

ANAS SPARSA, Smith.

Natal, May 15, 1873.

Iris dark hazel.

A common Duck, going about generally in pairs; they rise heavily, like a Pochard. I only saw them south of Pretoria.

STERNA LEUCOPTERA.

a, ♂. Transvaal, December 9th, 1873.

Beak black; legs orange-yellow; iris dark hazel.

Seen in the Transvaal, on our way down, in flocks frequenting the marshes and lagoons.

PLOTUS LEVAILLANTI?

I obtained one specimen which I can only refer to this species, and observed several more; they frequented the "sluits" and pools of water of the Transvaal.

PELECANUS —.

I once or twice saw Peleicans soaring high in the air in circles. At Bamangwato I saw a skin of one, which I unfortunately neglected to obtain; I was told it came from the lake (Lake N'gami) where it breeds, and was only found there.

STRUTHIO AUSTRALIS.

Still common, but very much hunted for the feathers, which, with ivory, are the two principal articles of trade with the Kaffirs. Ostriches seem to lay from August to October, as the natives bring in their eggs during all that time. The stride of an Ostrich is enormous, being equal to about three steps of a man. They are generally seen in pairs.

XXXIX.—*Ornithological Notes on the North-Frisian Islands and adjacent Coast.* By HENRY DURNFORD.

BEING desirous last spring of making an egg-collecting expedition, my brother and I pitched upon the North-Frisian Islands, lying off the coast of Schleswig, as the scene of our operations. Several English ornithologists have before visited them; but, as far as I am aware, no account of them has

hitherto been published in this country ; and, indeed, the only contribution to their ornithology I know of is the short paper on the birds of Sylt by Rafn, published in 'Naumannia' for 1857 (pp. 125-128). Owing to a law which came into operation this year, no eggs are allowed to be taken (except in a few islands, where the people chiefly subsist on them) after the 30th April ; and there is also a law prohibiting the shooting of birds on land. Fortunately for us, the first of these laws is not as yet very strictly enforced, and we accordingly took little notice of it—but were continually advised to be very cautious in the matter of taking eggs ; we heard that a few days previous to our landing on Sylt two men had been fined 20 dollars (about £3) apiece for taking Herring-Gulls' eggs from the sandhills. Its existence, however, hindered us, inasmuch as we did not like to hunt over the land in the more populous districts ; still we always found ourselves fully employed wherever we were. I left Hull on the 24th May, and had a very stormy passage across to Hamburg, where I met my brother, who had come by train from Paris. Off Spurn Point I observed a single *Sterna nigra* amongst a party of *S. fluviatilis* or *S. hirundo* ; about a hundred miles from the lighthouse an *Anthus pratensis* came on board from an easterly direction, but much exhausted. When about sixty miles from Heligoland another sought the shelter of our boat ; and before we reached the island we had four or five on board. They were all very tame, and if I had desired I could have caught them in my hands. We passed within about five miles of Heligoland ; and when near the island they all left us, flying in its direction. Just off the mouth of the Elbe a fine pair of *Anas acuta* flew in a north-easterly direction close over our boat. Amongst the scanty vegetation on the banks of the river I observed *Ægialitis minor* to be numerous, but saw none elsewhere.

The country from Hamburg to Husum is flat and uninteresting ; but we passed over some extensive boggy heaths containing very inviting-looking spots for Plovers, Snipes, &c. We saw a few pairs of *Tringoides hypoleucus* near the pools of water formed in the holes whence peat had been dug, and

a pair of *Buteo vulgaris* on the heath near Husum. One had just caught a bird of some sort, and perched on the telegraph-wire with it in its claws.

