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SOME BIRDS FROM SINAI AND PALESTINE.

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Plate XVII.

WE left Suez on March 22, 1914, for a brief trip through the Sinai Peninsula, and then to Jerusalem, via Akaba and the east side of the Dead Sea. Mr. Mann was to pursue insects and reptiles and both of us put in our spare moments chasing birds and trapping mammals. As much of the route lay through a desert, our catch was small, except for the reptiles. Mammals, though in places numerous, were hard to trap and many specimens were stolen by jackals or eaten by ants before daylight, so that we often despaired of bringing back a representative lot.

This journey takes one through several very different types of country. The bare desert around Suez, very similar to the deserts of Egypt; then the rugged Sinai plateau with peaks up to 8500 feet in height; the low deserts around Akaba, with an Arabian and Dead Sea fauna; the bare-wind swept 5000 foot plateau east of the Dead Sea depression; and lastly the oleander and cane jungles of the Dead Sea and its affluents, with a sub-tropical fauna and flora, and an altitude as low as 1300 feet beneath the level of the sea.

When you leave Suez behind, you enter upon the worst stage of the journey. The spring sun is scorching from nine o'clock till four, and the level stretches of gravel and limestone are hardly

relieved by the sight of a single creature, barring lizards and scorpions. At rare intervals an Egyptian Vulture sails overhead or a pair of Ravens follows the caravan for a time. At nightfall one or two White Wagtails gather around the tents and run about under the very feet of the camels.

There are only two spots along this road where birds can really exist. One is the Wells of Moses, eight miles from Suez, and the other is Wady Gharandel, identified with the Elim of the Bible Exodus. At this latter place we arrived on the third day, camping at the upper end of the Wady where there was a well some six feet below the surface of the ground and a number of palms, sayal thorn trees and shrubs of various sorts. Here we got a few birds, a Great Grey Shrike, Wheatears in abundance, Ruppell's and Bonelli's Warblers, Chiff-Chaffs, Spanish Sparrows and the pale Cray-Martins. Besides these we saw that very characteristic plain gray warbler of the Sinai Peninsula, *Cercomela asthenia*, the Chat-Robin or Black-start. Here too we began to see the Sinai Desert Larks.

Between Gharandel and Wady Feran, where you first find real water, there is almost nothing of interest to the ornithologist. For part of a day the road runs along the coast of the Red Sea under rough cliffs, but not a gull or a shore-bird enlivens the monotony of that shell strewn shore. You begin to see some of the handsome Black and White Chats along this part of the road. We took three species, the White-rumped, Pied and Hooded Chat. These are very striking birds, extremely shy and by no means easy to get. The White-rumped has a very low but sweet song. Wherever there is any vegetation at all one sees if he looks closely, an extraordinary little wren-like cock-tailed warbler, *Scotocera iniquietus* that is an adept at hiding. If I remember rightly, it has a peculiar little Chickadee-like note which I heard long before I ever managed to get the bird. When one gets into the ravines about Petra this little bird is more plentiful. Then another very characteristic warbler of the scattered sayal trees is the Lesser White-throat which returns to Palestine and breeds in great numbers. You can identify it a long way off by its monotonous "sip-sip-sip." I think it is quite the commonest spring bird of Sinai.

On April 1, we arrived at the beautiful brook of Feran and

pitched camp at the mouth of the Wady Aleyât; to students of Bible history, one of the most interesting spots on the peninsula. Most of the ancient traditions center around this place, the ruins of an ancient church and a fine monastery crown the hill of El-Meharret, and the rocks are riddled with graves and cells of anchorites. The serrated peak of Serbal rises just to the south, the most picturesque mountain on the peninsula, and still claiming distinction as the mountain of the Law Giving, in spite of the attempts of the Greek monks to transport all the bible traditions to the neighborhood of Gebel Katherina.

The brook of Feran waters three miles of a rugged canyon filled with palms, nebk and tamarisk. The climate at this elevation is wonderful, and the bothersome flies and heat of the desert have been left behind. The Palestine Bulbul mingles his Robin-like song with the purring of the stream, and a fair number of other birds are to be found, especially at the head springs. In the thick palms a few shy Tristram's Grackles evaded my gun. We took both the Rock and the Blue Thrush, the latter supposed to be "the sparrow that sitteth alone upon the house-tops" of scripture. Then there were Redstarts, several Warblers, two species of Wag-tails, Tree Pipits and Spanish Sparrows. I even saw a Snipe. In the neighboring valleys the lively little Sand Partridge was abundant. It is hard to dismiss the beautiful little See-see (*Amnoperdix heyi*) without a word of notice. He is the only fat thing in Sinai. He lives in flocks of fair size, and curiously enough, numbers are seen together even in the breeding season. One morning (April 9), I watched the mating antics of a pair of these birds. The female was squatting in the sand and the male constantly hopped over and ran around her. Every little while they would seize each other by the bills and wrestle about with much flapping of wings and their feathers flying. They kept this up for ten minutes and I had to leave them still at it.

