

Vol. V

Parts VIII and IX

**PROCEEDINGS
OF THE
ISLE OF WIGHT
NATURAL HISTORY
AND
ARCHÆOLOGICAL SOCIETY
FOR 1963 AND 1964**

Price (to Non-Members) 15/- post free

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OF THE
ISLE OF WIGHT
NATURAL HISTORY
AND
ARCHÆOLOGICAL SOCIETY
FOR 1963

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EDITOR'S NOTE.

It is regretted that owing to unforeseen circumstances the Bird Report for 1963 has not been completed by the recorder. It is hoped to print this at a later date.

LIST OF OFFICERS.

(Elected at the Annual General Meeting, 18th January, 1964).

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O. H. FRAZER, Brighstone.
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D. ROBERTS, Wootton.
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V. WADHAM, Newport.
MISS T. WHITE, Ventnor.

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MRS. A. W. WILKINSON

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Assistant Secretary :

MISS M. P. CLAY, 3 Newport House, Crocker Street, Newport, I.W.

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A. J. HENRY, Eckford, 22 Partlands Avenue, Ryde, I.W.

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Flower Recorder :

MISS T. WHITE, Seascape, Lower Gill's Cliff Road, Ventnor, I.W.

Conservation Officer :

S. T. WAITE, B.Sc., Whitewings, Queen's Road, Cowes, I.W.

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Archaeology:

Mr. J. Jones, Carisbrooke Castle.

Ornithology:

Mr. J. Stafford, Westering, Moor Lane, Brighstone.

Entomology:

Mr. T. D. Fearnough, 26 Green Lane, Shanklin.

Botany :

Miss T. White, Seascape, Lower Gills Cliff Road, Ventnor.

Geology:

Mr. S. T. Waite, Whitewings, Queens Road, Cowes

Mammals and Reptiles:

Mr. O. H. Frazer, Mottistone Mill, Brighstone.

Seashore and Shells:

Mr. L. C. Prebble, Albert Cottage, Binstead Hill, Ryde.

NEW MEMBERS.

- MISS E. ALEXANDER, Stonebrook, Whitwell.
COMM. J. K. BROOK, Westhill, Seaview.
MRS. K. E. I. BARHAM, Monks Field, Quar Road, Binstead.
MR. B. J. BANYARD, Skerryvore, Whitwell Road, Ventnor.
MISS L. BURGESS, The Little Mount, Totland Bay.
MISS. J. S. BEASLEY, 4 London Heath, Newtown.
MR. J. H. BEVIS, 23 Fairview Crescent, Lake, Sandown.
MRS. L. BEVIS, 23 Fairview Crescent, Lake, Sandown.
MR. R. CLARK, 46 Park Road, Cowes.
MISS. K. CHALKLIN, 36 Grove Road, Sandown.
MR. P. C. CLARK, Cranborne, Westfield Road, St. Helens.
MISS. K. M. CLARKE, 73 Victoria Grove, East Cowes.
DR. C. M. FLETCHER, 2 Coastguards Cottages, Newtown.
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MRS. E. HICKS, Sylvestris, Oakhill Road, Spring Vale, Seaview.
MISS. A. HESLING, Toramena, Luccombe, Shanklin.
MRS. D. M. A. HARRINGTON, Seacot, Afton Down, Freshwater Bay.
MR. A. G. L. IVES, The White Cottage, Ferncliff, Sandown.
MISS L. A. JOHNSTONE, Claymore, The Parade, Cowes.
MR. D. O. LEWIS, La Hacienda, Alverstone.
MRS. D. I. LEWIS, La Hacienda, Alverstone.
MR. A. K. MOORES, c/o 12 Denness Road, Lake, Sandown.
MR. J. R. W. MOLE, The Jungle, Cranmore Avenue, Near Yarmouth.
MRS. S. MOLE, The Jungle, Cranmore Avenue, Near Yarmouth.
MISS. E. NORTHALL, 112a St. James's Street, Newport.
MISS. G. L. OSBORNE, 1 Winton Street, Ryde.
MR. H. A. PHILBRICK, Firhill, Totland Bay.
MRS. W. PHILBRICK, Firhill, Totland Bay.
MRS. L. PRANGNELL, Five Houses, Calbourne, Near Newport.
MRS. M. PRANGNELL, Lingmoor, Pell Lane, Ryde.
MR. R. PREECE, Penrhyn, Baring Road, Cowes.
MISS. M. B. PLATER, Michaelmas Cottage, Seaview.
MRS. G. M. RATH, 16 Recreation Ground Road, Newport.
MRS. M. SAUNDERS, Kenton, Rookley.
MRS. D. R. SILVERSTON, Hurtwood, Alverstone Garden Village, Sandown.
MISS. R. SHOVE, Birkdale, Battery Road, Cowes.
MR. R. O. SMITH, Cornlea, Broadway, Totland.
MRS. SMITH, Cornlea, Broadway, Totland.
MR. B. THISTLETON, 22 Alvington Road, Carisbrooke.
MR. E. TURNER, 30 Victoria Avenue, Shanklin.
MRS. E. TURNER, 30 Victoria Avenue, Shanklin.
MRS. R. B. THOMSON, 88 Wilmington Gardens, Barking, Essex.
MR. J. H. TAYLOR, Briar Crag, Seven Sisters Road, St. Lawrence.
MRS. L. B. TAYLOR, Briar Crag, Seven Sisters Road, St. Lawrence.
MR. A. H. THOMSON, 25 Downsview Chalets, Jeals Lane, Sandown.
MISS J. WESTLAKE, Ford Manor, Ford, Whitwell.

OBITUARY.

CAPTAIN GUYBON CHESNEY CASTELL DAMANT, O.B.E., R.N. (RETD.).

Captain Damant, of Thursford, 6 Cambridge Road, East Cowes, died on the 29th June, 1963, at East Cowes and, with his passing, the Society lost one of the few remaining Founder Members.

In the course of his profession as a diver in the Royal Navy Captain Damant spent long hours under water, and during his lifetime he worked with Professor Haldane experimenting on deep-sea pressure chambers and techniques from which safer methods evolved.

On retirement he was not unnaturally mostly interested in Submarine Natural History, as can be read in the many talks and articles recorded in the early *Proceedings*. In 1929 he was elected President of the Society and was afterwards a Vice-President. Although unable to come to meetings in the latter years, he nevertheless kept in touch by retaining his membership to the end.

A.J.H.

JOHN LOBB.

Mr. Lobb, of Berehaven, Solent Avenue, Cranmore, died aged 64.

He had been a member since 1947 and was a very keen entomologist, specialising in Lepidoptera, who regularly contributed to the *Proceedings*. On the 29th May, 1952, a lovely and rare variety of the Pearl Bordered Fritillary (*Argynnis Euphrosyne*) was captured by him in Parkhurst Forest and, as the only known example, the British Museum granted permission for him to name it *ab. edna*, Lobb., and it was added to the national collection. A tribute by his old friend, Mr. S. Wakely, follows:—

It is with great sorrow that I write these lines on the death of my old friend "Jack" Lobb.