The North-Frisian Islands may be divided into three classes:—first, those surrounded by an artificial embankment to resist the encroachments of the sea, and others which are of precisely the same character but have not this protection (these are mostly highly cultivated and pretty thickly peopled); secondly, those which have a natural barrier of sandhills, which are not so much cultivated as the first, neither is their population so numerous; thirdly, the small islands with about one house on each, standing in the centre, and raised some twenty or thirty feet above the surrounding level. These last islands are very low and flat, and are frequently covered, except the little raised centre, by the sea during high winter tides. They are inhabited by one or two shepherds, who have a flock of sheep and perhaps a few cows and oxen to tend. All communication with the mainland or nearest island is often cut off for many months together during the winter. On Sylt, belonging to the second class, the sandhills or dunes are very extensive, reaching from List, at the north, to the southernmost point of the island, about twenty miles, and are in one place as much as three miles across. The North-Frisian group embraces about twenty islands, large and small. Our route was from Hamburg to Husum by train, thence by steamboat to Nordstrand; from there we crossed on foot to Sudfall. On leaving Sudfall we returned to Husum and took train to Tondern, travelling from there to Hoyer by diligence, a wretched machine, in which one is dragged along at the rate of four miles an hour. At Hoyer we took passage in the steamer plying between that place and Munkmarsch, Sylt. After spending three days on this island we took an open boat to the north point of Amrum; and thence, after travelling through the island, we crossed in a fishing-boat, half-decked, to Wyk, Föhr, the largest and most important town on the islands. From Wyk we found a mail-boat sailing to Dagebüll, on the mainland, about halfway between Husum and Hoyer; and we accordingly availed our-

selves of it. We drove from Dagebüll to Husum by road, and, after collecting our impedimenta, retraced our journey to Hamburg. We met with invariable kindness and civility from the natives, whose chief desire is to afford the visitor every help in their power.

Many of the islands have "Vögelkojen," which are in every respect like our decoy-ponds in England, and in which, during the winter, large quantities of Ducks are taken. On the only one we examined closely, on Sylt, some twenty or thirty pinioned Wild Ducks, Teal, and Wigeon were quietly reposing. Travelling through the islands generally has to be performed on foot, as roads only exist between the principal villages, and they are usually what we should call cart-tracks in England. The horses are powerful, well-fed animals; but the vehicles they have to draw are, to the untutored foreigner, veritable instruments of torture. In shape they somewhat resemble our ordinary English hay-waggons, but are very narrow at the bottom, with sides rapidly sloping outwards. The traveller takes his seat on a wooden plank placed across the waggon, while the driver sits on another plank in front. It is quite impossible to find a comfortable position; and the amount of jolting and shaking one has to submit to can scarcely be imagined, especially as the vehicle has not the slightest apology for springs. The native boats are usually flat-bottomed, which, as the coast is extremely flat, and channels narrow and, owing to the number of sandbanks, difficult of navigation, is very necessary. This remark does not apply to the fishing-boats, in which the fishermen are often out at sea three or four days at a time, but to the boats which are used for conveying farm-produce, stock, &c. from one island to another, or to the mainland; all we saw were cutter-rigged. The inhabitants are excellent sailors; and, as the population is chiefly composed of men who have spent a greater or less portion of their lives on the sea, we were seldom at a loss to find some one who could converse in English. The women do a great deal of out-door work. While we were at List the farmer took advantage of the fine warm weather to shear his sheep, and impressed many girls from the nearest village into his service.

The fare is coarse, chiefly black bread and eggs, with perhaps a sole or piece of bacon; but excellent butter and an almost unlimited supply of cream make up for a multitude of defects, and after a hard day's work one can eat almost any thing. The charge for board and lodging is extremely moderate. We were favoured with almost uniformly fine weather; and one or two days while we were at List the sandhills seemed thoroughly baked by the sun, and the heat almost unbearable.

Arranged in something like scientific order, my notes on the birds we saw are as follows:—

CIRCUS ÆRUGINOSUS.

