April 13 and 14 I observed a small number of these handsome little birds, for the most part in a loose aggregation of three or four individuals. They were apparently on migration, and silent. They fed on the ground, and perched on bushes and other low plants, as well as on the roadside telephone wires. Two specimens were collected.

19. *Saxicola torquata rubicola* (L.). STONECHAT; TARIER RUBICOLE.—One was seen from the train near Pioch, April 16.

20. *Phoenicurus phoenicurus phoenicurus* (L.). REDSTART; ROUGE-QUEUE DE MURAILLE.—From one to three Redstarts were seen nearly every day between April 9 and 16. They frequented the drier and more elevated areas, where there is a straggling growth of tamarisk and other bushes. As a bird spreads its wings in flight, it displays the rufous on its rump and tail, and the flash of color catches one's eye. On alighting in a bush, it indulges in a convulsive quivering of its tail. The only note I heard from the species here was a clear, almost whistled, *wheet*. Two males were collected.

21. *Luscinia svecica* subsp. BLUETHROAT; GORGE-BLEUE.—On April 13 I caught a glimpse of a Bluethroat in a bushy part of the marshes.

22. *Hirundo rustica rustica* L. SWALLOW; HIRONDELLE DE CHEMINÉE.—Several were observed on April 8 at Arles, and others on the following day during the railway journey to Les Saintes Maries. Here numbers were in evidence daily throughout my stay. They seemed to make their headquarters about the walls of the historic old church in the village. One was noted at Arles again on April 17.

23. *Apus apus apus* (L.). SWIFT; MARTINET NOIR.—One appeared flying above Arles on April 8.

24. *Upupa epops epops* L. HOOPOE; HUPPE VULGAIRE.—A day afield becomes particularly memorable when it includes a glimpse of a bird with the bizarre and handsome plumage, the curious form, and the generally exotic air of the Hoopoe. This bird was a fairly familiar sight during my walks about Les Saintes Maries, and was also seen from the train between this point and Pioch, April 9 and 16. One might naturally assume that the birds were simply migrating through this region en route from their winter home in Africa, and that they would not attempt to nest in the lower part of the delta, owing to the lack of sufficiently large trees. Eagle Clarke (1895, p. 195), however, found Hoopoes "surprisingly abundant throughout the Camargue" in May, and "brooding in holes at the roots of small trees" in localities where "there was an entire absence of the usual nesting-sites selected by this species."

The birds were generally flushed while feeding over the ground among the sparse shrubbery along the roadsides or in other slightly elevated places, and they sometimes alighted in small trees. The white-barred wings and the golden-buff head make the species a very striking figure in flight. Most of the birds were observed singly, but a few were in loose bands of as many as three or four individuals. They were apparently silent at this season.

25. *Jynx torquilla torquilla* L. WRYNECK; TORCOL ORDINAIRE.—This odd bird was encountered on April 9, when I obtained glimpses of two individuals in some shrubbery.

26. *Falco tinnunculus tinnunculus* L. KESTREL; FAUCON CRESSELLE.—One or two Kestrels, presumably of this species, were seen over the marshes nearly every day from April 11 to 16.

27. *Circus aeruginosus aeruginosus* (L.). MARSH HARRIER; BUSARD DES MARAIS.—It was gratifying to find this large harrier, now almost gone from England, a comparatively common bird of the Camargue. Nearly every day (April 9 to 16) numbers were seen as they beat over the wide marshes, flapping for the most part but occasionally indulging in a short sail. Once I observed one turning somersaults in the air, this doubtless being a courtship performance similar to that of the American Marsh Hawk (*Circus hudsonius*).

28. *Accipter nisus nisus* (L.). SPARROW HAWK; ÉPERVIER ORDINAIRE.—A single bird seen on April 16.

29. *Ardea purpurea purpurea* L. PURPLE HERON; HÉRON POURPRÉ.—Several Herons, seen from the train near Pioch, April 9, and at Maguelonne, April 16, were probably of this species rather than *Ardea cinerea cinerea* L. At a distance some of them appeared dark bluish, and only a little larger than the next species.