Best of all, at Feran however, was the capture of a Butler's Owl (*Strix butleri*, see Plate XVII), our specimen making the third one known to science. The first one was sent to Hume from South Baluchistan, and the second came from Sinai. The background of the plate shows the vale of Feran and the rough outline of Mt. Serbal where the ibex and the leopard still wander.

We only spent three days at Feran and then moved south to the convent of St. Catherine. On the way, passing up the rugged defile, Nekb-el-Hawa, or pass of the winds, we met our first Rose Finches. This rare rock-loving *Carpodacus* lives only on the highest and roughest parts of the country, keeping in little scattered troops. It is a very wild and restless bird and what it manages to live upon I do not know. I saw it again only at Petra. Zedlitz (1912), says that the bird does not breed till its second year. From my specimens I should say that both sexes were rose-colored when adult, but others have described the females as plain colored, like the young males.

In the garden of the convent of St. Catherine there were a few birds but nothing that we had not seen before. A side trip to Um Shomer, a high mountain in the south, took us over an absolutely birdless region with nothing but Desert Larks and Crag Martins at the rarest intervals. One morning at sunrise I found myself high up on a spur of Um-Shomer. I thought I never had seen such desolate grandeur. Westward about fifty miles of the Gulf of Suez was in sight, bathed in a light mist, while a long stretch of the Gulf of Akaba limited the east and northeast view, backed by the low peaked mountains of Midian. The whole rugged south end of Sinai was spread out like a relief map, and not a sound came to my ears.—A single Eagle soared about the crags of Um-Shomer, perhaps looking for a young ibex, but he was all alone. Far out on the Gulf of Suez as the mist cleared I could see with my glass the big steamers plying to the ends of the world.

Some of the scarcity of birds in Sinai may have been due to lack of rain. Usually rain and snow fall every winter, but now for several years there has been practically a continual drought. The vegetation is much reduced and every sayal tree is cut back for camel food.

From the convent to Akaba at the head of the long gulf of that name, we did not see many birds. For days we journeyed along the beach of the gulf meeting very rarely a Sandpiper, or one or two European Kingfishers. At intervals there were groups of palm trees with a few Warblers, Chats and Wheatears about them.

At Akaba we had to wait eight days for our mules. A long palm grove and the remains of quite a large town with a Turkish fort

stretches along the beach. The place is interesting to students of migration for it seems to be on the great highway from northeast Africa up the great Dead Sea depression to Palestine, and so over western Asia. We took a good many birds here, among them a Land Rail in a half dead condition, a Baillon's Crake, one specimen of the rare Audouin's Gull, here far east and south of its eastern limit, a stray Burgomaster Gull, also well south of its range, some Dunlins and Greenshank and a couple of Garganey Teal. One night we saw coming north up the gulf the most extraordinary flock of hawks I have ever heard of. We judged there were 1500 to 1800 scattered out over a wide area. We shot four and they were of one species, the Levant Sparrow Hawk. Such a flock must have been migrating from Africa or perhaps south Arabia, but the species has only been taken once or twice in Egypt and never elsewhere in Africa.

Among the palm trees hundreds of splendid European Bee-eaters with their tuneful chirping were constantly at work on a small sand beetle that was just then having its nuptial flight. We saw here for the first time the curious awkward Hopping Thrush, a pale thrasher-like bird that seems really ashamed of its power of flight. It is another of the characteristic Dead Sea species.

There were a good many Fan-tailed Ravens here and many migrating Blue-headed Wagtails, besides other birds that need not be mentioned. The Fan-tailed Raven has a curious flight and sometimes tumbles like the Roller. Tristram describes its note as rich and musical. A careful two months' collecting in the Akaba palms at the proper season would produce a very rich collection of migrants.

Between Akaba and Petra our advance guard was robbed, and the Arabian soldier with it was shot and left for dead by the robbers. This was at the rise of the great plateau which bounds the eastern side of the desert of Arabah, always a bad region.

Once on top of the cliffs you reach a cold and windy region and see the first traces of rude cultivation. We did no more collecting till we reached Petra, that famous old city of the Nabataeans.