On Sylt, as we passed a "Vögelkoje," about two miles north of the village of Kampen, a bird rose from the low bushes surrounding the pond, and we saw another soaring high in the air. Returning past the place two days afterwards we again flushed the bird; and on going into the enclosure I found a nest in a wet place amongst the low shrubs, formed completely of reeds and heather, and raised about eighteen inches off the ground. It contained four young, of which I preserved two; their stomachs were crammed with the remains of frogs. On Amrum we observed a few at both ends of the island beating up the sandhills for rabbits. On Föhr we saw one or two pairs.

CUCULUS CANORUS.

This we found pretty common everywhere, especially in the neighbourhood of dunes.

CYPSELUS APUS.

Common on the mainland; but we did not see it on the islands.

HIRUNDO RUSTICA.

Common everywhere, the most numerous of the *Hirundinæ*.

HIRUNDO URBICA.

Common.

HIRUNDO RIPARIA.

Pretty common.

SAXICOLA CENANTHE.

Numerous on the mainland and islands in suitable localities.

MOTACILLA ALBA.

Common on Sylt and Amrum. We saw one pair on Nordstrand and a few on the mainland.

MOTACILLA FLAVA.

Common on Amrum and on the mainland, where we put up a small flock roosting in a patch of reeds near Hoyer. A pair seen on Nordstrand had a nest, I think; but we were unsuccessful in our search for it.

ANTHUS PRATENSIS.

A few pairs observed on the north end of Sylt.

ALAUDA ARVENSIS.

Common everywhere.

EMBERIZA MILIARIA.

Common on the mainland. We saw a few on Sylt and a single bird on Nordstrand.

EMBERIZA SCHŒNICLUS.

Common in suitable localities.

PASSER DOMESTICUS.

Common everywhere.

LINOTA CANNABINA.

Common at the north end of Sylt. We observed a few on the mainland.

STURNUS VULGARIS.

Common everywhere. The natives set up boxes outside their houses both for Starlings and Sparrows, of which the birds readily avail themselves.

TURTUR AURITUS.

A pair frequented a field of rye near List, the north end of Sylt, whilst we were there.

PERDIX CINEREA.

We heard two or three calling on the mainland near Hoyer, but we did not observe it on the islands.

CREX PRATENSIS.

A single bird rose at our feet while hunting over some sedgy and heathy ground at the south end of Amrum.

CICONIA ALBA.

Common in every village, and almost every homestead, on the mainland, but not observed on the islands, except a pair on the coast of Föhr, which had probably crossed over as visitors.

HÆMATOPUS OSTRALEGUS. Frisicè "Canlite."

Common on the islands and mainland. Has its nest on the sandhills or shingle of the beach. I observed one swimming in the sea off Sylt. We reckoned about a hundred pairs nesting on Sudfall.

RECURVIROSTRA AVOCETTA. Frisicè "Dücker."

On the 28th May we saw three or four pairs of Avocets feeding in a marsh on the left bank of the Creek near Husum, and shot a female bird containing an egg in a forward state, as she flew from a marsh on the right side of the creek. The nests were evidently in the latter place, as the two birds feigned lameness; but after a long and unsuccessful hunt we gave up the search. On the 30th we again visited the marsh, but found labourers engaged in it and no Avocets; on walking past the men's coats, which had been thrown in a heap on the ground, we saw lying there three Avocet's eggs among some Tern's and Kentish Plover's. They had found them whilst working on the marsh, and gave them to us. We watched several birds on the 7th June, as well as on a previous occasion, for fully half an hour, through good glasses, feeding on the soft ooze, and we never detected any lateral motion of the beak; they took their food like ordinary surface-feeding Sandpipers. We did not see this species on any of the islands or elsewhere on the mainland.

VANELLUS CRISTATUS.

Common everywhere, and a perfect nuisance to us; for whenever we wanted to watch any bird a screaming Peewit was sure to be circling overhead.

SQUATAROLA HELVETICA.

Many observed near Husum feeding on a tidal marsh and mudbanks of the creek, mostly in pairs. A few seen on Sylt.

