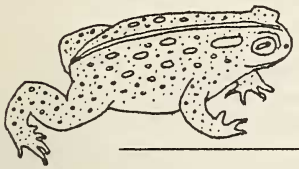

THE NORFOLK NATTERJACK

The quarterly bulletin of the Norfolk & Norwich Naturalists' Society

No.8 February, 1985

MAKING AND SUPPORTING HYPOTHESES

Unlike historians, scientists are not concerned with unique events. A single sighting of a pattern of feeding behaviour by a bird, or a plant species growing in a particular place, or flowering at a particular time, or an insect attacking a particular prey, or any one of a thousand other observations, all remain anecdotal -- narratives of detached incidents -- until they are supported and buttressed and strengthened by other sightings of the same phenomenon. Several things follow from this for committed naturalists.

First, as Ted Ellis never tires of telling us, we need to make records so that data can be collected and fixed and stored, insulated from the waywardness of memory. So we need dates and times and places and species and things. Second, we need to put our observations in a form which can be added together with other observations, either more of ours or of somebody else, and so we shall probably need to count things or measure things or weigh things in some agreed way. Third, unless we like secret research entirely for our own satisfaction, we need to let our results be known, by talking to others of like interests, or giving a lecture illustrated with slides, or publishing in journals like our own Transactions.

Thus we can start by making observations, as Mr. Cambridge does in the article which follows, and we can work on it by gathering and recording our own information about rabbit burrows or marks on chalk, and so contribute to a gathering heap of information which will either confirm and establish (or fail to confirm and establish) those first ideas.

We are naturalists because we are interested in plants and animals, so we like to know the names of things and where they live and how they get on together. There are not many professional ecologists, and most of them are finding out more and more about less and less, so much of the work remains to be tackled by amateurs. How about your own special research project for 1985? There is lots of advice available for the asking round the Society: lots of experts, and quite a few used to research. Try it!

G. D. W.

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OBSERVATIONS ON RABBITS

Although primarily a palaeontologist, the writer takes a general interest in natural history and the following observations were made while on visits to geological sites in East Anglia. In themselves the behaviours noted may be isolated examples of behaviour of individuals or warrens, but they do suggest that further observation might be very worth while.

first to see if the behaviour is widespread and second to see if a reason can be found.

Burrow entrances - In 1976 a small group of burrows in the middle of a more or less flat field near Sudbourne Church, Suffolk (TM.417519), was examined to see what was being thrown up, as such burrows are often a useful way of noting the presence of shelly Crag sand near the surface. There was an unusual feature about the burrow entrances. Obviously on a flat surface a burrow has to start with a 'cutting' similar to the entrance to a railway tunnel. In this case all 'cuttings' curved sharply away from the entrance about 90° and all turned to the right as you faced the burrow. The immediate question was 'Why?'.

A hypothesis, after thought, was that this was linked to the fact that the burrow systems were fairly new and on a level surface. In most cases my memory suggested that rabbit burrows are in hedges or slopes and the excavated material is thrown straight out to spread by gravity below the burrow. Alternatively, old warrens are often hummocky and irregular from constant excavation, or scattered among trees and bushes. In the case of a flat field there is an 'engineering' advantage in the curve. Wind or heavy rain will not wash the excavated material back into the burrow so easily - an important fact when the holes are in light sands.

A hypothesis always needs to be tested and this has not yet been done. Perhaps some members might like to test this by looking at rabbit burrows in their area, especially those on level surfaces with light soils. Is the curve a common practice or an isolated occurrence? The question can easily be answered by mere observation. Finally, is the curve made for the reason I have suggested and if so why were they all in one direction? Does the direction vary from group to group? Is it always constant in a warren?