On the 21st August he had an accident with a bottle of .880 ammonia and died in hospital from shock two days later. At the inquest the verdict was that he took his own life by drinking ammonia, but I personally feel I should be doing a great injustice to his memory if I did not say that I am convinced he died from shock following an accident which he himself described as "awful." The verdict was possibly the only one that could have been given with the evidence available.

Mr. Lobb was a great nature lover, and his notes on lepidoptera will be missed by the Society members. I well remember my last visit to him and seeing the birds at the bird table in his garden, including such unusual visitors as jays and jackdaws. Squirrels, too, often climbed up to see what there was to be had. Jack had a large wild garden, frequented by rabbits in between their recurrent attacks of myxomatosis.

He had some wonderful recordings of the song of the nightingale taken in his garden with the bird singing a few feet away from the microphone.

A number of the moths sent to me for checking were confirmations of very old records of rarities such as *Cosymbia pendularia*, Clerck, formerly known as *orbicularia*, Hubn. (Dinghy Mocha). Some were new to the Island List—*Bapta distinctata*, H.-S. (*pictaria*), for instance.

He was very concerned about the decreasing numbers of the special Island butterfly, the Glanville Fritillary, *Melitaea cinxia*, L., and used to visit its haunts near Ventnor and write to me about the numbers seen.

Only a few days before his death he wrote telling me that moths were beginning to come in numbers to his trap after a period of scarcity, owing to cold nights. I shall miss his numerous letters telling me of all the interesting entomological finds in his district.

26 Finsen Road,
London, S.E.5.

S. WAKELY.

WILSON RAY FRAZER, O.B.E.

We regret to record the death of Mr. Frazer, of 2 Afton Lodge, Afton Road, Freshwater, on the 3rd October, 1963, in his 90th year. A Londoner, he was educated at Dulwich College, London, and Lincoln College, Oxford, where he was a classical scholar. His translation of Plutarch's *Lives* was published in 1906. Entering the Civil Service, most of his career was connected with the Ministry of Health and, on his retirement in 1937, came to live on the Island. A keen entomologist, he joined the Society in 1938. One of the country's authorities on grasshoppers, he had to his credit the find of a species new to Britain; it is in the British Museum under his name. One of his three surviving sons, Mr. O. H. Frazer, together with his wife, continue the connection with the Society.

A.J.H.

BALANCE SHEET

AS AT 31st DECEMBER, 1963.

RECEIPTS		£	s.	d.
Balance brought forward	.....	291	10	3
Subscriptions	.....	298	9	10
Donations	.....	4	2	6
Sales of <i>Proceedings</i> , Reprints, Bird Reports, etc.	.....	6	3	6
Interest on Investments and Deposit Accounts	.....	11	8	11
Profits on Teas, <i>Wildlife</i> , Books, etc.....	.....	4	19	8
Newtown Fund (Exhibitions, Donations, etc.)	.....	123	10	7
		£740	5	3

EXPENDITURE		£	s.	d.
Printing <i>Proceedings</i> , Reprints, Bird Reports	.....	115	1	9
Other Printing	.....	21	8	0
Subscriptions, Donations, etc.	.....	6	0	0
Hire of Halls, etc.	.....	20	13	0
Stationery, Binding <i>Proceedings</i> , etc.....	.....	10	12	9
Petty Cash, Sundries	.....	17	8	6
Committee Expenses, <i>Local Look</i> storage	.....	19	19	11
National Trust (3rd Payment <i>re</i> Newtown)	.....	75	0	0
Copy Prints of Ordinance Maps from Special Donations Fund	.....	3	12	0
Balances in hand	.....	450	9	4
		£740	5	3

Investments: 3½ Per Cent. War Stock (estimated market value) £190.

Audited and found correct:

(Signed) G. POLLARD,
J. AITCHISON,
Hon. Auditors.

(Signed) A. J. HENRY,
Hon. Treasurer.

GENERAL MEETINGS, EXHIBITIONS, AND EXCURSIONS.

General Meeting on Saturday the 23rd February, 1963.

Mr. L. C. Prebble, who is a leading conchologist, gave a most interesting lecture incorporating two years' study of local shellfish entitled "Mollusca of the Isle of Wight" to a gathering of 40 fellow members, and illustrated with specimens from his own collection and colour slides provided by Mr. O. H. Frazer.

His survey included the scallop (*pecten maximus*), found particularly at Bembridge; the oyster—farming of which had been reintroduced by Mr. Lucas at Newtown; the common cockle; the long spindle whelk; the operculate known as the little grey-top; the common mussel—good colonies of which could be found on the lattice work under Ryde Pier; and the common limpet found in big colonies at Ventnor. Other varieties described were the cup-and-saucer limpet from Seaview; the slipper limpet; the large necklace shell, of which there was a colony well out to sea at Freshwater; *europaea* Cowrie, found between Brook and Brighstone; the top shell, *gibbula umbelicata*, recovered by Mr. Prebble with a net and 10ft. pole just off the edge of Stag Rock. A specimen of the large keyhole limpet had been found at Gurnard, and another Island find was the Norwegian cockle—a new arrival or possibly an old one returned.

The members had a further opportunity of examining the specimens after Mrs. M. M. Seabroke, President, had thanked Mr. Prebble for an interesting and instructive afternoon.

General Meeting on Saturday the 23rd March, 1963.

About 50 members heard an illustrated talk given by Mr. O. H. Frazer on "Some Plant and Animal Associations." The association between the earth, plants, and animal life was emphasised, with particular reference to the chlorophyll produced by living plants, apart from fungi, which produced no chlorophyll and obtained their food from living or dead material. He considered that there was scope for investigation as to which animals eat fungi.

Another interesting association was between plants and insects, since the latter carried out a great deal of pollination, and the effects of insecticides could therefore be far reaching. Animals were also involved in seed distribution of plants; an example of which was acorns being carried well away from the long-lived parent trees by mice, squirrels, etc. Quoting an example on the Island of the relationship, Mr. Frazer referred to Brighstone Down. A few years ago this was smooth downland turf. To-day, due to the lack of sheep and rabbits, it is scrub.

Emphasis was given to the disruptive influence of man on nature. The extent of this, particularly in the use of poisonous insecticides, was not fully recognised, or how it could upset the balance of nature, and he thought a sensible change over the years was inevitable. It was the introduction of extreme measures to one particular aspect of nature that could do so much damage.

Visit to Shorwell Saturday 27th April, 1963.

The monthly meeting on Saturday took the form of a visit to Shorwell, which was made additionally enjoyable by the perfect weather. The afternoon began with a visit to the parish church of St. Peter, where members were received by the Rector, the Rev. A. H. Wakefield. Mrs. Wakefield then gave a talk about the church and pointed out the features of special interest, such as the fine medieval wall painting of St. Christopher.