ÆGIALITIS HIATICULA.

Common on Sudfall, but not so numerous as the next species, which is found all over the island, while this only frequents the sea-beach. On Sylt *Ægialitis hiaticula* was more numerous than *Æ. alexandrina*; and on Amrum the proportion was about one to three. On the coast at Husum we reckoned the proportion of *Æ. hiaticula* to *Æ. alexandrina* at about one to ten. At Hoyer, the most northern point of the mainland we visited, the former was numerous; and we did not see *Æ. alexandrina* there, probably owing to the nature of the ground, which was clothed with a scanty vegetation. To sum up, *Æ. hiaticula* is found more especially on shingle and where the vegetation is slight, as it often prefers nesting amongst a few blades of grass. It is much more demonstrative when its nesting-ground is invaded than *Æ. alexandrina*; and its note is much stronger than that bird's.

ÆGIALITIS ALEXANDRINA.

Many observations on this species would only be a repetition of those on the preceding. We never saw it where there was any vegetation, as it prefers the most barren spots. The nests were generally on fine shingle or gravel in the most exposed places. On Sudfall we found a nest amongst clods of earth on the marsh, lined with a few fragments of roots of grass. Its note is much weaker than that of *Æ. hiaticula*; and it never flies round one on approaching its nest, but contents itself with feigning lameness, or flying a short distance and then pitching again and running on in front of the observer, uttering a feeble whistle—*twee, twee, twee*. It appears a much more slender bird than *Æ. hiaticula*, and, when flying, of a lighter colour on the back; when standing on the ground and facing one, the two patches of black, one on each side of the breast, are very conspicuous. The nest seemed to be somewhat smaller than that of the other species; it is

sometimes lined with a few fragments of shell, but is often nothing more than a mere hollow. Near Husum we frequently observed it feeding on the mudbanks of the creek.

TRINGOIDES HYPOLEUCUS.

Two or three pairs observed near Husum, close to pools, on the extensive heaths.

TOTANUS CALIDRIS. Frisicè "Tutti."

Common on Sylt, Amrum, Föhr, and Nordstrand, wherever there was sufficient cover for the nest, which we always found well concealed. A few on Sudfall; common on the mainland.

MACHETES PUGNAX.

Common on Sylt, Amrum, and Föhr, having its nest on a tussock in the wettest places. We observed some noble battles amongst the Ruffs, who, unless fighting, stand bolt upright, like Owls. When engaged in combat they stoop and charge like Gamecocks. The Reeves are silent except when they have young, then they will fly slowly round one, with a low guttural note. On Föhr we observed one which, from its anxiety, betrayed the fact of its having young. We retired behind the sea-wall, glasses in hand; and after waiting a few minutes, three young ones ran out from the grass, and then a fourth. Leaving my brother to watch, I jumped up and ran to catch them. They all scuttled away; and I could only secure one, the others escaping in the long grass. However, we again retired to watch behind the bank, and had not been there half a minute before they ran out again and began to feed with their mother. I merely mention this incident to show their bold and fearless nature. We did not observe this species on the mainland.

NUMENIUS PHÆOPUS.

We saw several feeding on the ooze on the shore of Sylt, and one rose from some heather on the sandhills at the north end of the island, but we could find no-nest. We observed a few on the coast near Husum.

NUMENIUS ARQUATA.

A few feeding on the ooze on the east coast of Sylt.

LIMOSA LAPPONICA.

On the 28th May we saw three or four feeding in the marsh on the left bank of the creek near Husum, and on the mud-banks of the creek itself, and had a shot at one; but when we visited the marsh again on the 30th we saw no Godwits; doubtless the birds were only migratory.

GALLINAGO GALLINULA.

A single bird rose from a small patch of tall reeds surrounding a pool of water close to the sea near Husum. There was no nest.

TRINGA SUBARQUATA.