Petra is in the middle of one of the many canyons that lead down from the great Arabian plateau to the Dead Sea basin. There is

running water and a good deal of vegetation — even juniper trees among the crags. The place is justly famous as a goal for tourists and is destined to be much visited in the future. Here we found a great many migrants and saw for the first time the Palestine Sun-bird. This truly African bird pushes up through the Dead Sea basin and has been found in summer as far north as Beyrout. In the cliffs of Petra were colonies of that noisy and disagreeable Rock Sparrow, *Petronia petronia*, and occasionally a pair of Tristram's Grackles, whose song has been so greatly admired by nearly all travellers in southern Palestine. Here again we met a good number of rose finches, although they have never been recorded outside Sinai before. These Petra finches turn out to be so much smaller than the Sinai birds that I have ventured to give them a new name. At Petra, too, the tamarisk bushes were full of migrating gold-finches and black capped warblers, and from this time on, the gold-finch became the commonest bird. The blue-rock pigeons, which I have not mentioned before, were found here and there in Sinai, and at Petra and farther north there were many, but wary to a degree. I never could account for the wariness of all species of birds hereabouts, a fact commented upon by Zedlitz, (1912).

We had such hard luck with our mouse traps at Petra that we had to pull them up. The jackals robbed the line as neatly as the wolverines of our northern wilds are said to do.

From Petra our road lay along the edge of the great Moab plateau. The barley was nearly ripe and the fields were full of Larks and Ortolans with here and there a Stork. These latter were astonishingly tame.

At Wady Kerak we made a side-trip to the south end of the Dead Sea. The heat there was really very trying but we obtained a few birds, among them the rare little Moabitic Sparrow whose range is perhaps the smallest in the world, as it is only known from a few patches of jungle in this immediate region. He looks like a gaudy but miniature English Sparrow with a yellow spot on each side of his throat.

Around the south end of the Dead Sea at this time (May 7) there were many birds. Arabs were just harvesting their grain, preparatory to leaving the Dead Sea for the better climate of the uplands. There were many Turtle-Doves, Blue-rocks, Hey's

Partridges, Egyptian Quail, European Rollers, Great Grey Shrikes, Crested Larks, Wheatears, Goat-suckers, and three species of Swallows, the Common European, the Red-rumped, and the Dead Sea Crag-Martin.

After we left Kerak we hurried on to Jerusalem, crossing many of the Dead Sea ravines, now filled with oleanders in full bloom. The olive groves of the various towns we passed through were well supplied with birds, and resounded with the songs of Goldfinches and Black-caps, while Greater Tits and many common warblers were present in large numbers. The only rarity we took was the Barred Warbler, which apparently has not before been taken in Palestine.

We reached Jerusalem on May 15 and after this the only birds collected were taken by Mr. Mann from the Mt. Herman region west of Damascus.

The total number of species in the collection is ninety.

STRUTHIONIDÆ.

Struthio camelus Linn. OSTRICH.—Ostrich eggs were common among the Arabs at Maan, on the Hadj Railroad. I was told that they came from the desert two days' journey east and northeast of that town.

Phasianidæ.

Caccabis chukar synaica (Bp.). CHUKAR PARTRIDGE.—One ♂; Madeba, May 10. This specimen is the same as the Jerusalem series in the Selah Merrill Coll., Museum Comparative Zoölogy, and only a little different from a Kurdestan specimen. It is much paler than birds from northern India. The chukar is scarce in Sinai but plentiful along the crest of the Moab plateau.

Ammoperdix heyi (Temm.). HEY'S PARTRIDGE; SEE-SEE.—Four specimens; Wady Hamer, Sinai, April 9, Wady Kerak, Dead Sea, May 5.

These two pairs, one from Sinai, the other from the Dead Sea, differ markedly; enough to suggest two forms. Comparison with the Selah Merrill series of over 30 in the Museum of Comparative Zoölogy, taken near Jerusalem, does not bear this out, for this series shows a great range of color. Some males are much darker all over than others; some females are barred all over the under parts, while some are nearly plain buff-colored. Nicoll (Ibis, 1909, p. 640) in discussing the African form *A. h. cholmleyi* O. Grant, refers to the presence or absence of white lores and forehead in Egyptian specimens. *A. h. cholmleyi* is supposed to lack the white lores

and forehead, but Nicoll shows that this is not constant at least for Egypt. The type locality of *A. h. cholmleyi*, however, is near Suakin, Sudan (O. Grant, Hand-Book of Game Birds, Vol. II, p. 294), where it is conceivable that a form different from the Egyptian one may exist. At any rate the Jerusalem series shows no variation in the white lores and forehead.