The next visit was to the interesting Elizabethan manor house at Wolverton, where members were shown round by Mrs. E. E. Carver. Then the party went on to Yafford Mill, where Mr. Salter showed the mill and machinery, including a fine upright wheel-shaft of elm. After a visit to the garden of Mr. and Mrs. D. L. Wadlow, members had tea in the garden of Mrs. Deacon. During tea Mr. F. J. Bennett, of The Wakes, Shorwell, showed some of his collection of prehistoric flint implements, many of which were found on the site of his new house.

Exhibition May 18th to 25th, National Nature Week.

As a contribution to National Nature Week, which was sponsored by the Council for Nature under the patronage of H.R.H. Prince Philip, the Society organised an Exhibition at the Methodist Hall, Pyle Street, Newport. This was opened officially by Ald. Mark Woodnutt, M.P., who was accompanied by Mrs. Woodnutt and the Mayor of Newport, Ald. H. E. Harvey, and all were welcomed by Mrs. G. E. Seabroke as President.

The exhibition was the Island's major attraction in a much larger programme of events taking place throughout the country, and its purpose was to draw the attention of the public to the pleasures obtainable from the study of Britain's wild life, and particularly the urgent need for its conservation.

As chairman of the Society's National Nature Week Sub-committee, Mr. O. H. Frazer, ably assisted by Mrs. Frazer, was largely responsible for the organisation. Prominent features of the show were a series of attractive displays, each the outcome of a piece of exploring of local flora and fauna, by secondary schools. Newport Priory Secondary Girls' School had taken "A walk along the Medina," Sandown Grammar School had investigated Borthwood Copse and Sandown Pond, and the

girls of Shanklin Upper Chine the Bembridge foreshore. Pupils of Ventnor and Ryde Secondary Schools found fascinating items in their own areas, whilst Carisbrooke Grammar School focused attention on plant life around the castle. The displays gave plenty of information, with countryside or seashore specimens, photographs, diagrams, explanatory notes, and maps. The Society depicted its Newtown surveys, the Royal Society for the Prevention of Cruelty to Animals its bird hospital at Freshwater, and the National Trust some of its acquisitions. The Forestry Commission, the Island Branch of the Council for the Preservation of Rural England, the Men of the Trees, and the Hampshire and Isle of Wight Naturalists' Trust were all represented.

Adding colour to the exhibition were many posters and large friezes with a "National Nature Week" theme, submitted in a previously arranged competition between many schools, and prizes for the winners were kindly presented on the opening day by Mrs. Woodnutt.

A good public attendance was had during the week and many mainland, as well as Island, school parties visited the exhibition.

Whitsun Survey at Newtown, 1963.

The fifth consecutive Annual Whitsun Survey was carried out under the supervision of Mr. O. H. Frazer, with the valuable assistance of several members. Twenty-five student members from affiliated secondary schools took part.

Hides were erected and moved up close to the nests of Black-headed Gull, Redshank, Oystercatcher, Ringed Plover, and Little Tern. The eggs in all nests under observation hatched in the course of the week. Owing to the severe winter, however, the numbers of Redshank had been much reduced and there was no sign at all of the Kingfishers in their former nesting site.

A speciality of this year was the combination of photography with the later production of large coloured paintings, which were a great asset for exhibition purposes. Special mention should be made of Lynette Wheeler, of Priory Secondary Girls' School, whose work in this respect was quite outstanding.

Outing to King's Quay Friday 21st June, 1963.

Members met by the public footpath near Warner's Holiday Camp and walked along the shore to King's Quay on a pleasant evening, examining the varied sea and saltmarsh plants. No Sea Heath, Elecampagne, or Great Reed Mace were seen this time, although these are probably still present on the western side. An interesting species found was Birdsnest Orchid in a wood en route, and a large Hemlock plant. The leader was Mr. A. J. Henry.

Outing to the Undercliff Saturday the 20th July.

Under the leadership of Miss E. M. Newnham and Miss T. White a large number of members met by the car park of the Smugglers' Haven on the main Shanklin-Ventnor road. Half of the party climbed up to the Down whilst the remainder explored the Undercliff; the two halves changing over after a period and finally meeting for tea, where experiences were exchanged. Small numbers of orchis were found in both areas and a few plants of the Bog Pimpernel. The fine warm day and outing was enjoyed by all.

Visit to Calbourne Mill 17th August, 1963.

Forty members of the I.W. Natural History and Archaeological Society enjoyed a walk from Newbridge to Shalfleet on Saturday.

The party followed the Caul Bourne through the water meadows to Lower Mills, where they were shown round the mill and bakery by Mr. C. T. Whillier. During the afternoon over 200 species of wild flowers were seen, many of which were identified by Mr. Westrup, the well-known guest of the Society. Tea was taken at Shalfleet Manor. Mrs. M. M. Seabroke (president) was responsible for the arrangements.

Walk Saturday 14th September, 1963.

On a warm and lovely day members of the Society walked from Sandown Waterworks to Alverstone and back. Many species of the more common flowers were noted. Although no new bird species for the area were seen, late migrants of Willow Warbler, Chiff-Chaffs, and a Sand Martin were seen.

Visit to Brownsea Island Saturday 5th October.

Members of the Society visited Brownsea Island in Poole Harbour. This has been recently acquired by the National Trust and was only opened to the public early in the year.

Arriving at the quay by launch, the 50 visitors were met by Mr. and Mrs. Walton, resident wardens. One party walked to the hill-top, where magnificent views of the harbour, mainland, and the other two islands were seen, as well as a look at the site of the experimental camp from which Sir Robert Baden-Powell developed the Boy Scout movement. The church erected by Col. Waugh in 1852 was examined, and most were lucky to obtain a glimpse of a muster of 20 of the half-wild peacocks that live on the Island. The other 25 members visited the fresh water lakes and the salt water lagoon known as St. Andrew's Bay, where numerous waders and ducks were seen. The reserve includes a heronry, and 49 huge, but empty, nests were plainly visible.

After a picnic lunch at the Villa (the Wardens' house) the parties reversed their explorations, appreciating the hard work already done to clear the "jungle" from the old original paths. The arrangements were made by Mrs. M. M. Seabroke (president).

Fungi Collection Saturday-Sunday the 26th-27th October.

A large and enthusiastic number of members met at Apse Manor Farm, near Shanklin, by permission of the owner, Mr. F. T. Fisk, and searched the adjacent woods for mushrooms and toadstools of many kinds. A very good selection was obtained. Mr. E. H. Ellis, of Guildford, accompanied by Mrs. Thomas, of the Educational Museum at Haslemere, identified the specimens. The fungi collected, together with others from other parts of the Island, were taken to the Priory Secondary Girls' School, Newport, in the evening and a start was made in arranging them for display. This task was completed on Sunday with the assistance of a number of pupils from the school.

More than 60 members and friends saw the display on Sunday afternoon. There were no fewer than 112 different species identified and labelled, and these included eight species new to the Island list. Also shown were two rare species of hydnum brought by Mr. and Mrs. Pickering from the New Forest.