A pair observed feeding in the marsh on the left bank of the creek at Husum on the 30th May; but when we again visited the spot on the 7th June they were not there.

TRINGA ALPINA.

Common on the mainland and on all the islands having suitable nesting-ground. The nests were on low tussocks in exposed situations, and also in places where it was very difficult to find them. When disturbed the birds would alight almost at our feet, not showing the least fear; and they then frequently uttered a low continuous sort of clicking note.

STERNA NIGRA.

We found two pairs nesting in a very wet, marshy spot on Nordstrand, and one pair on Föhr. We observed a few pairs on the mainland, near Husum, and again near Hoyer, in very wet places. All the nests we found were made of the dead stems of reeds, and resting, half floating, just at the edge of pools of water among tall rushes.

STERNA MINUTA. Frisicè "Klitteet."

Very common in suitable localities, both on the mainland and islands, generally breeding in small colonies.

STERNA FLUVIATILIS. Frisicè "Kerr."

Pretty common on Sudfall, Sylt, Amrum, and the mainland near Husum.

STERNA HIRUNDO. Frisicè "Kerr."

On Sudfall more numerous than the preceding, nesting both

on the sea-beach and marsh; common on Amrum and the mainland. We reckoned about three hundred pairs of Arctic and Common Terns nesting on the first-named island.

STERNA CANTIACA.

We found no nests; but the pastor of St. Clement's church on Amrum, who is a bit of a collector, had several eggs taken on the island, and among them some of this species. We saw three birds on the west coast of Sylt. It probably breeds occasionally on the islands. The eggs the pastor had were taken some years ago at the north end of Amrum, where there is capital nesting-ground; but there were no birds when we were there.

STERNA CASPIA.

On the 3rd June we walked from List, the most northern village on Sylt, to the nesting-place of this species on the north-west coast of the island, halfway between the two lighthouses. There were two small colonies, some hundred and fifty yards apart, one consisting of about ten and the other of about fifteen pairs of birds. They lay their eggs on the bare sand, between the beach and the dunes, in a slight hollow about the size of an Oyster-catcher's nest, occasionally lining it with a few pieces of shell. No nest (and we saw about a dozen) contained more than two eggs, which is not to be wondered at, as they are robbed by boys from List on every possible occasion. There were about ten eggs on the ground, two nests with two each, others containing a single egg apiece, and a few empty. We were accompanied by the lighthouse-keeper, who protects the nests as well as he can for the farmer. The latter has learnt the value of the eggs, and offered us a few he had in a box for sale; but we could not prevail on him to let us take any for ourselves. We obtained, however, some from the boys, which had been taken on the sly. The birds had not all laid when we were there; but the farmer told us the colonies were much diminished of late years. We did not see this species elsewhere.

The Caspian Tern is an extremely handsome bird, its bright red bill, when circling over one's head, contrasting well with

its dark lead-coloured legs. Whilst approaching their nesting-ground we were greeted with harsh and noisy screams. Their note is not unlike that of *S. fluviatilis*, but louder and more powerful. When they have young they are said to be extremely bold; and the farmer told us that when, on one occasion, he was visiting them with some friends, a bird took from a lady's hand a pocket-handkerchief which she was waving over her head.

LARUS CANUS.

We saw a few Common Gulls on Sylt amongst the Herring-Gulls, and also on Amrum, but found no nests, though they doubtless breed on the dunes.

LARUS ARGENTATUS. Frisicè "Mien."

Abundant on Sylt, nesting on the dunes, and on Sudfall, in the marsh surrounding the shepherd's house. A few on Amrum. Some years ago, before the passing of the law prohibiting the taking of eggs by any one, the farmer who owns the northern portion of Sylt made a point of protecting them; and he assured us he used then to have from forty to fifty thousand gathered during the season, always, however, allowing them to sit after the 14th June; but now everybody who cares to run the risk of being fined takes them, and they still form a large proportion of the food of the natives. The extraordinary numbers of these birds on Sudfall must be seen to be appreciated; their nests are large structures of sea-weed and coarse grass, and are placed in close proximity to each other; they are most numerous at the east end of the island, but are also found on the north and west shore. Whilst staying at the shepherd's house their eggs were provided for us at every meal.