Coturnix coturnix coturnix (Linn.). EGYPTIAN QUAIL.—One ♂; Moses Wells, Suez, March 23. Seen only at above place and around Dead Sea.

Pteroclididae.

Pterocles lichtensteini arabicus Neumann.—One ♂; Akaba, April 14.

The type locality of the true *lichtensteini* is from Nubia (Temm. Coll., Pl., Vol. V, pls. 25-26). This is based on Lichtenstein (Verz. Doubletten 1823, p. 65). Nubia as used there included Sennar and part of Abyssinia and was rather a vague term.

In 1905 Erlanger (J. F. O., 1905, p. 92) separated a race, *P. l. hyperythrus*, from southern Somaliland, at the same time limiting *P. l. lichtensteini* to northern Abyssinia and northern Somaliland.

Later on Neumann described two other forms, *arabicus* from southern Arabia and *sukensis* from East Africa (Ornith. Monatsbr., 1909, p. 152).

My single specimen, taken from a flock of 10 or 12 birds on the Sinai side of the gulf near Akaba, extends somewhat the northwesterly range of the species. There are other specimens collected by Burton in "Midian" and at Jedda (Shelley Coll.).

I have for comparison seven males from Hawash R., northern Abyssinia, and six males from British East Africa, besides a number of females. These specimens are mostly from the U. S. Nat. Mus. collection. The first series is not far from the type locality of *P. l. lichtensteini* and the second series should represent *P. l. sukensis*.

The form *arabicus* which my own specimen represents is said to differ from true *lichtensteini* by a general lighter and brighter color. The upper tan-colored breast band of the same shade as the lower breast band, and not darker as in *P. l. lichtensteini*. The lower black band, separating breast from abdomen, much reduced or nearly absent, and the abdomen itself lighter. The golden bars on the upper side as wide or wider than the black bands, etc. In my specimen, however, not all of these characters are present, for the species is itself extremely variable. The lower black breast band is not reduced but the belly is lighter than any of the African specimens. The lower tan-colored breast band is very similar in color to the upper band, but in the type species, the two areas sometimes closely resemble each other. The character of barring on the upper side is a very variable one and I should say of little value in separating *arabicus* from *lichtensteini*. The only constant character then, as far as my series goes, is the very light belly area of the Arabian race.

P. l. sukensis would appear to be a very poorly marked southern race of the type species. I have seen no specimens from the locality of *P. l. hyperythrus*.

COLUMBIDÆ.

Columba livia schimperi Bp. ROCK PIGEON.—This form, now confined to Sinai (*Zedlitz*, *Jour. für. Ornith.*, 1912), and also *C. l. palestina* Zedlitz from Palestine, were probably both taken. None were preserved, so I can throw no light upon the existence of these two forms, whose validity must still be open to question.

Turtur turtur (Linn.). TURTLE DOVE.—One ♂; Shobek, April 30. Met with in large numbers in the Dead Sea gorges.

RALLIDÆ.

Crex crex (Linn.). CORN CRAKE.—Pair; Akaba, April 19; Shobek, Palestine, April 30.

Porzana pusilla Pall. BAILLON'S CRAKE.—One ♀; Akaba, April 20. According to Reichenow there may be a resident form of this species in Africa.

LARIDÆ.

Larus hyperboreus Gunnerus. GLAUCUS GULL.—One ♂; Akaba, April 18. A far southern record for this gull.

Larus audouini Payraudeau. AUDOUIN'S GULL.—One ♀; Akaba, April 21. Wing 15.5 in.; bill 2.4; tarsus 2.25; tail 6.5. This rare gull is east and southeast of its known range in the Western Mediterranean. Its eastern limit is the Greek Islands but most, if not all, of the specimens have come from west of Italy. Tristram is quoted as having observed the bird at Malta and Dresser says it has been seen near Cairo.

LIMICOLÆ.

Pelidna alpina alpina (Linn.). DUNLIN.—One ♂; Akaba, April 17.

Tringa nebularia Gunner. GREENSHANK.—One ♀; Akaba, April 20.

ARDEIFORMES.

Pyrherodias purpurea (Linn.). PURPLE HERON.—One ♂; Akaba, April 18.

ANATIDÆ.

Querquedula circia (Linn.). GARGANEY TEAL.—Two shot at Akaba, April 17.

FALCONIDÆ.

Astur brevipes Severtzoff. LEVANT SPARROW HAWK.—Four ♂♂; Akaba, April 20. A flock of 1200 to 1800 apparently all of this species seen migrating north on this date. This bird is very rare in Egypt and has not been taken in Africa (outside Egypt). This migration was perhaps from southern Arabia. The specimens were very fat but their stomachs were empty.