30. *Egretta garzetta garzetta* (L.). LITTLE EGRET; AIGRETTE GARZETTE.—A flock of 16 Little Egrets was found at the borders of a small pond in the marshes on April 15. When flushed by the sound of a



distant shot, they hovered over the pond for a couple of minutes, facing a strong breeze, and remaining for the most part in a fairly compact body. After alighting, they took wing once or twice more, as they were startled by Ducks rising from the pond.

31. *Phoenicopterus ruber antiquorum* Temminck. FLAMINGO; FLAMANT ROSE.—An ornithological pilgrimage to the Camargue is scarcely fulfilled unless it includes a sight of these famous birds. This is apparently the only part of France where they nest and can be found with any sort of regularity. I was informed that they nest in the month of June on the wide and shallow Étang de Valcarès; and a photograph of a group of their mud-formed structures on this lagoon may be seen in the *Museon Arlaten*. Incidentally, some of the more recent of the Continental ornithological texts still maintain that the incubating bird straddles the nest (*coucher à cheval sur son nid*).

On the morning of April 13, while I was approaching one of the large ponds nearest to Les Saintes Maries, I suddenly became aware of a long line of very tall-looking, faintly rose-colored birds strung out in the shallows near the opposite side. Most of them, engaged in feeding, had their long necks stretched to the water; but a few were alert, with heads erect. Just then the flock took to the air with a gorgeous display of scarlet and sable pinions, and circled about and back and forth for several minutes. They were in a fairly compact body, roughly circular in outline, and apparently several strata deep. There was a noticeable unison in their movements. They remained at a rather low height, say 25 to 75 feet. Meanwhile their confused chorus of goose-like honks carried quite plainly over a distance of half or three-quarters of a mile. After being awing for a period of perhaps three or four minutes, they came down in a more distant spot.

In the late afternoon I located the flock again at a neighboring pond, and approached under cover to a point within about 500 yards, whence I could watch at leisure. Once more they were in an extended line, probably a couple of hundred yards long, and from one to half a dozen birds deep. The water in which they stood appeared to be a foot or a foot and a half in depth. By a careful count there were approximately 220 birds in the flock. There was a very marked difference of size between individuals. Certain patriarchal-looking birds (evidently males) towered a foot or more above others, the backs of the smaller birds being just about on a level with the bellies of the larger ones. The smaller and paler birds were presumably females or subadult individuals.

The birds were constantly engaging in a sort of treading motion with their slender red legs, in order, doubtless, to stir up the small brine shrimps (*Artemia salina*) which, according to the investigations of Eagle Clarke, form the principal food of the Flamingo in this region; and meanwhile they stretched their necks downward at a slant, giraffe-like, to obtain the morsels thus brought into reach. Now and then two neighboring

birds would enter into what appeared to be a squabble,<sup>1</sup> with upreared heads, bill to bill, and serpentine writhings of their attenuated necks; a few moments of this, and the strange spectacle would be over. In the normal upright position their necks were gracefully curved like a Swan's. Occasionally, in part of the flock, there was a common movement in one direction or the other, either up or down the line, the birds slowly walking. Now and then there were a few honks, probably of suspicion at the distant appearance of some living object.

When I eventually approached, rather openly, a couple of hundred yards nearer, the Flamingos were surprisingly slow to be alarmed and off. At first heads were raised and honkings were heard. Then they began to move slowly and with 'stately tread', as Chapman (Camps and Cruises, 1908, p. 179) very appropriately expresses it, toward the slightly farther end of the line. Presently they came to a sort of halt, perhaps on account of deep water in that direction, and returned a little way. Thereupon the flock arose in the air. While circling a time or two, with far-out-stretched necks and legs, and exposing a broadside of flaming wings, they presented such a magnificent and thrilling spectacle as comes but rarely in a bird-watcher's experience. Compact while circling at first, the flock became somewhat looser, with a tendency toward the formation of lines within it, as it finally determined upon the direction to take in its departure. Two sorts of calls were noticed, particularly while the birds were awing: a *grr-grr*, and a *honk-honk*, the former being hoarser and deeper. Possibly the difference is one of sex. On getting ready to alight, the flock set wings, practically as a whole, and went on a slight downward slant into a near-by pond.