Gnawing chalk - While looking at a vertical section of chalk in an old pit near Snettisham in 1982, I noticed an unusual appearance of the chalk face; a kind of striation. Closer examination with a lens showed that it was not a geological feature. The markings always occurred about 8 to 10 inches from the base of the section or just above flat ledges, and looked like gnawings by something about the size of a rabbit which was confirmed by the shape of the grooves. This behaviour does not seem to be recorded and again it opens a possibility for individual observation. Does the behaviour occur elsewhere in chalk pits? Or is it local? As to 'Why?', two hypotheses occur to me: first, that it is simply a 'tooth-sharpening' exercise, perhaps because of an abundance of soft food; or that it has some dietary significance. It is hard to see why calcium should be need in an area certainly not deficient in this mineral. Perhaps it may form a kind of antidote allowing the animals to eat some plant normally having an adverse effect. As an example, while rabbit keeping during the war I read a book which stated that rhubarb leaves should not be fed to rabbits unless they were first dusted with lime, presumably because they contain oxalic acid which was thought to be changed chemically by the lime. In chalky areaslime dust would settle over leaves near a chalk pit, or alongside tracks ground by wheels, and perhaps local rabbits have discovered that some plants, normally deleterious to health, were palable under these conditions, and then went on deliberately to add chalk to their diet.

Summary - These two cases show firstly simple observation and then hypothesis building. The next stage is investigation as to the range of the variation and its causes. They also show that anyone with a sense of observation can add to knowledge on the behaviour of animals, even on the most common ones, and this can be a very rewarding field of natural history.

P. Cambridge, 258 Bluebell Road, Norwich

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ROADSIDE VERGES

My thanks to those who have written in with offers of help: I will be getting in touch within the next few weeks. Meanwhile, more offers welcomed in some parts of the county. Full list in the November issue of 'Natterjack'.

G. D. W.

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SOME BYGONE NORFOLK NATURALISTS - 6

Sir Thomas Browne (1605-1682)

Unlike the previous subjects in this series, Sir Thomas Browne was a Norfolk man by adoption. He was born in London and educated at Winchester and Oxford. After taking his M.D. at Leiden in 1633, he practised at Shibden Hall, near Halifax, and settled in Norwich in 1637. Alongside his medical profession Browne also pursued a literary career which included religious and antiquarian works. But perhaps his most celebrated book was the 'Pseudoxia Epidemica', often known as his 'Vulgar Errors' in which he tried to correct some popular beliefs and superstitions.

Browne's world seems to us to have been an intellectually backward one. Views on the natural world were antiquated. Aristotle was, after all, still the authority. However, it was also an age that saw the early application of the microscope by Robert Hooke. Nehemiah Grew and van Leeuwenhoek; Harvey's discovery of the circulation of the blood and, despite the crude systems of classification which prevailed, the early attempts of men like Ray and Willoughby to bring some organisation to the chaos. So Browne, who hated this adherence to out-dated tradition, sought to dispel mythical creatures like the basilisk, griffin and phoenix, and views such as that the chameleon could live purely upon air. But he also included descriptions from his own observations, e.g. the rearing of frogs from spawn.

He made many friendships and his help was sought by some of the most celebrated figures of the time -- Sir William Dugdale, John Evelyn, Christopher Merrett and John Ray. To them he submitted his observations and ideas, founded on a degree of clarity and originality rare for his time. Out of the observations of the birds of his adopted county came the belief that some species migrated, coming from the south in spring and arriving from the north in autumn and winter. One hundred years later Gilbert White was still struggling over this difficult concept.

Browne's natural history notes of Norfolk are fascinating. Early breeding records are given. We are told that cranes once bred in the county and that spoonbills once built their nests at the tops of trees at Reedham. Kites were frequently met with, as too were ravens, especially around Norwich. Browne tells of a contemporary taste for black-headed gull eggs (for puddings) and the belief that rooks' livers cured rickets. Also in these notes is found the first recorded occurrence in Britain of the roller (May 14th, 1664).

In his description of sea mammals we find early records of cetaceans and seals, and note with interest Browne's observation of a common seal shot in the river at Surlingham. Fishes and other water-life are also dealt with and the reader is urged to study the excellent collection of these notes as edited by Thomas Southwell (Jarrold, 1902).