Cerchneis tinnunculus (Linn.) KESTREL.—One ♂; Tafeleh, southern Palestine, May 3.

STRIGIDÆ.

Strix butleri Hume. BUTLER'S OWL. (Plate XVII).—One ♂; Wady Feran, Sinai, March 31. Wing, 245 mm., tarsus, 48 mm., tail, 150 mm. This specimen, apparently an adult male, was brought into camp alive by an Arab. It constitutes the third known record of this extremely rare owl. In size it seems to be the same as both the other specimens. In color also it corresponds very closely with Hartert's description (Vogel der Pal. Fauna, p. 1027) and this description is based on both the other specimens. From Hume's original description of the type (Stray Feathers, VII, p. 316) my specimen apparently differs in having the first primary less plain colored and more like the others as to its barring.

Hume's bird came from Omára, on the Mekran coast of southern Baluchistan in 1878; the skin was badly damaged. In 1879 Tristram (Stray Feathers, VIII, p. 417) discovered one other skin that had remained unidentified in his own collection for ten years. This one was from Mt. Sinai (exact locality not given).

This owl must be a rock-living bird. The plate shows typical Feran scenery with Mt. Serbal in the background.

HALCYONIDÆ.

Alcedo ispida pallida Brehm. KINGFISHER.—Two ♂♂; Akaba, April 15. Zedlitz (1912) in his work on Sinai, throws out this rather poorly marked form. The beak is usually thinner and more pointed than in the western birds.

MEROPIDÆ.

Merops apiaster Linn. EUROPEAN BEE-EATER.—Three; Akaba, April 16.

CAPRIMULGIDÆ.

Caprimulgus europæus meridionalis Hartert. NIGHT-JAR.—One ♂; Wady Kerak, Palestine, May 5.

MICROPODIDÆ.

Apus apus apus (Linn.). SWIFT.— Three ♀ ♀; Shobek, Palestine, April 30. These are the same size as examples from England. They might be referred to the *marwetzi* of Reichenow but that race is poorly marked and our material is insufficient.

Apus murinus murinus (Brehm). PALLID SWIFT.— One ♀; Shobek, April 30.

HIRUNDINIDÆ.

Chelidon rustica rustica Linn. SWALLOW. Five; Akaba, April 14; ain Hodra, Sinai, April 10; Wady Ain Heisha, Syria, May 31.

Chelidon rustica transitiva Hartert. PALESTINE SWALLOW.— One ♀; Nuheibeh, Sinai, April 13.

Chelidon daurica rufula (Temm.). RED-RUMPED SWALLOW.— One pair; Dead Sea, May 6; Madeba, May 10.

Hirundo urbica urbica Linn. HOUSE MARTIN.— Five; Petra, South Palestine, April 28-29; Shtôra, Syria, June 8.

Riparia riparia riparia (Linn.). SAND MARTIN.— Four; Moses Wells, Suez, March 23.

Riparia obsoleta obsoleta (Cab.). PALE CRAG-MARTIN.— Five; Gharandel, Sinai, March 25; Wady Feran, March 31; Petra, April 27; Wady Hisa, May 3.

MUSCICAPIDÆ.

Muscicapa striata neumanni Poche. EASTERN SPOTTED FLY-CATCHER.— Nine; Petra, April 28; Wady Hisa, May 4; several Syrian localities, May and June.

BRACHYPODIDÆ.

Picnonotus capensis xanthopygos (Hemp. & Erlich.). PALESTINE BULBUL.— Pair; Wady Feran, March 31.

TIMELIDÆ.

Crateropus squamiceps squamiceps (Cretzschm.). HOPPING THRUSH.— One ♀; Akaba, April 21.

TROGLODYTIDÆ.

Nannus troglodytes pallidus Hume. WREN.— Two ♂ ♂; Sheba, Syria, May 25.

These two specimens appear to belong to this form as nearly as can be

told from Hartert's description (Vog. d. Pal. Fauna, p. 781). Certainly they are not like *N. l. cypristes* from Cyprus. They are not red-brown like the European examples and are pale and nearly unbanded on the lower sides. The wing is 46 and 48 mm. The wren is very rare in Syria.

TURDIDÆ.

Monticola saxatilis (Linn.). ROCK THRUSH.—Two ♂♂; Wady Feran, March 31; Shobek, Palestine, May 1.

Monticola solitarius solitarius (Linn.). BLUE THRUSH.—Pair; Wady Feran, Sinai, March 31.

