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PALAEARCTIC MIGRANTS AT VOM, PLATEAU PROVINCE, OVER FIVE SEASONS

V.W.Smith

The use of mist-nets in a well-wooded compound can reveal the presence of numerous species, local and migrant, which otherwise might be overlooked (see Fry, Bull. N.O.S. 1 : 6). I have lived in the same house at Vom (9° 50' N., 8° 50' E.) for the last six years, a house with an acre of compound which is well covered with shrubby vegetation, shaded by tall trees, and lying to the North side of Vom. Surrounding Vom is a wide area of open farmed grassland, rocky hills, and dams, with little cover in the way of tress and bushes except in a few forest reserves. There seems to be a tendency for migrant species to concentrate in an 'island' of vegetation like Vom, because of the absence of cover elsewhere.

During the last five seasons (1960/1 to 1964/5, referred to subsequently as S1 to S5 respectively) a total of nearly 800 palaearctic migrants, of 19 species, have been netted and ringed in Vom (this figure excludes Yellow Wagtails Motacilla flava ringed at the Vom roost (see Sharland, Bull. N.O.S. 5 : 2). No birds netted and ringed in my compound have so far been recovered elsewhere (two Tree Pipits Anthus cervinus were recaptured in my compound a year after ringing), and indeed the chances of recovery elsewhere on such a small total are remote, but ringing allows individuals to be identified on recapture at the ringing station, and information on individuals (such as duration of stay, weight variation etc.) can be readily obtained.

After a modest start (when 4 small nylon mist-nets were used) it became obvious that more nets meant more captures, and during the last two seasons a fairly intensive coverage of the compound has been obtained with five 20-ft. and one 60-ft. terylene mist-nets set up strategically in the compound. Nets were left in position day and night and inspected frequently throughout the day; although bats (mainly Epomophorus gambianus) were a problem, all the Scops Owls Otus scops were netted at night and many other birds (particularly those on passage) have been netted between dawn and 0700 hrs., and these would have been missed if the nets had been furled overnight.

Nets have been in use during the following periods :

Season	Year	Autumn	Spring
S1	1960-61	22.X - 1.XII	-
S2	1961-62	13.IX - 31.XII	1 - 30.IV
S3	1962-63	14.IX - 31.XII	(on leave)
S4	1963-64	7.IX - 31.XII++++++++++	21.III - 20.V
S5	1964-65	25.VIII - 29.XI	11.III - 4.VI

(+++++++++ = one net only, 1.I - 20.III.)

Coverage of the compound was similar in S4 and S5. In the Spring the nets were left in position for seven days after the last migrant was caught.

During the last half of S5 (Spring 1965), in addition to the nets in my compound, two nets were set up in a fairly well-established compound on the other side of Vom, approximately 1 mile South-West of my compound. Catches from these nets have been included in the totals.

Suitable sites can only be found by experience. It is preferable to have the nets shaded from the sun during the greater part of the day. Nets should be sited across lines of low trees, hedges or banks, where there are possible fly-paths. My most effective site (where about 70% of the total Garden Warblers Sylvia borin, and many other species have been caught) is across a bank of Allamanda, Lantana, and Poinsettia at the top of which is a thick Hibiscus hedge.

General Remarks on Movements.

The Appendix summarises netting records of Palaearctic migrants at Vom in systematic order. A brief review of the distribution within Nigeria of each species is given, with comments on its probable movements. At Vom, two patterns of migration may be recognised :

Movement A ; where the numbers recorded in Vom are approximately equal in both Autumn and Spring. Here it is probable that the species arrives in the Autumn South of the Sahara in waves over a broad front moving southwards, the majority passing South fairly rapidly because of failing food supplies as a result of the approaching dry season. Obviously seasonal climatic variations affect this type of movement considerably and may account for the variation in numbers of some species in any one locality in different years. Intense Harmattan probably drives most species South; the reverse probably applies in the Spring, though at that time of year the northern Provinces have had little rain and the northern limit of the area of good feeding opportunities has receded South. From the dates of captures in Vom in the Spring, the impression has been gained that many birds embark directly on their Saharan crossing from the Plateau (and areas in the same latitude), and this is substantiated by the paucity of Spring records from areas further North (Sharland, pers. comm.). Unless otherwise stated, the movements of a species are most likely to be of this type.