Three days later, at this pond, I had a distant and final view of the flock. A majority, more or less bunched together, appeared to be asleep, standing on one leg and facing a strong breeze. Those few that were feeding were strung out in a scattered line—this being apparently the characteristic flock formation on such occasions. Once more I noticed the serpentine writhings of necks on the part of opposing birds, and again was impressed with the giraffe-like aspect of those whose long necks slanted to the water in feeding.

32. *Anas platyrhynchos platyrhynchos* L. MALLARD; CANARD SAUVAGE.—Several seen near Pioch, April 9, and near Icard, April 16. In the vicinity of Les Saintes Maries numbers were observed, often in pairs, from April 11 to 15. On the 13th, in a grassy, fairly dry part of the marshes, I found the picked skeleton of a male Mallard, and near it a lot of feathers that were apparently a female's. A couple of yards away, under the tall bending grass, was a deserted nest, containing five badly smelling whole eggs, besides a couple of broken ones. All this represented some unexplained tragedy of the marsh. It may, however,

<sup>1</sup> Eagle Clarke (1895, p. 200), however, explains this as 'billing of an amatory nature.'

have been the work of a Fox. This species is said by Eagle Clarke (1895, p. 179) to "flourish exceedingly in the Camargue," and to "make sad havoc among brooding birds and their young."

33. *Anas penelope* L. WIGEON; CANARD SIFFLEUR.—A flock of three, and a single bird, seen on April 15.

34. *Anas acuta acuta* L. PINTAIL; CANARD PILET.—A pair seen on April 15 on one of the large ponds.

35. *Spatula clypeata* (L.). SHOVELER; SOUCHET COMMUN.—The Shoveler was seen daily, from April 11 to 15, in small flocks and pairs on the ponds about Les Saintes Maries.

36. *Netta rufina* (Pallas). RED-CRESTED POCHARD; BRANTE ROUS-SÂTRE.—This handsome Duck was seen daily, from April 11 to 16, on the ponds in the marshes. It was generally in pairs or in flocks of four or five. The black under parts, with the white flank patch, constitute excellent field marks for the male.

37. *Nyroca fuligula* (L.). TUFTED DUCK; MORILLON HUPPÉ.—A few Tufted Ducks, in bands of three to six, comprising both sexes, were observed on a pond in the marshes on April 15 and 16. While dozing with heads resting on backs, some of these birds kept up an automatic paddling with their legs, and so forged slowly ahead against a brisk wind. The resemblance of this species to the Ring-necked Duck (*Nyroca collaris*) is evident at a glance.

38. *Burhinus oedicnemus oedicnemus* (L.). STONE CURLEW; OEDICNÈME CRIARD.—To such a retiring species as the Stone Curlew the desolate reaches of the Camargue no doubt make a particular appeal. It was found on some slightly elevated patches of rather bare, dry ground among the marshes on April 11, 13, and 16. One, two, or three birds were noted at a time. They were not unduly wary, allowing an open approach to within 60 yards, and on one occasion, by making use of cover, I came within as many feet.

39. *Vanellus vanellus* (L.). LAPWING; VANNEAU HUPPÉ.—Several of these birds were observed on April 11 and 13. All my early views were of birds flying about over the ponds and marshes, or plunging downward at a steep slant to alight in some distant spot. The idea that birds with such wide, blunt-tipped wings could be Plovers was never entertained; they seemed rather like some exotic raptor, and their identification was for a time one of the most baffling and exasperating of puzzles. When I eventually came upon a bird *standing* at the edge of a pond, the puzzle was solved at a glance.

40. *Tringa totanus totanus* (L.). COMMON REDSHANK; CHEVALIER GAMBETTE.—This appeared to be one of the commoner shore-birds of the Camargue at the time of my visit. It was observed nearly every day, usually in small bands of less than a dozen individuals. Its note—a musical *tyoo-doo-doo*, suggestive in quality of the call of the Lesser Yellow-legs (*Totanus flavipes*)—was frequently heard. In its manner of bobbing it is reminiscent of the Greater Yellow-legs (*Totanus melanoleucus*).

