

**NOTES ON  
THE FLIGHT OF THE SPARROW-HAWK.**

BY

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FOR several years I have paid close attention to the flight of the Sparrow-Hawk (*Accipiter n. nisus*). This Hawk is to be seen almost any day in the north-east Surrey hills, and though trapped and shot to a certain extent on ground that is still kept, a few pairs usually succeed in rearing a brood each season in those woods where Pheasant rearing on an extensive scale is a thing of the past.

The district in question consists of hill-ridges, and trough-like valleys—locally known as bottoms—both shallow and deep ; is well wooded, the larger trees being chiefly oak, beech, elm, birch and ash, with a few scattered plantings of larch. The ground elevation varies between 400 and 600 feet.

From my observations which have been made at all seasons of the year, the bird employs certainly four different modes of flight, viz., prospecting, hunting (and chasing), soaring and, *on occasions*, patrolling.

1. *Prospecting Flight*. This usually takes place at a height of about 80-120 feet, sometimes lower in the case of the male. The Hawk floats in circles and, every now and then, flaps its wings somewhat briskly three or four times. There is also another phase aptly described by Mr. J. H. Owen in his interesting paper, "The Hunting of the Sparrow-Hawk" (Vol. XXV., page 239), thus: "This flight consists of a glide some thirty yards long then three or four rather slow wing-beats followed by another glide." In either case the result is the same, for the Hawk eventually slips earthward to engage in definite hunting or betake itself to a favourite hunting-ground. The bird can perform this prospecting flight equally well in wind or calm, though when a steady breeze is blowing, slight variations of it occasionally occur, one of which is as follows. I quote from my notebook: "Observed a hen Sparrow-Hawk engaged in a prospecting flight which lasted about six minutes. I first noticed it gliding slowly along at a fair height above a hillside. It drifted over the valley, every now and then bringing up against the breeze and hanging almost stationary with wings fully extended, but did not indulge in any soaring. By degrees, however, it planed lower and when still at a considerable height above the lane, lowered itself steadily against the stiff south-westerly wind—its wings being held at practically full stretch all the time—finally diving down

amongst the trees of a wood near by, presumably to strike or engage in definite hunting."

There seems little cause to doubt that during a prospecting flight the Hawk is deciding upon a hunting route, as it is frequently witnessed shortly after one has failed in its efforts to capture a bird. When such is the case, the circling type of prospecting flight may last from 15 seconds to 2 minutes or even longer, and then, more often than not, the Hawk sails right away from the vicinity of the spot where it lost its intended victim. On the other hand, I have seen a cock Sparrow-Hawk after dashing through a hillside shaw in the corner of a field and failing to make a capture, indulge in a low prospecting flight at a height of not more than 30 feet in the valley below, and close to the wood itself. On this occasion, the Hawk circled slowly and smoothly several times and swayed nicely just like a miniature Buzzard, with wings held stiffly extended and canted *slightly* upward, then at the end of about 20 seconds, sped back into the trees and returned along its original line of flight.

2. *Hunting (and Chasing) Flight.* This phase of the Sparrow-Hawk's flight is the one by which the bird is recognized and commonly known to the majority of keepers. It is a masterly performance, accomplished mainly by gliding, and the three or four wing-beats visible at intervals during the course of a hunt seem scarcely necessary to maintain momentum, for it is remarkable the distance the bird can cover without resorting to wing-beats at all. For instance, they do not appear necessary to assist it in rising to clear a hedge or gate; the bird just glides smoothly up and over the obstruction and on as before, without the slightest visible loss of speed. This characteristic hunting flight may be seen as the Hawk works alongside the edge of a wood, hedge, or fence, or down rides and paths in woods and plantations; also along streams and brooks in districts where these are present. It varies from a height of 1-2 feet to as much as 5-7 feet above the ground, and when a hedge is being worked, the bird slips over to first one side then the other, the change taking place about every 60 yards. At a fair estimate I put the normal speed of the Sparrow-Hawk's hunting flight at 40-45 m.p.h., though, on occasions, it is considerably less, approximately 18-25 m.p.h. The latter figure was arrived at after an experience I had several years ago when following a Sparrow-Hawk down a little-frequented lane on a cycle. The Hawk was working both sides of a hedge on the left-hand side of the road, and I knew my own speed to be about 16 m.p.h.

Although I was some way behind, and the distance between us gradually increased, I was able to follow it nearly quarter of a mile before it finally turned off and crossed a cornfield.