Mrs. M. Seabroke (president) introduced Mr. Ellis, who described the specimens collected and made some suggestions as to the sort of investigations that could be undertaken by amateurs. Coloured transparencies of fungi taken during the year by Mr. O. H. Frazer were shown. These included pictures of the very striking Island speciality, *clathrus ruber*, fragments of which were also shown in the display.

General Meeting Saturday 16th November.

A General Meeting was held at the Priory Girls' School, at which members heard reports of the various sectional activities of the Society from the relative Leaders.

Newtown Survey Saturday 7th December, 1963.

A very well attended meeting at the Priory Girls' School, Newport, on Saturday saw some of the results of the 1963 Whitsun survey carried out at Newtown. The main part of the work, undertaken by members and children from schools affiliated to the Society, had been the recording of the life and activities of various birds nesting in the Newtown area. The Oystercatcher, Ringed Plover, and Little Tern had been studied in detail, and each of the observers in the hides had kept a careful diary of the movements of these birds. An exhibition of photo-

graphs taken during the survey, and enlargements mounted as calendars, were displayed, together with some of the equipment used. Among the photographic equipment was a camera, with an exposure meter and tripod, given to the Society by Mrs. Marshall, of the Terminus Cafe, Newport. A series of large coloured paintings of Oystercatchers, Little Terns, and Ringed Plover had been drawn by pupils from the Priory Secondary Girls' School, and these made a lively contribution to the exhibition.

A number of slides were shown by Mr. O. H. Frazer, including the first photograph he had taken of the Little Tern. His slides included one of the concrete pillar containing the National Trust collecting box at Newtown, pushed over. The box had been broken open early in the year and the contents stolen. Fortunately, said Mr. Frazer, very little money was in it at the time. The meeting ended with an expanded version of the Newtown film, including scenes from this year's work.

CONSERVATION REPORT FOR 1963.

By S. T. WAITE, B.Sc.

Large parts of the Island have now officially been declared "Areas of Outstanding Natural Beauty," which gives the Planning Authorities additional powers of control, and also allows money to be spent on the removal of existing eyesores.

It has been reported in the *County Press* that the owner of the open space on Brading Down is considering handing it over to the National Trust.

The County Planning Committee has refused permission for the development of a yacht marina at King's Quay. It is understood that an appeal may be made by the owners of the land.

Agreement is slowly being reached with the owners of the land involved in the proposed Local Nature Reserve at Newtown.

The Society's efforts to preserve the Wood Calamint (*Calamintha sylvatica*) at Rowridge are proving successful, and the plant made a very fine display this year.

The colony of Field Fleawort (*Senecio integrifolius*) on Westover Down, which is being threatened with destruction by the growth of young forest, is being kept under observation. Arrangements have been made with the Forestry Commission to keep the area where it grows open. Attempts at transplantation are also being made. Miss Smith, of Brighton Technical College, has succeeded in growing the plant from seed and some of the seedlings will be planted in suitable localities. The plant was apparently accidentally introduced by Iron Age immigrants and is found only near their sites and tracks.

Agricultural improvements at Combley Farm have so altered the habitat that the orchid colonies have disappeared. The area will be kept under observation to see if they can re-establish themselves. A colony of Frog Orchids has recently been found on Tennyson Down. Arrangements are being made with the farmer to preserve the area from being overgrown by gorse and other brushwood.

The Purple or Field Cow-wheat (*Melampyrum arvense*) has flourished at St. Lawrence for many years and this summer made a particularly fine showing. Unfortunately, late in the year, cows were pastured in the field where it grows, and seem to have destroyed all surface parts of the plants. It is hoped that, as this occurred late in the season, seeds will already have been shed and that they will germinate next year. Also, as the plant is said to be "semi-parasitic" on roots, it is hoped that some of the underground parts may still exist and put out new shoots in the spring. A watch will be kept to see what occurs. In the meantime, a letter has been sent to the owner of the land requesting a meeting to discuss the future preservation of the plant. It is hoped that this is not a case of locking the stable door too late.

GEOLOGICAL SECTION REPORT FOR 1963.

By S. T. WAITE, B.Sc.

The inaugural meeting of the Geological Section was held in Unity Hall on 8th March, when 23 members were present. A brief outline of the geology of the Island was given, and plans were drawn up for future field meetings.

Sandown 6th April.

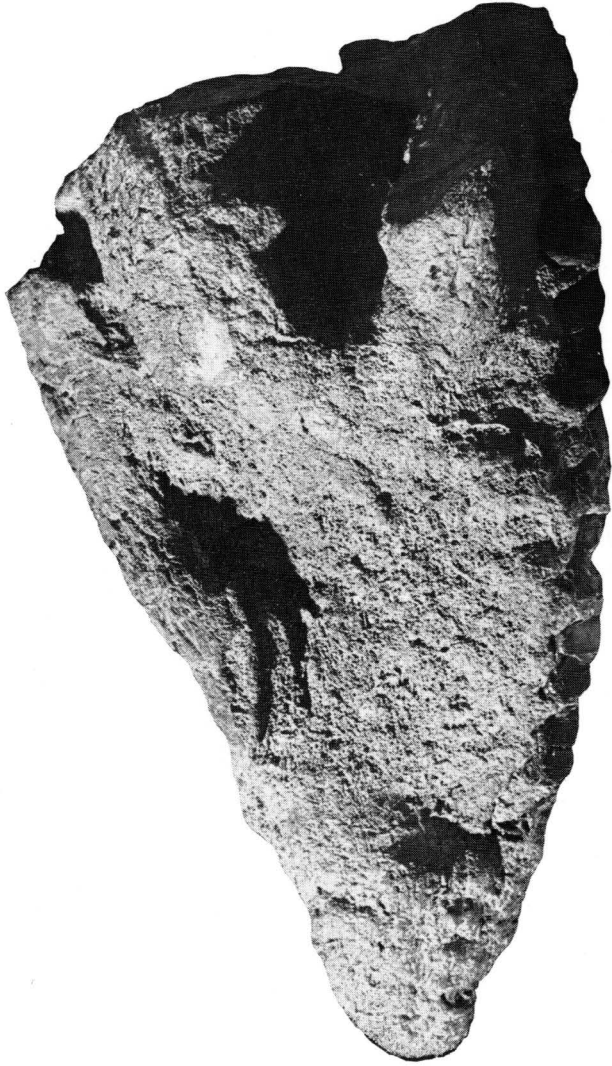
About a dozen members turned out on a fine day and examined the Wealden Beds and the Lower Greensand. Layers of fresh water fossils were found in the Wealden and the *Perna mulleti* bed was well exposed at the base of the Greensand. Higher beds were not fossiliferous, but some good samples of lignitised wood were picked up.

Whitecliff Bay, 3rd May.