Movement B ; where Spring records of a species at Vom are greatly in excess of Autumn records. There are three possible explanations :

(1) such species may 'overfly' Vom in the Autumn, although why they should do so when there are usually good feeding opportunities further North at that time of year is difficult to explain.

(2) such species may do a 'loop migration' within their winter quarters (of which Nigeria is only a part). Some species migrate

South-East from Europe and are more frequently recorded from East Africa during their winter visit, some going down into the southern third of the continent.

The Climatological Atlas of Africa (1961, Govt. Printer, Pretoria) show that, at the time when birds are arriving South of the Sahara in the Autumn, the 6" isohyet (i.e. the line connecting points with a mean rainfall of 6" : approximately the northern limit of the area where good feeding opportunities may be expected to exist) is roughly on the same latitude (approx. 10° - 12° N.) across Africa between 3° E. and 30° E. From November to February there is less rain in the East of this range than in the West, and during April and May there is a greater mean monthly rainfall in Nigeria (and on the Plateau in particular) than in any other place on the same latitude (10° N.) throughout Africa eastwards to 30° .

I would suggest that birds which migrate South-East from Europe will be compelled to seek food further South or South-West (possibly into the Congo basin and even further) as the dry season progresses. During the Spring many may move up the West side of Africa below the 'bulge' into Nigeria. The Plateau is almost due North of the West coast of Africa below the bulge (i.e. Cameroun southwards). This hypothesis - and it is no more than that - can only be proved right or wrong by extensive ringing in this country and elsewhere in Africa. There is another aspect to this. Part of the East African population of a species which winters across the whole of Africa South of the Sahara will undoubtedly return to Europe in the Spring up the East side (Nile valley), but some (which may have been deflected westwards during the period November to February) may return via the West side (Moreau, 1961, p.407-409).

(3) such species may 'loop' by moving down the bulge of West Africa in Autumn, returning northwards in the Spring across the Sahara.

Birds on passage (Whinchat Saxicola rubetra, Spotted Flycatcher Muscicapa striata, Icterine Warbler Hippolais icterina) are readily netted because they tend to concentrate in fairly dense cover, such as is found in a well-wooded compound, to rest and seek food to replenish their reserves before proceeding.

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APPENDIX

Notes : Where Tables are shown the months have been divided into quarters as follows :

	Period	Days (incl.)
Sept., Nov., & April (30 days)	1	1 - 7
	2	8 - 15
	3	16 - 22
	4	23 - 30
Oct., March & May (31 days)	1	1 - 7
	2	8 - 15
	3	16 - 23
	4	24 - 31

XXXXXXXXX denotes periods when nets ere not in use.

--------- signifies that no birds were caught, although nets were in use.

Months are denoted by Roman numerals.

To distinguish Vom records from discussion of distribution in Nigeria, the latter is inset.

Otus scops, European Scops Owl

Two birds on 18.XI and 19.XI (earliest records).

Six birds (one in S4; five in S5) 13-28.III.

Recorded (from identification in the hand) from Sokoto (XI) and Ibadan (XII - II) and down to 7° N. (A.Ludlow, pers. comm.). Arrives late and departs early; probably Movement A.

Jynx torquilla, Wryneck

Seen near Vom as early as 22.IX.

Three (two in S3; one in S5) 14.X - 10.XI.

Two (one in S4; one in S5) 17-31.III. (One stayed in Vom 9 days).

Recorded Sokoto (X;I) and Lake Chad as occasional (VIII-I), and probably found infrequently throughout savannah North of the forest.