Phœnicurus phœnicurus phœnicurus (Linn.). REDSTART.—Six; Wady Feran, March 31; Monastery, Sinai, April 9; Akaba, April 21; Shobek, Palestine, April 30; Ain Gleidat, May 2.

Luscinia luscinia (Linn.). NIGHTINGALE.—Three; Petra, April 28; El Katuma, Syria, May 20; Mimis, Syria, May 30.

Cercomela melanura melanura Temm. PALESTINE BLACKSTART.—Seven; Wady Feran and Wady Saal, Sinai, March 29–31, April 7.

Cenanthe cenanthe rostrata Hemp. & Ehrb. WHEATEAR.—Ten; Gharandel, March 25; Wady Feran, March 31; El Hawa, April 3; Nuheibeh, April 13; Akaba, April 20. The wing bands of these specimens are not very apparent, so that one of the characters of this race is lacking. The bills are 17 to 18 mm., a little short. This poorly marked form migrates to Egypt, Somaliland and German East Africa. It is a variable race as Tristram and Hartert have both pointed out.

Cenanthe isabellina (Cretzschm.). ISABELLINE WHEATEAR.—One ♂; Shobek, Palestine, May 1.

Cenanthe lugens lugens (Licht.). PIED CHAT.—One ♂; Shobek, May 1.

Cenanthe leucopyga (Brehm). WHITE-RUMPED CHAT.—Three; Wady Feran, April 1; Wady Garbeh, April 2.

Cenanthe monacha (Temm.). HOODED CHAT.—Two; Wady Feran, March 29; Nuheibeh, April 13.

Cenanthe melanoleuca finchii (Heugl.). BLACK-THROATED WHEATEAR.—Four; Ain Hodra, Sinai, April 10; Akaba, April 19; Tafileh, May 3; Shiba, Syria, May 25.

SILVIIDÆ.

Agrabates galactotes galactotes (Temm.). RUFOUS WARBLER.—Two ♂♂; Shobek, April 30; Rasheya, Syria, May 21.

Locustella fluviatilis (Wolf). RIVER WARBLER.—One ♂, Tafileh, southern Palestine, May 3. This rather rare bird was taken by Tristram in northern Palestine.

Acrocephalus strepera strepera (Vicill.). REED WARBLER.—Two;

Hibariyeh, Syria, May 28. One of the specimens is certainly a breeding bird. Tristram mentions the species but it has not definitely been recorded from Palestine.

Hippolais languida (Hemp. & Ehr.). UPCHER'S WARBLER.—Three; Rasheya, Syria, May 21, June 1.

Hippolais pallida pallida (Hemp. & Ehrb.). OLIVACEOUS WARBLER.—Five; Akaba, April 16; Tafleleh May 2; Wady Hisa, May 3; Litany River, Syria, June 4.

Sylvia nisoria nisoria (Bechst.). BARRED WARBLER.—One ♂; Shobek, May 1. The wing is 84 mm., which is small, so that it does not belong to the rather doubtful eastern race, *Merzbacheri*.

This rather local bird has not been recorded from Palestine before, but has been taken in Asia Minor, Persia, and central Asia. The winter quarters of the eastern breeding birds are unknown.

Sylvia communis icterops Ménétr. EASTERN WHITE-THROAT.—Two; Wady Gazella, Sinai, April 10. Saghbin, Syria, June 5.

These are the same as the Selah Merrill series from Jerusalem; not so red-brown on the back as European birds.

Sylvia ruppelli Temm. RUPPELL'S WARBLER.—Nine; Gharandel, March 25; Moses Wells, March 23; Wady Feran, March 27-28; Wady Gharbeh, April 2.

Sylvia hortensis crassirostris Cretzschm. ORPHEAN WARBLER.—Two; base of Mt. Hermon, Syria, June 2.

Sylvia curruca curruca (Linn.). LESSER WHITE-THROAT.—Six; Moses Wells, March 22-23; Wady Feran, March 27-31; Ammik, Syria, June 6.

Sylvia atricapilla atricapilla (Linn.). BLACK-CAP.—Eight; Akaba April 16-18; Petra, April 27-29; Tafleleh, May 2; Rasheya, Syria, May 21.

Phylloscopus sibilatrix sibilatrix (Bechst.). WOOD-WREN.—One ♀; Tafleleh, May 2.

Phylloscopus bonelli orientalis (Brehm.). BONELLI'S WARBLER.—Gharandel, March 25; Wady Feran, Sinai, March 27-30; Wady Saal, April 8.

Phylloscopus collybita (Vicill.). CHIFF CHAFF.—Three; Wady Gharandel, March 25; Petra, April 27. The wing of the ♂ is 62, ♀ ♀ 56 and 57. They are therefore rather too small for *P. c. abietina* (Nilss.), the eastern race. In color they resemble specimens from England and they are certainly no paler. I cannot make out the eastern race from my material.