A 6 o'clock start was made, but only four members turned out. The Eocene and Oligocene section up to the Bembridge limestone were examined, but exposures were very much covered by landslips. Not many fossils were found, although a band of large *Foraminifera* (single-celled animals of extraordinary large size) was seen.

North-West Wight, 22nd-23rd June.

By kind invitation of the Geologists' Association, a number of our members joined an expedition led by Mr. F. C. Stinton to Tapnell and Prospect Quarries, Gurnard, and Hamstead and Bouldnor. This has been reported in the Association's *Proceedings*, Vol. 75, Part 1, 1964, pages 87-92. The tooth thought to be of Palaeotherium was submitted to experts and stated not to be a fossil but a recently dead cow!



Fossil Skull—"Palaeotherium Magnum" (side view).

Photograph by John W. Baker, 1962.



INCHES

See EVOLUTION OF HORSE, page 356.



Fossil Skull—"Palaeotherium Magnum" (view showing teeth ridges).

Photograph by John W. Baker.



INCHES

See EVOLUTION OF HORSE, page 356.

ENTOMOLOGICAL SECTION REPORT FOR 1963.

By T. D. FEARNEHOUGH, A. Met.

The initial meeting of the Section was held at Unity Hall, Newport, on 22nd February, 1963. After an introductory talk by the Leader and some general discussion, about 20 names were listed for membership of the group.

The first field meeting, held on Brading Down on 15th June, had an attendance of seven. The weather was pleasant, allowing a fair number of butterflies to be observed. It was most interesting to see in one small area three species of butterflies belonging to the *Lycaenidae*, together with their respective foodplants. These were the Common Blue, *Polyommatus icarus*, Rott., with its foodplant Bird's-foot Trefoil, *Lotus corniculatus*; the Adonis Blue, *Lysandra bellargus*, Rott., with its foodplant Horseshoe Vetch, *Hippocrepis commosa*; the Small Blue, *Cupido minimus*, Feuss, with its foodplant Kidney Vetch, *Anthyllis vulneraria*. Three members stayed to picnic tea and afterwards explored the southern slopes of the down. In the early evening males of the Fox Moth, *Macrothylacia rubi*, Linn., suddenly appeared on the wing. These large moths are notably difficult to catch for not only do they fly fast, but also most erratically. However, a young member, by dint of much fast sprinting and quick reaction, managed to capture two specimens and thus enable the moth's identity to be confirmed. An interesting capture was a specimen of the Shaded Pug Moth, *Eupithecia scabiosata*, Borkh., a species which has featured only sparingly in the Island records.

The final field meeting of the season was held on the evening of 27th September. Ten members met at Sandown promenade car park and walked to the slope of Culver Down. The evening was cold and clear with a bright half-moon shining over the sea; not good conditions for moths. However, good numbers of moths were found at rest on grass stems by searching with electric torches after dark. They subsequently proved to be mostly of one species, the Lunar Underwing, *Omphaloscelis lunosa*, Haw., of very varied colour forms. A common moth, the Small Square-spot, *Noctua rubi*, Linn., was also found.

At the general meeting of the Society held at Newport on 16th November, to hear reports by various sections, the following items were exhibited by the Entomological Section:—

Specimens obtained during the Culver meeting.

Larvae of the Fox Moth. A concentration of these was found at Carisbrooke by Roger Oakley in October.

Pupa and cocoons of the Mullein Moth, *Cucullia verbasci*, L., which was widespread in the Island in 1963.

Pupal case of the Bullrush Wainscot Moth, *Nonagria typhae*, L., *in situ* in a stem of the Reed Mace. This species was plentiful at Niton.

Cocoon and eggs of the Vapourer Moth, *Orgyia antiqua*, L., from Bonchurch.

A copy of Morey's *Guide* containing numerous additional records written in by the late John Lobb. Presented to the Society by Mrs. Lobb.

EVOLUTION OF HORSE.

By Mrs. A. WILKINSON.

Existing Horses, Asses, and Zebras all belong to the genus *Equus*. They are large animals well suited to moving swiftly over hard ground, with only the 3rd digits well developed and covered with hoofs. Digits 2 and 4 are present as splint bones. The teeth are long and have complicated ridges on the crowns.

A large number of fossil stages can be recognised, which form a continuous series between *Equus* and *Hyracotherium*, which lived in early Eocene.

Hyracotherium was a small animal (about the size of a fox), which had four digits on each hind foot. His teeth were short and had simple crowns. The various fossils show a progressive reduction of the digits and an increase in the length and complexity of the teeth.

During the course of this evolution many side lines were developed which sooner or later became extinct.

Such an early sideline was *Palaeotheres*, which retained three functional digits on all limbs.

THE PALAETHERES

These animals were an early offshoot from the main evolutionary line towards the modern horse, *Equus*. They acquired horselike characters in the later Eocene and early Oligocene long before the true horses showed such features. They were large, but not heavily built. There were three digits on each foot. The teeth developed ridges on the same plan as in horses, but with different details. The group became extinct in the Oligocene.

Several species were developed—one of them being *Palaeotherium magnum*. Several skulls of this species have been found on the Island in the past and these are in the Natural History Museum at S. Kensington. However, the skull found by Miss Barbara Lee in October, 1962, about a quarter mile inland at Colwell Bay, is a much better example than any previously found. The age of this skull is about 35,000,000 years. The skull is now in the British Museum.

A SCANDINAVIAN AXEHEAD FROM THE ISLE OF WIGHT.

By J. X. W. P. CORCORAN.

While examining the prehistoric collections in the National Museum of Ireland the writer noticed an axehead which was formerly in the T. A. Glenn Collection.¹ Adhering to it were two labels with the legend "Found Isle of White July 18th, 1790, but see note mo-i/i/-." It is not known what information this note might have given, but it seems certain that the axehead was found in the Isle of Wight.

The axehead is of grey flint. The thin butt is extensively chipped and there are several small chips, all post-dating manufacture, removed from all surfaces. One large chip from near the cutting edge on one of the faces has been stuck into position. Both faces and sides are polished and slightly convex, giving an almost rectangular cross-section. The maximum length is 8.3in. (21.2cm.), the width at the curved cutting edge is 3.4in. (8.7cm.), and at the butt is 2.3in. (6cm.). Maximum thickness is 1.5in. (3.9cm.).

Parallels to this axehead are to be found in Scandinavia. In particular it approaches most closely to Becker's "old" type, attributable mainly to the Danish Middle Neolithic I (MN I), but also found in small numbers in MN II.² Both faces and edges of this type are slightly convex and polished, the butt is wide, thin, and often sharp.

Distribution of Scandinavian flint types in southern Britain is centred mainly in the mouth of the Thames and in East Anglia, with a thin scatter to the north and west.³ A thick-butted adzehead of Scandinavian type found near Wimborne, Dorset,⁴ similar to Becker's Bunds type, dating to MN III, although continuing into MN IV,⁵ is geographically the nearest known find of Scandinavian type to the Isle of Wight axehead. Together they close a gap in distribution between the more easterly finds in south-eastern England and the two known Scandinavian flint types from South Wales.⁶ Recent recognition of a stone axehead and adzehead of apparent Scandinavian type in Co. Wexford⁷ suggests that such artifacts may have spread not only into western Britain, but also into Ireland during the Middle Neolithic.