Phoenicurus phoenicurus, Redstart

Seventeen between 4.XI and 21.IV; some netted in every month, a few remaining in Vom throughout the height of the dry season.

Recorded occasionally at Lake Chad (X) and rare at Ibadan (I); otherwise distributed, regularly to commonly, throughout the

North (X - IV). Probably the majority remain scattered all over the North, though intense Harmattan may drive a few South.

Saxicola rubetra, Whinchat

Commonly seen in the vicinity from the end of IX, but few of the local birds are netted in a well-wooded compound, because they prefer the open. In Spring, a well-defined passage:

	March				April				
Season	1	2	3	4	1	2	3	4	Last netted
S4	XXXXXXXXX	-	4	2	7	17	3		30.IV
S5	-	1	1	1	2	4	7	2	24.IV

There is a peak in the third week of April.

Recorded occasionally (IX; IV) at Lake Chad (majority may overfly?) but otherwise common in the North, spreading down to the forest edge by the end of October, with numbers apparently increasing in February (Button; Sander).

Probably Movement A applies to those Whinchats which winter exclusively in West Africa; however it is possible that passage birds seen in Vom in Spring are from below the Equator, since this species goes into the southern third of Africa. Movement B (2) may also be invoked to account for an increase in numbers in the South of Nigeria in February, birds coming round (or across?) the Bight of Biafra and spreading West and North.

Luscinia megarhynchos, Nightingale

Only twice recorded in Vom - 5.XI and 5.V (a bird with a deformed foot). Recorded from the North, regular to frequent IX - XI; Ibadan freq. (IX - III); Ilaro freq. (II - III); Ife, five records (15. XI - 1.XII) and Lagos very sparse, singing in January.

Probably Movement A, but accidental to Plateau.

Monticola saxatilis, Rock Thrush

Three 18.III - 1.IV.

Very sparsely represented in West Africa (Bannerman).

Hippolais polyglotta, Melodious Warbler

Heard singing in Vom in March (C.H.Fry),

Three 1-22.IV.

Recorded (from identifications in the hand) from Lagos, very sparse (I,III) and Ibadan, occasional (II - III). Sights of yellow-bellied Hippolais (Chad, occasional, IX - X) may be this species (see also the following species).

Hippolais icterina, Icterine Warbler

None in Autumn, but a well-defined passage in April and May, with a peak in the last week of April.

	April				May				
Season	1	2	3	4	1	2	3	4	Last netted
S4	-	1	3	5	1	-	- XXXXX		3.V
S5	-	-	1	5	4	2	-	1	25.V

Bannerman quotes four records; Ghana (undated), Cameroons (11.V),

Air Plateau (North of Nigeria) (1.V , 3.V). R.E.Sharland (pers. comm.) caught one at Calabar (IV). In 1965, P.Woods netted eight North-East of Jos (15.IV - 11.V, three being in the first week of May); D.Ebbutt netted three near Vom (17 - 21.IV) and C.H.Fry (pers. comm.) netted one in Zaria (12.V) and recovered birds killed at night against wires at Jaji Transmitting Stn., Kaduna on 19.IV and 31.V. Sutton (1965) records one netted on the Ghana coast on 1.V. This species mainly winters in East Africa. Its absence from Nigeria in the Autumn (during five years in Vom, when the the netting has been more intensive during the Autumn than Spring, none has been netted in Autumn), and its appearance frequently on the Plateau (and probably elsewhere) during two months in the Spring strongly suggest a 'loop' migration of type B (2).

Hippolais pallida opaca, Opaque Tree Warbler

One (29.III).

Recorded as common in the more arid parts of the North, this individual was most probably accidental as far South as Vom.

Sylvia borin, Garden Warbler (see Table p.34)

Many between 7.IX and 23.V. Peaks from mid-October to mid-November, and during the last two weeks of April. With one net placed beside a Lantana bush in North-East Jos, P.Woods netted 47 (19.IV - 27.V) in Spring 1965.