ANSER BERNICLA. Frisicè "Goos," pl. "Ganz."

Whilst on Sudfall we saw flocks which must have amounted to two hundred birds. This island can only be reached by crossing over at low water from Nordstrand, from which it is distant about four miles. We started in the afternoon of the 28th May, during a thick drizzling rain from the north-east,

with knapsacks and boots slung over our backs, and trousers tucked up to our knees, and arrived safely at our destination after about an hour and a half's hard walking. On leaving Nordstrand the island appears a mere speck, as nothing but the raised central portion can be seen; and I must say we felt relieved when we stepped from the soft yielding ooze on to firm ground again. The Geese here were very restless, never staying to feed long in one place, and were doubtless on their journey northward. When in a boat on the creek at Husum I shot a fine adult bird out of a small flock.

TADORNA VULPANSER.

Common everywhere, both on the islands and mainland, breeding on the former in a semi-domesticated state. The natives make artificial burrows in the sand-hillocks, and cut a hole in the turf over the passage, covering it with a sod, so as to disclose the nest when eggs are required. Several females lay indiscriminately in the same nest. They are very tame, and suffer themselves to be taken by the hand while sitting. Each burrow has two openings, and is made circular in shape. There are sometimes as many as a dozen or fifteen nests in one hillock within the compass of eight or nine yards. The eggs are taken up to the 18th June, after which they allow the birds to incubate; but they never rob a nest of all the eggs, leaving one or two to avoid driving away the birds. Each person in the village generally has a burrow; and they are scrupulously honest in not taking each other's eggs. The female always covers her eggs with down before leaving the nest.

ANAS BOSCHAS.

Common on the islands and mainland.

ANAS CRECCA.

The same remark applies to this species as to the preceding.

SOMATERIA MOLLISSIMA.

Very common on Sylt, especially at the north end, furnishing a large supply of eggs to the people. Pretty common on Amrum; not observed on the mainland. We often observed

Eiders diving off the coast of Sylt, and they stayed under water for many seconds. These birds, as well as Sheldrakes, always cover their eggs with down before leaving the nest.

Of the birds included by Rafn in the paper before mentioned, the following were not seen by us:—

<i>Muscicapa grisola.</i>	<i>Pyrgita montana.</i>
<i>Erithacus phœnicurus.</i>	<i>Strepsilas collaris.</i>
<i>Erithacus titys.</i>	<i>Tringa minuta.</i>
<i>Calamoherpe arundinacea.</i>	<i>Larus glaucus.</i>
<i>Alauda cristata.</i>	<i>Anser cinereus.</i>
<i>Fringilla cœlebs.</i>	

The last two, as the editor of 'Naumannia' noticed at the time, are manifestly introduced in error; the rest are stated by Rafn to have been but scarce. He also includes *Anthus campestris* in his list; his words are, "einzelne Paar brüten." I believe we observed this species; but as I could not satisfactorily identify it, I have thought it better to omit it from my list of species and mention it here. The facts are as follows:—On Sudfall, and again on the north end of Sylt, we noticed Pipits which, from their appearance, could, I think, only be referable to *Anthus campestris*; they were pretty common on the first-named island, rare on Sylt. Near List, on Sylt, we took a nest with three eggs amongst the coarse grass on the dunes, about two hundred yards above high-water mark, on the east coast of the island; it was formed of dry grass, the finer fibres towards the interior, and lined with a few coarse hairs; the owners, however, were not satisfactorily identified. I am sorry I cannot speak decidedly about this species; but being unable to shoot on land, we could not secure any examples, and, not being very well acquainted with the species of this difficult genus, I am unable to say more. Rafn does not mention *Anthus pratensis*. It is quite possible that his *Calamoherpe arundinacea* may have been *Emberiza schœnichus*: he says, "nistet im Rohr bei Keitum; ich bekam sein Nest mit zwei Eiern und einem Kükuksei." We observed *Emberiza schœnichus* about six miles north of Keitum amongst reeds and bushes surrounding a "Vögelkoje." Some of the