LANIIDÆ.

Lanius excubitor aucheri Bp. GREAT GREY SHRIKE.—Four; Wady Gharandel, March 25; Wady Feran, April 1; Wady Haman, Sinai, April 9.

Lanius nubicus (Licht.). MASKED SHRIKE.—Two; Akaba, April 16-20.

Lanius senator niloticus (Bp.). EASTERN WOOD-CHAT SHRIKE.— Five; Tafleh, Palestine, May 2 and 3; Ammik, Syria, June 6; Baneyas, Syria, May 28.

Lanius collurio collurio Linn. RED-BACKED SHRIKE.— One ♂; Wady Hisa, May 4.

PARIDÆ.

Parus major terræsanctæ Hart. PALESTINE GREAT-TIT.— Two; Tafleh, Palestine, May 2-3.

NECTARINIDÆ.

Cinnyris osea Bp. PALESTINE SUN-BIRD.— One ♂; Petra, April 27. I found this a rare bird.

MOTACILLIDÆ.

Motacilla alba alba Linn. WHITE WAGTAIL.— Three; Moses Wells, Suez, March 23; Wady Feran, April 1; Abu Sweira, Sinai, April 13.

Budytes flava flava Linn. BLUE-HEADED WAGTAIL.— Four; Wady Feran, Sinai, March 31; Akaba, April 19-21; Shobek, Palestine; April 30.

Budytes melanocephala Licht. BLACK-HEADED WAGTAIL.— One ♂; Wady Feran; Sinai, March 29.

Anthus trivialis (Linn.). TREE-PIPIT.— Five; Wady Feran, Sinai, March 31; Wady El Ain, April 12; Nuheibeh, Sinai, April 13; Akaba, April 15.

Anthus campestris campestris (Linn.). TAWNY PIPIT.— One; Ain Gleidat, Palestine, May 2.

ALAUDIDÆ.

Otocorys alpestris bicornis Brehm. MT. HERMAN HORNED LARK.— Two ♂♂; Mt. Hermon, May 24.

Melanocorypha calandra calandra (Linn.). CALANDRA LARK.— Three; El Kerak, Palestine, May 7; Saghbin, Syria, June 5; Ammik, Syria, June 6.

Melanocorypha bimaculata. Ménés. EASTERN CALANDRA LARK.— Two; Ammik, Syria, June 6; Rasheya, Syria, June 2.

Calandra brachydactyla brachydactyla Leisl. SHORT-TOED LARK.— Two ♂♂; Ain Gleidat, Palestine, May 2; Madeba, Palestine, May 10.

Ammomanes deserti katherinæ Zedlitz. SINAI DESERT LARK.— Three; Wady Feran, Sinai, March 29; Monastery, Sinai, April 3.

Zedlitz has described this form from the high parts of Sinai and thinks it differs from the lark around the low deserts of Suez and Egypt, *A. d. isabellina*. He writes that it has a more lively voice and its wings make a whistling sound when it flies! It is said to be more grey and less red on the upper side than *isabellina*, and with a larger bill than *fraterculus* of

Palestine. Its coloration is described as the same as that of *fraterculus*. All these forms are certainly poorly marked, but Sinai birds can at least be told from Palestine ones by their larger bills. It appears somewhat doubtful whether a mountain and a desert form can exist side by side in Sinai for there would be apt to be a seasonal movement up and down the mountains.

FRINGILLIDÆ.

Chloris chloris chlorotica (Bp.). PALESTINE GREEN FINCH. Eight; Mt. Hermon region, May 22–June 7.

Carduelis carduelis carduelis (Linn.). GOLDFINCH.— Three; Petra, April 27; Ammik, Syria, June 6.

Petronia petronia puteicola (Festa). PALESTINE ROCK SPARROW.— Four; Petra, April 27–29; Rasheya, Syria, May 21.

Carpospiza brachydactyla (Bp.). DESERT ROCK SPARROW.— One ♂, Rasheya, Syria, May 21.

Acanthis cannabina fringillirostris (Bp. and Schleg.). EASTERN LINNET.— Seven; Mt. Hermon region, May 24–25.

Passer domesticus indicus Jardin & Selby. EASTERN HOUSE SPARROW.— One ♂; Tafeileh, Palestine, May 2. Wing 75 mm., cheeks pure white. This specimen is too small for *biblicus* of Palestine and Syria. It appears to be typical *indicus*. The head cap is very dark grey as in all old birds.