Recorded all over the North in October and occasional throughout the dry season in favourable habitats (a few remain in Vom), but the majority pass South to the forest zone (?) or into Congo (?). Ripe Lantana berries are a favourite food and will attract them (Bannerman, 1939, (IV p.14) quotes Moreau). Probably Movement A.

Sylvia atricapilla, Blackcap

In S5 only, two in Autumn (17.XI, 22.XI), and seven in Spring between 11.III and 15.IV.

In S5, P.Woods netted two (2.V, 25.V). The species was recorded elsewhere in the North during S5. Its absence in Vom during the other four seasons suggests that it does not occur regularly in numbers in Nigeria every year, although A.Ludlow (pers. comm.) netted one at Ife in 1963. This species winters mainly in North and East Africa (see Bannerman, Williamson). However 'invasions' may occur in favourable years, and when they do occur South of the Sahara their movements are probably similar to the Garden Warbler, but they arrive later and depart earlier.

Phylloscopus trochilus, Willow Warbler

Four (1.X - 5.XII). Four (23.III - 11.IV).

Recorded as common to occasional (IX - IV) in the North down to Ibadan, and occasional in Lagos (XI - I). Probably widespread over all Nigeria, with a leisurely Movement A.

Phylloscopus sibilatrix, Wood Warbler

Two (31.X, 14.XI). In Spring a slight peak during the third week of April.

	Mch.		April			May			
Season	4	1	2	3	4	1	2	3	4
S4	1	-	1	1	-	-	-	-	XXXXX
S5	-	-	1	4	2	-	1	-	-

Regular in Sokoto in the dry season and occasional (XI - IV) from elsewhere as far South as Lagos (XI - I). Probably Movement A.

Muscicapa striata, Spotted Flycatcher

A few seen in the Autumn; in S1 - S5 a total of ten between 28.IX and 27.X. None remain during the dry season.

In Spring there is a very pronounced passage, with a peak in the third week of April (and in S5 another peak in the first week of May).

	April				May				
Season	1	2	3	4	1	2	3	4	Last netted
S2	-	1	3	1	XXXXXXXXXXXXXXXXXXXX				
S4	-	17	20	12	3	3	-	XXXXX	12.V
S5	-	5	28	11	24	15	10	5	28.V

Recorded (sometimes abundantly) throughout Nigeria on passage, and in the South (Lagos) throughout the dry season but nowhere numerous. Where do the large numbers seen on the Plateau and elsewhere in the Spring come from? This is another species which winters in the southern third of the continent, and it is most probable that the many seen in the Spring are on passage from much further South. Movement B (2) is likely, but possibly Movement A for the few individuals which winter exclusively in Nigeria.

Ficedula hypoleuca, Pied Flycatcher (see Table p.34)

Earlist record 18.IX; some linger up to a fortnight. A peak in mid-October. The majority pass further South, but some remain throughout the dry season in suitable habitats in the North (one individual re-trapped in Vom six times, X - IV).

A Northbound peak in the third week of April. Individuals linger up to a fortnight. Last record at Vom 12.V, but P.Woods' last date at Jos is 23.V.

Recorded in the North on passage (X), but frequent in Ibadan (X - IV), and possibly elsewhere on the forest edge at that time. Movement A.

Ficedula albicollis, Collared Flycatcher

No males have ever been seen in summer plumage, and identification of this species (cf. hypoleuca) has been based on wing length and formula. Eleven from 13.IX to 29.X. Only one Spring record, on 23.II (in moult); this remained until 25.III.

This species (unlike hypoleuca) winters in East Africa, but data

are inadequate to draw any conclusions on movements.

Anthus trivialis, Tree Pipit (see Table p.34)
Frequently netted between 8.X and 4.V. Few remain throughout the dry season. Peaks early in November and during April. Two birds ringed in Vom in March 1964 were recaptured there in March 1965.

Recorded regularly in the South (I - III). Probably Movement A.