other birds may cease to visit the islands, such as *Streptilas* and *Anser*; but he was not sure whether the latter was breeding.

It is obvious that many species have decreased in numbers; and the making and enforcing of protection laws, however inconvenient to the collector, must meet the approval of all real ornithologists. In Rafn's time between three hundred and four hundred eggs of *Sterna caspia* were laid; the state of things is very different now, as my previous remarks show. On the other hand he states that ten thousand eggs of *Larus argentatus* were yearly gathered from the dunes, while the farmer who owns the northern portion of Sylt assured us that some years ago from forty to fifty thousand eggs were taken during the season. It is difficult to reconcile these apparently conflicting statements; but it is possible the present owner of the soil was not in possession of it till after 1857, and doubtless the birds increased yearly in numbers under his protective hand. At the present day, I can state decidedly that, taking into consideration the fact of the eggs being continually gathered by the natives, forty thousand would be a much more correct estimate of the number laid during the season than ten thousand; and I think it very probable Rafn was in error in his statement. It must be borne in mind that we did not visit the southern portion of Sylt, we had only time to cursorily examine the northern half of the island; and as that portion entirely consists of dry sandhills, we probably did not lose any thing by not doing so.

Mr. John Baker, of Cambridge, who visited these islands in 1861, informs me that he found *Alauda brachydactyla* and *Emberiza hortulana* there, though both were rare. I may remark that the first is not included in Kjærbölling's work, 'Danmark's Fugle,' nor as belonging to the North-German district by Borggreve in his 'Vogel-Fauna von Norddeutschland' (p. 70). I should therefore imagine Mr. Baker to be in error in this case. He also met with *Limosa agocephala* commonly, which is indeed very likely.

Before concluding these remarks, it affords me great pleasure to express my indebtedness to Professor Newton, who,

at considerable expenditure of time and trouble, gave me much desirable information concerning the objects of my visit previously to my departure from England, and also many valuable hints and suggestions during the preparation of these notes. I also owe my thanks to Mr. John Baker for advice which proved of much assistance to us, and for his communication mentioned above.

XL.—*On the Arrangement of the Families constituting the Order Passeres.* By ALFRED R. WALLACE.

THE Passeres, as now restricted, constitute nearly three fourths of all known birds. They are wonderfully uniform in all essential points of structure, while presenting endless modifications in external form; and the points of resemblance and of difference between the several families are so numerous and conflicting that their classification still remains an almost insoluble problem. As an example of the wide difference of opinion on this point, we may contrast the views of two recent authors. Dr. Carus, in his 'Handbuch der Zoologie,' divides the Passeres into twenty-eight families, while Professor Sundevall, in his 'Methodi Naturalis Avium Disponendarum Tentamen,' has no less than 107; and there is often the widest divergence in the succession of the groups in these two systems. Eminent authors also differ widely as to the position of a large number of genera, those which are held by some to be quite unrelated being united by others in the same family. For a long time the Tyrants of America were united with the Shrikes of the Old World, while such an acute ornithologist as the late Prince Charles Bonaparte confused and intermingled the genera of Timaliidæ and Pycnonotidæ.

The characters which have been generally used by systematists in defining the families of Passeres are the form of the bill, the scutellation of the tarsi, and the varying proportions of the toes and wing-feathers; but most of these are subject to great variation in closely allied forms, and, with the exception perhaps of the second, do not aid much in determining the affinities of the various families towards each