The French common name, *chevalier*, which is applied to the Redshank and several of its allies, seems particularly appropriate for the graceful, long-limbed birds of this group.

41. *Actitis hypoleucos* (L.). COMMON SANDPIPER; CHEVALIER GUIGNETTE.—On April 14 a small Sandpiper dashed by me, its note and a white stripe in the wing suggesting the Spotted Sandpiper (*Actitis macularia*). It was probably the Common Sandpiper.

42. *Recurvirostra avosetta* L. AVOCET; AVOCETTE.—This splendid shore-bird, which occurs in goodly numbers in the Camargue, seems to me one of the finest ornithological treasures of the region. This is probably its principal breeding ground in France. The birds that I observed from April 10 to 16, however, did not appear to have taken up their nesting duties by that time, for they were still in flocks.

Several loose flocks or bands, aggregating from 40 or 50 to 70 individuals, were in daily evidence about one of the larger ponds. Though they were quite wary, the size of the species rendered it possible to make fairly satisfactory observations on some of their habits at a distance of more than a hundred yards.

The Avocet's plumage pattern is a very striking study in black and white, the large amount of black on its head setting it off at once from the American species (*R. americana*). When the bird is on the wing, its webbed feet, stuck far out behind, with a generous length of bill to balance them in front, give a sort of suggestion of a miniature Flamingo. Going upwind, it volplanes for a considerable distance before alighting, and comes to a rest without a flutter. The bands feed in rather loose array, with no particular formation.

For the most part they frequented the shoal water near shore, with a depth of no more than three or four inches. Here a bird walks leisurely but steadily along, with a scarcely perceptible pause at each step as it makes a quick sidewise sweep or scoop through the water with its recurved bill. The scoops are nicely synchronized with the bird's steps, the motion being toward the right as the right leg is put forward, and vice versa. Meanwhile the body is kept tilted forward, in a curious and distinctive pose, at an angle of perhaps 45° from the horizontal. A morsel is frequently secured, then swallowed with a series of quick little backward jerks of the head. At times some of the birds rested quietly well out in the pond, where they possibly floated or swam, the water coming halfway up their bodies. Here they still fed by tipping the whole body forward, so that the anterior half was out of sight beneath the surface. Even when walking about in only a few inches of water, they may immerse the head entirely in securing their food.

Various individuals, presumably males, indulged in a pugnacious display that was probably correlated with the mating season. In view of the delicacy of the Avocet's bill, it is not surprising that wings and feet seemed to be the only weapons employed in these activities. While two or more birds are feeding near each other, one takes the initiative by

walking or running—sometimes even flying—at another, thereby often forcing it to take wing. But sometimes there is resistance, resulting in the employment of wings by both parties, apparently for defensive as well as for offensive purposes. Again, the bird attacked or threatened may curiously squat down in the water, as if to let the attack pass over it. Once, however, I saw the aggressor land with both feet for an instant on the back of the crouching bird; and at another time this seemed to very nearly happen.

The Avocet's call is a clear, musical, and slightly explosive *hoot'h*. In quality it is quite unlike, for example, the loud, piercing whistle of a Greater Yellow-legs (*Totanus melanoleucus*).

43. **Numenius arquata arquata** (L.). COMMON CURLEW; COURLIS.—On April 11 I found about half a dozen birds of this genus in the marshes. At least one was undoubtedly a Common Curlew, giving a cry of *cur-rée-oo*. Still another species seemed to be represented, but whether it was *phaeopus* or *tenuirostris*, I could not determine.

44. **Capella gallinago gallinago** (L.). COMMON SNIPE; BÉCASSINE ORDINAIRE.—A Snipe, presumably of this species, was observed on April 16. Its *scaipe* note was similar to that of the American species (*delicata*).