The exact range of *P. d. indicus* is still in doubt. Hartert thought that southern Arabian specimens belonged to this form, which extends over India, Persia and China, but becomes intermediate to *P. d. domesticus* in the Transcaspiian region.

Lorenz and Hellmayr (Denkschrif akad. der Wissenschaften, 1907, p. 106) describe a new subspecies of house sparrow from southern Arabia, east of Aden. From their description I cannot see that this is anything more than an early winter plumage of *indicus*. It certainly is very close to *indicus* and differs only in being "brighter."

Zedlitz, 1912, in his work on Sinai birds (Jour. für Ornith., 1912, p. 566), takes up this question. He quotes Le Roi as saying that Sinai sparrows do not conform to *biblicus* or *indicus* and still less to the *niloticus* of Nicoll & Bonhote. Zedlitz's own single specimen from Sinai and five others collected by Koenig, were, he says, small and not like *biblicus*.

He arranges the sparrows of Western Asia as follows:

1. Sinai and southern Palestine. Much smaller than *biblicus* ♂. Wing, 80; ♀, 74–79. Color whiter than *niloticus*, ear coverts grey.
2. *P. biblicus*; confined to Syria and Palestine. Large. Wing, 82–84. Ear coverts light grey.
3. Asia Minor Sparrow. (Eight specimens.) Wing, 78–81. Ear coverts almost white, or extremity light grey.
4. *P. indicus*; India & Persia, limits not known. Size small, like Sinai

birds. Wing, 74-78. Ear coverts mostly pure white like the sparrow of Asia Minor.

Larger series are necessary to clear up the disputed points.

Passer hispaniolensis transcaspicus Tschusi. SPANISH SPARROW.—Six; Wady Gharandel, Sinai, March 26; Feran, March 31; Mt. Hermon region, Syria, May 22-25.

Passer maobiticus maobiticus Tristr. DEAD SEA SPARROW.—One (sex?); mouth of Wady Kerak, May 8. I think this specimen comes from a region a little north of the known range of this sparrow. Wady Safye is the nearest point south, where it has been taken. I saw only this one bird in the cane jungles at the edge of the sea; there may have been many more sparrows in this cane, however, as the jungle is almost impenetrable at this point.

Serinus syriacus Bp. SYRIAN CANARY. One ♂; Ammik, Syria, June 7.

Carpodacus synoicus (Temm.). SINAI ROSE FINCH.—Seven; Pass of Hawa, Sinai, April 3; Petra, April 27-29.

This species does not appear to have been taken outside of the Sinai Peninsula before; but I found it common at Petra and secured five specimens there. These birds are smaller than Sinai specimens. Wing, 81 to 84 mm.; exposed culmen, 9 to 9.5; tarsus, 19; tail, 65-69.

Temminck's type was taken near "Mt. Sinai" and was presumably drawn to scale (Temm. Pl. Col. 375). The wing on the plate measures 87 mm. Hartert gives the wing of this species as 86-89. The wings of my Sinai adults are 85 mm. I therefore propose the name of

Carpodacus synoicus petræ, SUB. SPEC. NOV.

for the northern birds, separated as they are from Sinai, by the great low desert of the Arabah.

Type, ♂ No. 66024, Mus. Comp. Zoöl., collected at Petra, southern Palestine, April 28, 1914, by J. C. Phillips.

Characters. Like *C. s. synoica* (Temm.) but smaller, especially in the wing and bill. Wing, 84 mm. or under; bill shorter and narrower; exposed culmen, 9-9.5; tarsus, 19 mm. Rosy parts of the plumage slightly paler and more pinkish.

I am somewhat in doubt about the plumage of the adult females in these two forms. It has always been given as plain brown, like the young males, but I carefully sexed one of my adult rosey specimens as a female. The proportion of rosy birds as I saw them in the wild was rather too large for the supposition that only old second year males attain this plumage.

Emberiza hortulana. ORTOLAN BUNTING.—Four; Akaba, April 15-18; Ain Abu-Heran, April 23; Petra, April 29.

Emberiza cæsia Cretzschm. CRETZSCHMARS BUNTING.—Three; Syria, May 27-30.

Emberiza melanocephala Scop. BLACK-HEADED BUNTING.—Eleven; Mt. Hermon region, Syria, May 27, June 7.

EULABETIDÆ.

Amydrus tristrami tristrami (Scl.). TRISTRAM'S GRACKLE.— One ♂;
Wady Kerak, Dead Sea, May 7.

CORVIDÆ.

Covus affinis Rüpp. FAN-TAILED RAVEN.— One ♂; Akaba, April 18.

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