¹ Museum accession number, 1939:109. I am indebted to the Director of the National Museum of Ireland for permission to publish the axehead which Mr. Etienne Rynne, also of the National Museum of Ireland, has kindly drawn.

² C. J. Becker, *Aaboger for Nordisk Oldkyndighed og Historie* (1957), 12-13, 35-36.

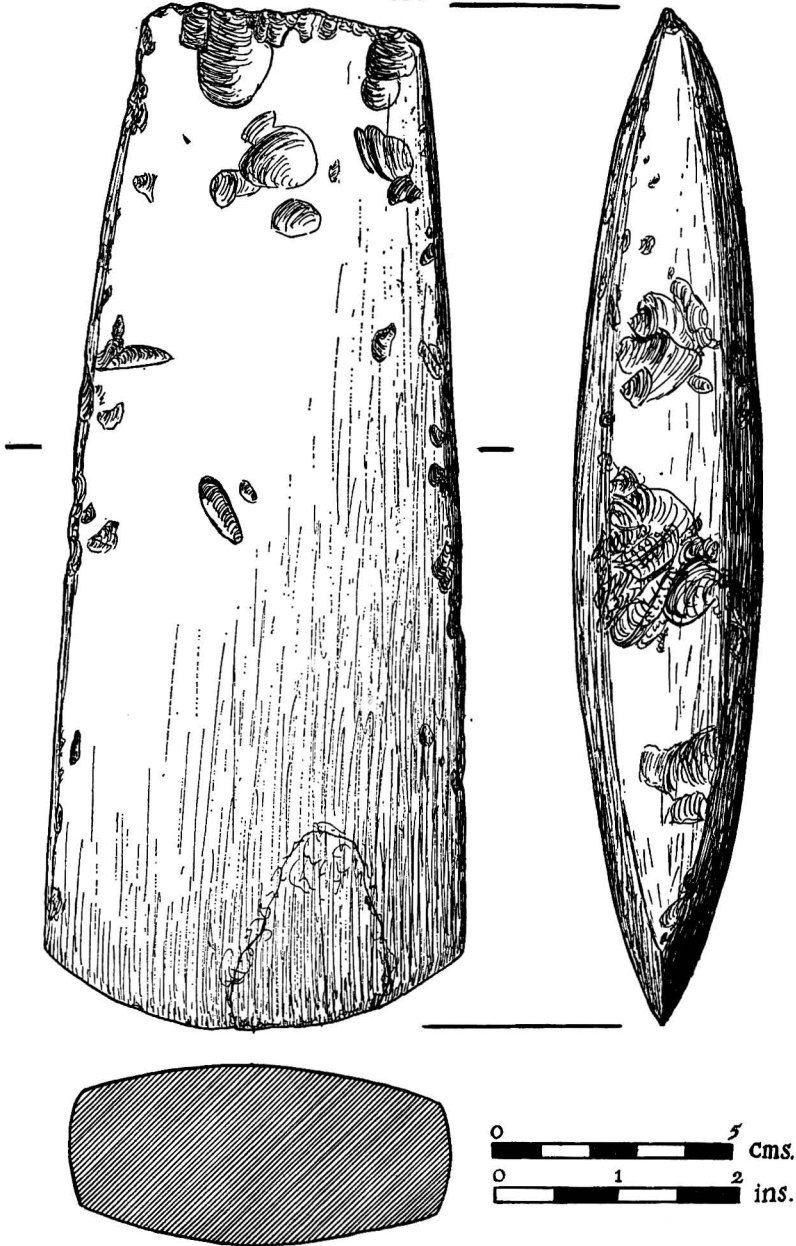
³ S. Piggott, *Proc. Prehist. Soc.*, IV (1938), 81, fig. 16, 101-2.

⁴ C. M. Piggott, *Proc. Dorset Nat. Hist. and Archaeological Soc.*, LXVII (1945), 28.

⁵ Becker, *op. cit.*, 14-15, 35-36.

⁶ Square butted axehead from Maindu, Monmouthshire, and a chisel from Brownslade, Pembrokeshire (Piggott, *op. cit.*, 101; R. E. M. Wheeler, *Prehistoric and Roman Wales* (1925), 58-9).

⁷ J. X. W. P. Corcoran, *Journ. Roy. Soc. Ant., Ireland*, XCIV (1964).



Flint Axehead in National Museum of Ireland (No. 1939/109). (Formerly in T. A. Glenn Collection). Drawn by Mr. Etienne Rynne, Dublin 2.

Marked "Found in Isle of White July 18th, 1790".

METEOROLOGICAL REPORT FOR 1963.

This summary was compiled by Mr. H. Hoare, Meteorological Officer for Shanklin.

The Maximum, Minimum, Wet and Dry Bulb Thermometers, and the Rain Gauge are situated in Big Meade, Church Road, 180ft. above sea level.

The Sunshine Recorder and Weather Vane are on the roof of the Town Hall.

Readings are taken at 0900 hours and 1800 hours daily, G.M.T.

Looking back on the weather during 1963 there was not very much to enthuse over. The early Arctic period was followed by a wet sunless one. Sunshine, rainfall, and temperatures all had adverse totals.

April, when a pleasant, warm period can normally be expected, was upset by a series of low complex pressures, cold, wet, and below average sunshine seeming to set the pattern for the ensuing months, and apart from a reasonable first half of June and 10 days or so at the end of July, the summer was non-existent.

The four Bank Holidays came in for a decidedly mixed bag as far as weather was concerned. Good Friday was excellent, dry, reasonably warm, with little wind, and the sunniest since 1953 with over 12 hours of sunshine. Easter Monday was a complete write-off, cold and with nearly an inch of rain; it was the wettest and least sunny for 10 years. Whit-Monday was dry and sunny with some sea mist. August Bank Holiday was the one lucky break in a bad month, sunny (11 hours), dry, and warm, with little wind.

SUNSHINE

The total of 1788.8 hours was very disappointing, being 163 hours below the average and the third lowest total on record.

The year commenced auspiciously enough, the first three months all having above average totals. Then the "rot" well and truly set in, and the remaining months, with the exception of July, all showing deficits—October being outstanding with the lowest total on record.

It is interesting to note that despite a very wet August the Island fared better than the remainder of the British Isles for the *Daily Telegraph* reported in its issue of September 2nd the following: "The sunniest areas during August were in the Isle of Wight with 217 hours at Shanklin, 201 hours Ventnor, and 195 hours Sandown.

RAINFALL

It has been a very wet year with a rainfall total of 38.87 inches (average 35.8).