There is another form of this hunting flight practised chiefly, I think, by the cock Sparrow-Hawk, and that is a low rapid flight straight through a wood or shaw. It is a performance worth seeing, momentary though it usually is. I have witnessed it a number of times, and it seems as if the Hawk flings all thoughts of rides, tracks, and paths, to the wind, and just dashes through the brushwood a foot or so above the ground with grim determination. How it manages to thread its way through and avoid impact with the branches and stems of the bushes is very puzzling; the agility it displays is little short of amazing. Wing-beats are few, so far as one can tell as the bird sweeps past and, on emerging from cover, I have seen it throw up and dart back through the trees of the wood it had just left. Its speed on such occasions is exceedingly difficult to estimate, but I should say it does not exceed 25 m.p.h. and this is, probably, a trifle too high.

The prevalence of fog does not seem to interfere with the hunting of this Hawk, in all probability it is of great assistance. Last winter I had an interesting experience in this connexion, and one, too, which demonstrated the bird's remarkable wing-control. I again quote from my notebook, the date being December 7th, 1935: "Fog enveloped the Surrey hills, visibility not extending beyond about 200 feet. While I was waiting on the western edge of the larch plantation near —, a hen Sparrow-Hawk suddenly appeared gliding alongside the trees at a height of about 6 feet above the ground. The Hawk came straight towards me, in fact, I thought she was going to skim close past my head, but when 10 feet away, directly in front of me, pulled up 'dead,' and with much flapping turned sharply left, and flew back over the tops of the larches. It was a most interesting sight to watch the bird thus put on the brake at such close range." The speed of this bird was not, I think, in excess of about 20 m.p.h. for I had time, as it was approaching, to make a mental note that (a) it appeared to be looking on the ground, and (b) the primary feathers were splayed out and plainly visible.

Occasionally when travelling across country at a fair height or when mounting briskly prior to indulging in a prospecting flight, the Hawk's wings are bent *slightly* back at the carpal joint. Again, when travelling purposefully across country against the wind, the Sparrow-Hawk glides steadily but slowly, covering a considerable distance between wing-beats

though now and again making leeway ; the wings, too, are often arched a trifle at the shoulders during these extended glides.

The accelerating power of this Hawk when quarry is sighted is an interesting feature of its hunting flight, for with little or no effort it can spurt forward to follow every twist and turn of its intended victim. If a chase takes place in a large open field, the pursued, be it finch, bunting, or lark, has but the barest chance of escape. It may shake off its grim enemy for a brief space of time but in the end, probably through exhaustion, succumbs. In small fields bounded by a thick hedge or bordering a wood, I have several times seen a Sparrow-Hawk completely foiled by its quarry successfully slipping into a dense hawthorn, or dodging through the branches of trees. With Wood-Pigeons, the hen Sparrow-Hawk, I think, sometimes exercises a certain amount of strategy ; she selects her bird, then carefully " steers " it into a ride or clearing, there to administer the *coup de grâce*. I again quote from my notebook—" While going through — wood I noticed a hen Sparrow-Hawk pass through the trees, and a moment after heard a company of Wood-Pigeons rise noisily farther in the wood. A few seconds later, one of them dashed out from between the trees into the clearing where I was standing, with the Sparrow-Hawk practically on top of it. As they approached me a small cloud of feathers floated behind them, but my presence saved the pigeon from what must have proved certain death for, when nearly overhead, the Hawk broke from her quarry and swerved aside, rising in a grand ascending curve above the trees while the pigeon dashed away, disappearing beyond some birches. A few minutes after this I again observed the Hawk engaged in a prospecting flight over a gorse-brake on the edge of the wood. This lasted nearly three minutes, after which it glided away in a north-westerly direction towards — wood."

I consider the Sparrow-Hawk capable of a maximum chasing speed on the level of 60-65 m.p.h., but in a fast " power-dive ", when its wings are used to force the pace, it attains more.

3. *Soaring Flight.* Very little mention seems to be made by the average observer concerning the powerful soaring flight of the Sparrow-Hawk. This may be due to the fact that it requires a trained and keen eye to be able to say definitely whether a soaring " Hawk " is a Hobby, Sparrow or Kestrel, for both the first and last named, as is well known, excel in the art. The Sparrow-Hawk, on occasions, certainly

runs the Kestrel close as regards its capabilities in this respect. But whereas the Kestrel (and Hobby) will ring upward without visible wing-beat on the calmest of summer days, the Sparrow-Hawk usually employs three or four rather slow—occasionally somewhat brisk and impetuous—wing-beats at intervals during the first half of an ascent. I have closely followed through good glasses a number of soaring Sparrow-Hawks, and I do not think these wing-beats materially increase the bird's speed enough to assist it in mounting the next series of spirals. Moreover, once it has climbed to 200 or 250 feet, the remainder of the flight is often accomplished without any apparent effort on the bird's part. It just circles slowly smoothly upward. When the maximum height is attained, and this under favourable conditions is probably well over 800 feet—one Sparrow-Hawk I watched though was all but invisible to unaided vision, this being partly due to the distance it had drifted during the ascent—the Hawk sails round alternately flapping and gliding, or else beats to and fro in a series of ellipses. The performances I have followed have ultimately terminated by the Hawk either gliding slowly away to some point of the compass, or planing earthward sometimes at rather an acute angle.