45. **Haematopus ostralegus ostralegus** L. OYSTER-CATCHER; HUITRIER PIE.—I made the acquaintance of this interesting species on April 9, when I found a pair feeding in a lagoon adjoining the sea. They moved into deeper and deeper water until their bodies touched the surface. In feeding here they immersed their heads entirely. When they flushed at a distance of 125 to 150 yards, they made off with a very steady, direct flight, their wing tips just clearing the surface of the lagoon. They set their wings just before alighting in very shoal water, and reduced the shock of landing by taking perhaps half a dozen running steps before coming to a final halt.

During the next few days Oyster-catchers were frequently seen in small numbers, particularly about the shallow borders of a large pond. At this time they were indulging in various antics evidently pertaining to the mating season. A flock of half a dozen one morning were making a considerable clamor with their whistled calls. A couple of birds would assume a belligerent attitude toward each other, with bills pointed down, like roosters sparring. One would then run at the other, causing it to fly off a few feet. The calls seem to be given most during this part of the performance. The usual note sounds like *phéou*, but this is often shortened to *phée*. On another occasion, when two birds were joined by a third, one of the former apparently endeavored to ward off the newcomer. These two (presumably males) walked along side by side, with bills lowered in a threatening manner, and loudly uttering their notes.

46. **Sterna hirundo hirundo** L. COMMON TERN; STERNE PIERRE-GARIN.—This Tern was observed in small numbers throughout my stay at Les Saintes Maries, from April 9 to 16.

47. *Larus fuscus* subsp. LESSER BLACK-BACKED GULL; GOÉLAND BRUN.—Two individuals seen on April 9, and two small bands on April 12.

48. *Larus ridibundus ridibundus* L. BLACK-HEADED GULL; MOUETTE RIEUSE.—Observed in small numbers daily, April 10 to 13. The birds often rested on the ponds.

49. *Fulica atra atra* L. COOT; FOULQUE MACROULE.—In April this is apparently one of the commonest waterfowl of the Camargue. From one to two or three hundred individuals were noted on the ponds near Les Saintes Maries on nearly every day from the 9th to 16th. On one occasion a bird was seen to display in the same manner as *Fulica americana*. It moved threateningly toward one or two others, with lowered head and with wings arched over its back, causing them to patter away over the surface of the water for a short distance.

50. *Alectoris rufa rufa* (L.). RED-LEGGED PARTRIDGE; PERDRIX ROUGE.—While journeying by rail from Arles to Les Saintes Maries on April 9, I observed several Partridges near Les Bruns and Pioch; and on the return trip on April 16 several others were noted near Maguelonne and Pioch. The white patches plainly seen on the heads of some of the birds served to identify them as this species.

#### BIBLIOGRAPHY.

APTEL, L.

1915. Sur quelques oiseaux de la Camargue. *Rev. française d'ornith.*, vol. 4, no. 71, March 7, 1915, p. 35-37. (Remarks on the 'Rollier,' 'Bihoreau,' and 'Canard siffleur huppé.')

CHABOT, F.

1925. Excursion ornithologique en Camargue. *Rev. française d'ornith.* vol. 9, no. 200, Dec. 7, 1925, p. 315-318, 1 fig. (Account of a trip in May, 1925.)

CHAPEL, F. DE

1903. Observations sur les variétés de Perdrix rouges. *Bull. de la Soc. nat. d'acclimatation de France*, vol. 50, March, 1903, p. 84-85.

1904. La nidification des Flammants en Camargue. *Bull. de la Soc. nat. d'acclimatation de France*, vol. 51, July, 1904, p. 207-212.

CLARKE, W. EAGLE.

1895. On the ornithology of the delta of the Rhone. *Ibis*, 7th ser., vol. 1, no. 2, April, 1895, p. 173-210, 1 map. (An account of a trip in May and June, 1894, with a general description of the region and an annotated list of 115 species.)

1898. On the ornithology of the delta of the Rhone. (Second contribution.) *Ibis*, 7th ser., vol. 4, Oct., 1898, p. 465-485, 1 map. (Notes on 61 species observed on a trip in Sept., 1896.)

COWARD, T. A.