The year started off well with the driest January on record, only .95 of an inch of rain and this despite 13 snow recordings. February followed the same pattern. The next four months all had above average totals, June excelling itself with nearly twice the usual amount. July

had half an inch less than average, followed by a disastrously high total of nearly six inches for August—more than twice the average and, with the exception of 1960, the highest total on record.

September and October were average, followed by a very wet November with 26 rain days, two consecutive days when an inch or more of rain fell, and a grand total of 7.68 inches, easily upholding its reputation as the wettest month of the year.

Rainfall during the last six months seemed to alternate between the two extremes, June was excessively hot, July dry, August very wet, and December very dry.

TEMPERATURES

The range and variation of temperatures during the year was fantastic. January and February were the coldest on record and one would be quite safe in saying the coldest for 60 years or more, having phenomenally low mean temperatures of 29.7 degrees (40.7) and 32.5 (42.6) respectively.

January had 13 days with the maximum temperature below freezing point and only once were night temperatures above 32 degrees.

February was almost as bad with 23 days of frost.

The cold spell eased somewhat during March, although still below average, and it was not until October that an above average mean temperature was recorded, a really incredible losing run of 23 consecutive months.

November followed with the highest mean temperature (with the exception of 1951) on record and December ended the year with mild weather at the beginning and end, but with a freezing patch in the middle.

There were 69 days when no sun was recorded and 187 days with no rainfall.

Extremes of temperature ranged from 16 degrees of frost on January 13th (a record low) to 77 degrees on July 22nd. Winds were in the main stronger than usual and on 139 days came from the east. The number of gales, on the other hand, were fewer (only four). Snow, nearly all flurries, was recorded on 27 occasions and thunder 10 times.

Fogs and mists were far more frequent than usual, especially in December.

RAINFALL RECORDED AT NEWTOWN 1963

January	.65	May	1.03	September	2.28
February	1.47	June	2.62	October	2.24
March	2.98	July	1.47	November	5.87
April	4.13	August	4.32	December	.96

Total: 30.02 inches.

The rainfall from January to mid-November, 1963, was recorded by the late Mr. A. V. Gravely and thereafter by Mr. P. Seabroke.

1963 WEATHER AT SHANKLIN.

Month	Max. Mean	Min.	Temperatures		Dry Mean	Wet Mean	Rainfall		Sunshine	
			Extremes				Inches	26-yr. av.	Hours	16-yr. av.
Jan.	33.5	25.9	41	16	29.5	28.9	.95	4.34	79.5	70.82
Feb.	36.2	28.8	45	21	32.0	31.1	1.23	2.56	93.8	92.00
Mar.	47.5	37.7	56	27	43.0	41.4	3.92	2.29	147.1	144.60
April	51.7	41.5	60	30	46.9	45.2	4.31	1.71	159.9	204.90
May	57.2	44.7	72	36	53.3	49.9	1.87	1.85	250.5	250.66
June	63.3	52.5	75	47	59.0	56.8	3.55	1.81	223.6	266.60
July	64.8	53.5	77	48	60.8	58.0	1.99	2.62	269.6	253.88
Aug.	63.7	54.5	70	44	60.0	57.3	5.94	2.72	210.6	232.50
Sept.	62.3	51.8	70	46	57.8	55.6	3.18	3.21	152.9	172.45
Oct.	57.8	49.5	64	42	54.2	52.5	3.05	3.91	82.7	133.20
Nov.	53.9	45.9	61	33	50.7	48.9	7.68	4.57	72.1	75.40
Dec.	42.4	34.8	52	23	38.4	37.2	1.20	4.25	46.5	61.38
							38.87	35.84	1788.8	1958.59

**INFORMAL MEETINGS OF SECTIONS AS SHOWN ON 1963
PROGRAMME**

January	6	Medina Bird Walk.
"	13	"
"	20	"
"	27	"
February	3	"
"	8	Mammals and Reptiles.
"	10	Brading Bird Walk.
"	15	Seashore and Shells.
"	17	Medina Bird Walk.
"	22	Entomological.
"	24	Newtown Bird Walk.
March	1	Archaeological.
"	3	Medina Bird Walk.
"	8	Geological.
"	10	Yarmouth Bird Walk.
"	17	Medina Bird Walk.
"	22	Botanical.
"	24	Newtown Bird Walk.
"	29	Ornithological.
"	31	Medina Bird Walk.
May	4	Joint Geological Meeting.
October	6	Medina Bird Walk.
"	8	Ornithological.
"	13	Medina Bird Walk.
"	20	"
"	27	"
November	3	Medina Bird Walk.
"	10	"
"	17	"
"	24	"
December	1	Medina Bird Walk.
"	8	"
"	15	"
"	22	"
"	29	"

A RARE FOSSIL FISH FROM ATHERFIELD IN THE ISLE OF WIGHT.

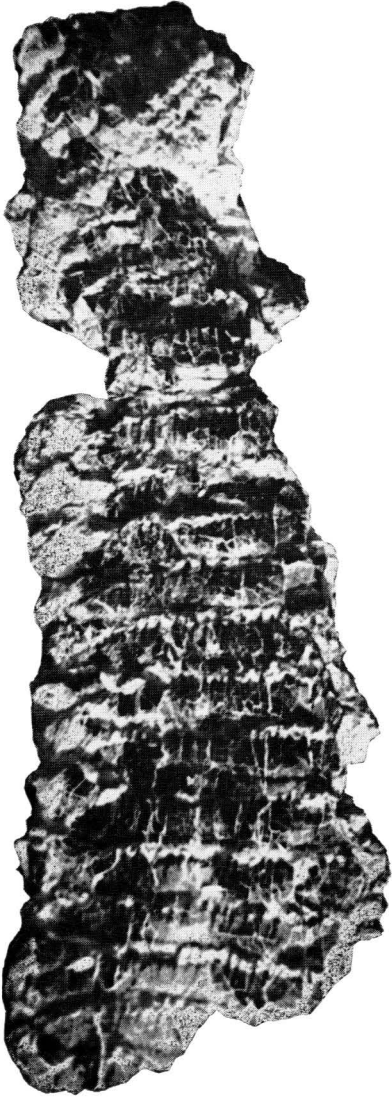


Fig. 1. *Belonostomus Hooleyi* (Arthur Smith Woodward).
Original specimen in the British Museum (Natural History) (No. P.47358).

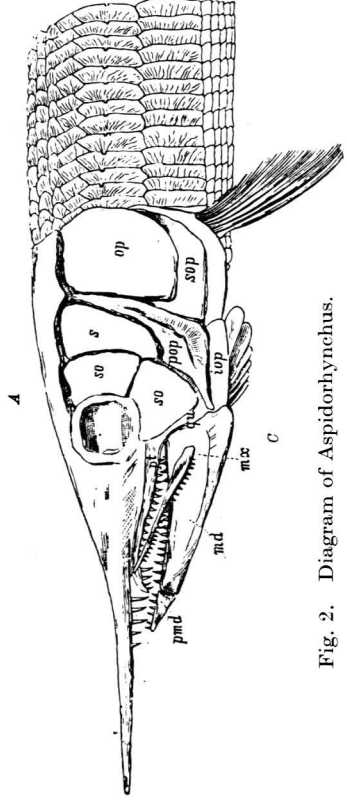


Fig. 2. Diagram of *Aspidorhynchus*.