Browne's contribution to the medical and religious worlds was recognised when Charles II knighted him on a visit to Norwich in 1671. He died in 1682, on his birthday, and his body lies buried in St. Peter Mancroft church.

Michael Bean

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BRITISH BUTTERFLY CONSERVATION SOCIETY'S PURPLE HAIRSTREAK SURVEY, 1985

This year the Norfolk Branch of the B.B.C.S. will be trying to find out a great deal more about the status and haunts of one of our county's more overlooked butterflies - the Purple Hairstreak. I am currently plotting on a tetrad map of Norfolk the known distribution of this species, but at present I have complete knowledge only to the immediate south and west of Norwich, and to

some extent in Breckland and near the North Norfolk coast, around Cromer. I should therefore like to make an appeal through 'Natterjack' for N.N.N.S. members to provide me with information concerning its existence elsewhere, especially in Mid-Norfolk, East Norfolk and the Fens.

The Purple Hairstreak will be seen usually flying above the crowns of oak and ash trees, in woodland and by its edges, in well-timbered parkland and along hedgerows where trees are frequent. Look from mid-July to early September depending on the season; the early evening seems to be the best time to observe it. Details needed are a four-figure grid reference and or parish name; some details of the habitat; date(s) seen and numbers. Further information from:

Stuart Paston, 14, St. Michael's View, Flordon, Norwich, NR15 1RR

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EXCURSIONS -- SPRING AND EARLY SUMMER, 1985

(Please note that your Programme Card runs out with the A.G.M. on March 22nd, and that you will not receive a new card until the next mailing in mid-May. The following notices, therefore, may be the only notice members will receive of these meetings.)

Sunday, April 21st - Excursion to STRUMPSHAW FEN R.S.P.B. Reserve for Spring birds. Meet 11.00 hours in car park (TG 341066). R.S.P.B. members free; non-members £1 each. You will be free to wander or to join an organised group. Picnic lunch. Rubber boots. Leader: Mr. M. Blackburn.

Sunday, May 5th - S.N.T.C. Open Day at BOUNDARY FARM, FRAMSDEN for fritillaries. 11.00 - 16.00 hours. (TL 187606)

Sunday, May 12th - Excursion to CARLTON MARSHES, CARLTON COLVILLE, for Spring flora. Meet 11.00 hours at TM 505918. Access off A.146 into Burnt Lane. Cross railway (hoot for keeper) and continue for 200 yards. Picnic lunch. Tubber boots. Leader: Mr. R. Briggs.

Sunday, May 19th - Excursion to SANTON DOWNHAM - St. Helen's Well picnic site (TL 827874) for Spring flora (Joint meeting with Thetford Naturalists' Society). Leader: Mr. A. Bull.

Wednesday, May 22nd - Evening excursion to view wild flora of NORWICH. Meet 19.00 hours by Robinson Volkswagen Centre, Heigham Street (TG 222094) Leader: Mr. C. Dack

Wednesday, May 29th - Evening excursion to grounds of BERRY HALL FARM, HONINGHAM, for pond dipping (by kind permission of Mr. R.W. Meynell). Meet 19.00 hours at entrance to lane leading to farm (TG 096120).

Sunday, June 2nd - Excursion to DENVER. Meet Denver Sluice Car Park at 11.00 hours. Picnic lunch. Rubber boots. Leader: Mr. C. Dack (TF 590012)

Sunday, June 9th - Excursion to GOG MAGOG (for perennial flax) and CHERRYHINTON CHALK PIT, CAMBRIDGE. Meet 11.00 hours at TL 493547. Picnic lunch. Leader Mrs. M. Meade.

Sunday, June 23rd - Excursion to HORSEY for Mere and Dunes. Meet 11.00 hours at Horsey Mill Car Park. Picnic Lunch. Rubber Boots. Leader: Mr. J. Burton.

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CONTRIBUTIONS TO THE NEXT NATTERJACK should be sent to Ernest Daniels, 41, Brian Avenue, Norwich, Norfolk, to arrive not later than April 15th, 1985.

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