Lanius senator senator, Woodchat
Prefers open spaces. The nominate race is present throughout the dry season, but is very rarely seen in the compound.
Three (all nominate) (8.IV, 9.IV) may have been on passage from further South. D.Ebbutt netted five near Vom - all nominate - from 21.III to 17.IV.

L.s.senator is recorded frequently throughout the North; in the South (Ibadan, Lagos) the Corsican race L.s.badius is more common (XII - III).

Emberiza hortulana, Ortolan Bunting.(See Fry & Smith (1964) Bull. N.O.S. 2 : 13).
In S4 and S5, five (18.III - 15.IV).
Only [illegible] recorded elsewhere by Fry from Zaria (25.XII).

This species winters mainly in northern tropical Africa; practically all winter records are from Darfur eastwards (Moreau). Undoubtedly some come to West Africa (Senegal, Nigeria), either down the West coast or across the Sahara.

General Notes.

Although Jos is only 16 miles North-East of Vom, it is interesting to note that in Spring 1965 3 species were last recorded in Jos some days after the last Vom record, as follows :

	Vom	Jos
Garden Warbler	23.V	27.V
Pied Flycatcher	12.V	23.V
Blackcap	15.IV	25.V

Furthermore the peak incidence of Garden Warblers and Icterine Warblers occurred in Jos 1 - 3 weeks later than in Vom. This suggests that the northwards movement is leisurely until good feeding opportunities are limited by lack or rain.

TABLE (opposite).
Numbers of three species caught in Vom in each weekly period between September and November, and March and May.

SPECIES	SEASON	September 1	2	3	4	October 1	2	3	4	November 1	2	3	4	Dec. - Feb.	March 1	2	3	4	April 1	2	3	4	May 1	2	3	4	Last Netted
	1	XX	XXX	XXX	XXX	XXX	XXX	XX	6	4	2	1	-		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
	2	XX	XXX	1	5	7	11	13	11	3	1	-	-	Individuals	XXX	XXX	XXX	XXX	-	-	-	-	XXX	XXX	XXX	XXX	
Garden	3	XX	XXX	2	3	3	4	5	5	5	1	1	1	remain	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Warbler	4	XI	-	1	2	4	6	11	9	10	6	-	-	throughout	XXX	XXX	-	-	1	4	5	12	7	3	-	XX	
	5 X	-	1	-	-	2	4	9	4	3	-	2	-	dry season.	XX	2	4	-	1	2	8	6	7	4	3	-	23.V
															(P. Woods (JOS)				-	1	-	21	18	5	2)	
	1	XX	XXX	XXX	XXX	XXX	XXX	2	1	1	-	1	-		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
	2	XX	XXX	-	1	3	12	-	4	-	-	-	1	Individuals	XXX	XXX	XXX	XXX	-	-	4	-	XXX	XXX	XXX	XXX	
Pied	3	XX	XXX	-	1	-	2	2	-	3	1	-	-	remain	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Flycatacher	4	X-	-	-	-	2	9	9	7	1	-	-	-	throughout	XXX	XXX	X	2	1	4	4	5	-	-	-	XX	12.V
	5 X	-	-	1	-	6	4	6	2	2	2	-	-	dry season.	XX	1	-	1	-	3	7	2	-	1	-	-	
	1	XX	XXX	XXX	XXX	XXX	XXX	XX	-	-	-	-	-		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
	2	XX	XX	-	-	-	-	-	-	1	2	-	-	Individuals	XXX	XXX	XXX	XXX	-	2	-	-	XXX	XXX	XXX	XXX	
Tree	3	XX	XX	-	-	-	-	1	2	2	2	1	-	remain	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
Pipit	4	X-	-	-	-	-	3	-	6	3	12	2	3	throughout	XX	XX	-	4	4	1	4	-	1	-	-	XX	
	5 X	-	-	-	-	-	5	2	1	2	1	-	-	dry season	XX	-	5	5	-	2	8	1	-	-	-	-	

FIGURE 1.

Numbers of birds caught in Vom each weekly period between September and November, and March and May.