1927. Bird life at home and abroad. London and New York: p. xi + 242, frontispiece, 24 fig. (Chapter 1 on 'The Flamingo in France.')

## CRESPON, J.

1840. Ornithologie du Gard et des pays circonvoisins. Nîmes and Montpellier: p. xvi + 568. (A classic work, with very useful remarks on habits, song, and distribution.)

1844. Faune méridionale . . . du Midi de la France. Nîmes and Montpellier, 2 vols.: 674 p., 72 pl.

## GIBERT, A.

1924. Sur un nid de Heron pourpré en Camargue. *Rev. française d'ornith.*, vol. 8, no. 177, 1924, p. 256-259, 3 fig.

1925. L'Oxylophe geai en Camargue. *Rev. française d'ornith.*, vol. 9, no. 190, Feb. 7, 1925, p. 59-60.

## GIBERT, A., AND MÉNÉGAUX, A.

1925. Sur la nidification des Flamants en Camargue. *Rev. française d'ornith.*, vol. 9, no. 191, March 7, 1925, p. 67-72, 4 fig.

## GLEGG, W. E.

1924. A note on the nesting of the Red-crested Pochard in the Camargue. *Brit. Birds*, vol. 18, no. 4, Sept., 1924, p. 90-96, 3 fig.

1924. On the nesting of the Flamingo in the Camargue. *Brit. Birds*, vol. 18, no. 6, Nov., 1924, p. 146-154, 4 fig.

1925. On the nesting of the Gull-billed Tern in the Camargue. *Brit. Birds*, vol. 18, no. 8, Jan., 1925, p. 202-209, 5 fig.

1925. On the nesting of the Avocet in the Camargue. *Brit. Birds*, vol. 19, no. 4, Sept., 1925, p. 82-87, 1 pl., 4 fig.

1925. Further notes on the nesting of the Flamingo and Gull-billed Tern in the Camargue. *Brit. Birds*, vol. 19, no. 6, Nov., 1925, p. 145-148.

(An excellent series of studies with the camera.)

## GRISCOM, LUDLOW.

1921. Some notes on the winter avifauna of the Camargue. *Ibis*, 11th ser., vol. 3, no. 4, Oct., 1921, p. 595-609. (Account of a trip from Dec. 29, 1918, to Jan. 2, 1919, with an annotated list of 80 species.)

## INGRAM, COLLINGWOOD.

1908. Bird life in the Rhone Delta. *Field*, vol. 112, no. 2906, Sept. 5, 1908, p. 467-468. (Consists mainly of notes on the Flamingo and other waterfowl observed during a May visit.)

1924. On the nesting of the Flamingo in the Camargue. *Brit. Birds*, vol. 18, no. 7, Dec., 1924, p. 198.

1926. The birds of the Riviera. London: p. xv + 155, 6 pl., 11 fig. (Includes many records from the Camargue.)

## JAUBERT, J. B., AND BARTHÉLEMY-LAPOMMERAYE.

1859. Richesses ornithologiques du Midi de la France. Marseille: p. 1-547, 20 pl. (A comprehensive work, with admirable colored plates.)

## LEGENDRE, M.

1926. Bibliographie des faunes ornithologiques des régions françaises. Chapter 4. *Rev. française d'ornith.*, ser. 2, 18<sup>e</sup> année, Nos. 206-207, June 7-July 7, 1926, p. 264-279. (Various papers on the birds of Bouches-du-Rhône listed on p. 269-270.)

L'HERMITTE, JOSEPH.

1915-16. Contribution à l'étude ornithologique de la Provence.

Rev. française d'ornith., vol. 4, nos. 79, 81-84, 87-90, p. 161-166,  
210-215, 226-231, 244-246, 259-261, 302-304, 331-337, 352-357.

(A practically complete list of 387 forms, with brief annotations.)

MÜLLER, J. W. v.

1856. Beiträge zur Fauna des Mittelmeerbeckens. I. Ausflug in die  
Camargue. Jour. f. Ornith., vol. 4, p. 205-234. (About 363 forms  
listed, with brief annotations.)