This high soaring propensity of the Sparrow-Hawk takes place on days that are fine and sunny with little or no wind ; sunshine, however, appears to be appreciated if not essential. Again, I have witnessed soaring flights when an altitude of roughly 300 feet has been attained, on days when sunshine has been intermittent and the wind fresh though, under these conditions, the tendency to drift during the ascent is usually much more marked. I have observed really high soaring flights by the Sparrow-Hawk in the following months, viz., January, February, March, April, May, June, August and November. Of these, the first three have yielded some of the best performances I have seen between the hours of 11 a.m. and 2 p.m. (G.M.T.), the weather conditions, of course, being ideal with bright sunshine and a clear sky.

The following extract from my notebook concerns a soaring flight I observed in north-east Surrey on January 21st, 1933, a day of bright sunshine with little wind: " Watched a Sparrow-Hawk soaring at a considerable height while below it a Kestrel also soared. Suddenly, the former closed its wings and dived straight at the Kestrel. It came down at very high speed with legs outstretched, but just before reaching its objective swept up again in a steep climb ; the Kestrel, however, twisted aside at the critical moment as though it

expected the attack to be driven home. Beyond making another rather frolicsome kind of stoop, the Sparrow-Hawk did not further molest the Kestrel but continued soaring, and both birds at length appeared to be on a level at an altitude of about 700 feet. Eventually each glided away in different directions."

On another occasion during the month of August, I witnessed in north Sussex, a soaring flight by three Sparrow-Hawks during which they were constantly tilting at each other in playful fashion. They had attained a height of roughly 300 feet when one sailed away on its own. It travelled for nearly half a mile alternately flapping and gliding, engaged in what looked like an unusually high prospecting flight, but presently slowed down and again commenced to soar. It climbed to a height of about 600 feet and ultimately glided away. The day was fine and warm with a light south-easterly breeze.

4. *Patrolling Flight.* During the years 1932-35 a solitary Common Buzzard (*Buteo b. buteo*) was a winter visitor to the north-east Surrey hills. On a number of occasions when I observed it on the wing either crossing a wooded valley or circling above a hilltop larch plantation which, by the way, was its favourite roosting place, a Sparrow-Hawk—sometimes but more rarely a Kestrel as well—appeared in the sky and remained in attendance while the flight lasted.

During the period the Buzzard remained in the district, from November to early March, only once did I see it actually attacked by a Sparrow-Hawk and on that occasion it was sitting in an oak overlooking a field. The Hawk, a hen, sped towards it, drove it clean out of the tree and continued to molest it till the Buzzard sought sanctuary in a neighbouring wood. This incident occurred during the first winter (1932-33) I observed a Buzzard in north-east Surrey.

It was not long, however, before I associated a certain phase of flight used by the Sparrow-Hawk and which I have termed patrolling—I use the word advisedly—with the presence of the Buzzard in the district. I certainly have no recollection or record of seeing it on quite the same lines at other times. Moreover, it was so distinctive that often I was able to obtain a fairly accurate idea whereabouts the Buzzard was in hiding, especially in the case of the hilltop larch plantation referred to, as this was easily overlooked for observation purposes from a wooded hillside opposite, being silhouetted against the sky. On these patrolling flights a Sparrow-Hawk would fly steadily, alternately flapping and gliding, at an

estimated speed of about 25 m.p.h. along the whole length of the plantation which is nearly half a mile long, a few feet above the tops of the trees, clearly endeavouring to locate something. If successful, then the Hawk would slacken speed and circle several times above a certain section of the trees—usually the place where the Buzzard was in hiding—before finally making off across country in characteristic normal fashion. On one occasion I was making my way through a wood into which only a short time previously I had watched the Buzzard descend, when I noticed a Sparrow-Hawk sail overhead, just above the tree-tops. It must have passed close to if not directly over the object of its search, for a few minutes later I put the Buzzard out of one of the trees standing close to a path from the direction of which the Sparrow-Hawk had come.

There is not the least doubt but that the presence of the Buzzard caused much uneasiness to the Sparrow-Hawks on whose territory it happened to be during its winter sojourns in the district. In all probability they had never seen one prior to the winter of 1932-33 and, therefore, deemed it necessary on subsequent occasions to keep a close watch on all its movements—hence the need for this patrolling flight.