See page 404.

PROCEEDINGS
OF THE
ISLE OF WIGHT
NATURAL HISTORY
AND
ARCHÆOLOGICAL SOCIETY
FOR 1964

LIST OF OFFICERS.

(Elected at the Annual General Meeting, 16th January, 1965.)

President :

MRS. M. M. SEABROKE.

Vice-Presidents :

F. BRIGHT, Newport.
MISS G. BULLOCK, Binstead.
J. E. COOPER, Shanklin.
G. C. DUNNING, B.Sc., F.S.A., London.
O. H. FRAZER, Brighstone.
A. J. HENRY, Ryde.
A. L. HUTCHINSON, M.A., Carisbrooke.
R. J. MACHIN, Newport.
E. W. MARVIN, Cowes.
D. ROBERTS, Wootton.
J. STAFFORD, M.A., Brighstone.
V. WADHAM, Newport.
MISS T. WHITE, Ventnor.

General Secretary :

J. E. COOPER, Cliff Close, 99 Victoria Avenue, Shanklin, I.W.

Assistant Secretary :

MISS M. P. CLAY, 3 Newport House, Crocker Street, Newport, I.W.

Treasurer :

J. RUSSELL, 27 Player Street, Ryde, I.W.

Conservation Officer :

S. T. WAITE, B.Sc., Whitewings, Queen's Road, Cowes, I.W.

Editor of Proceedings :

A. J. HENRY, Eckford, 22 Partlands Avenue, Ryde, I.W.

Councillors :

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J. AITCHISON	L. C. PREBBLE
J. CHEVERTON	R. SEABROKE
MRS. I. GASKIN	G. H. SMITH
MRS. A. W. WILKINSON	

Ex-Officio : Curator of Carisbrooke Museum; Bird Recorder; Flower Recorder.

Bird Recorder :

J. STAFFORD, M.A., Westering, Moorland, Brighstone, I.W.

Flower Recorder :

MISS T. WHITE, Seascape, Lower Gill's Cliff Road, Ventnor, I.W.

Librarian :

MRS. D. FRAZER, Mottistone Mill, Brighstone, I.W.

*(Publications sent in exchange, or enquiries re old "Proceedings" available,
should be addressed to the Librarian as above)*

SECTION LEADERS.

Archaeology:

Mr. J. Jones, Carisbrooke Castle.

Ornithology:

Mr. J. Stafford, Westering, Moor Lane, Brighstone.

Entomology:

Mr. T. D. Fearnehough, 26 Green Lane, Shanklin.

Botany :

Miss T. White, Seascape, Lower Gills Cliff Road, Ventnor.

Geology:

Mr. S. T. Waite, Whitewings, Queens Road, Cowes.

Mammals and Reptiles:

Mr. O. H. Frazer, Mottistone Mill, Brighstone.

Seashore and Shells:

Mr. L. C. Prebble, Albert Cottage, Binstead Hill, Ryde.

Access to the Countryside :

Mrs. D. Millington, Zigeuner, Wall Lane, Brading.

NEW MEMBERS.

- MRS. S. BLAKE, 14 St. Martin's Avenue, Shanklin.
MRS. R. BRYER-ASH, Park Cottage, Rookley.
MR. G. T. ANDERSON, 68 Kings Road, East Cowes.
MRS. W. WIGHT-BOYCOTT, Snaefell, Church Road, Wootton Bridge.
MISS. C. A. L. BROWN, Mount Pleasant, Ward Road, Totland Bay.
MRS. J. BIRKS, Fakenham Cottage, St. Helens.
MR. C. G. BAKER, Holdfast, Yarmouth.
MRS. S. M. BAKER, Holdfast, Yarmouth.
MR. F. L. COLQUHOUN, Tregay, Totland Bay.
MRS. K. E. COLQUHOUN, Tregay, Totland Bay.
MR. W. E. CASTLES, Highview, Sunnyhill Close, Lake, Sandown.
MRS. W. E. CASTLES, Highview, Sunnyhill Close, Lake, Sandown.
MR. E. J. COLES, Braeside, Oakhill Road, Seaview.
MISS D. CHAMBERS, Woody Hill, Undercliff Drive, St. Lawrence.
MR. S. H. DEAKIN, 84 High Street, Cowes.
MR. L. R. FENNELLY, 100 Newport Road, Lake, Sandown.
MR. G. FRYATT, Joys, Weston Lane, Totland.
MRS. F. FRYATT, Joys, Weston Lane, Totland.
MR. T. G. FALLON, Luccombe Chine House, Near Ventnor.
MR. J. E. V. GOODLIFFE, Landour, High Street, Brading.
MRS. V. H. GOODLIFFE, Landour, High Street, Brading.
MISS M. N. GREGORY, 4 Tirlemont Road, South Croydon, Surrey.
MR. E. D. GUYON, 42 Fieldway Crescent, Nodes Estate, Northwood, Cowes.
MRS. E. GUYON, 42 Fieldway Crescent, Nodes Estate, Northwood, Cowes.
MISS E. D. HEWLAND, Mayflower Cottage, Ashknowle Lane, Whitwell.
SQN. LDR. HARDSTAFF, Leome, Sunnyhill Close, Newport, Road, Lake.
MRS. M. HARDSTAFF, Leome, Sunnyhill Close, Newport Road, Lake.
MRS. D. S. HAIG, Fakenham Cottage, St. Helens.
REV. H. M. HILL, St. Phillips, Arundel, Sussex.
DR. G. KNIGHT, Egypt Cottage, Cowes.
MISS J. KNIGHT, 195 Staplers Road, Newport.
MISS K. DE LUSIGNAN, Daubeney Lodge, Ashley Road, Ryde.
MRS. P. LAWRENCE, 132 Sandown Road, Shanklin.
MR. R. H. G. LEE, The Old Malt House, Mill Road, Shalfleet.
MRS. R. H. G. LEE, The Old Malt House, Mill Road, Shalfleet.
MRS. D. N. MILLER, 61 Swanmore Road, Ryde.
MISS D. MEARBECK, 8 St. Thomas Street, Ryde.
MRS. M. E. PATON, Blairythan, Easton Lane, Freshwater Bay.
MRS. M. PREECE, Penrhyn, Baring Road, Cowes.
MR. D. N. PRATTEN, Townsend House, Hampstead Norris, Newbury, Berks.
LT. COL. R. H. PALMER, Peasemore Manor, Newbury, Berks.
MR. E. D. PEPPER, Riverside Caravan Site, Dodnor, Newport.
MR. A. RUTT, The Shelling, Three Gates Road, Northwood, Cowes.
MRS. J. RUTT, The Shelling, Three Gates Road, Northwood, Cowes.
MR. R. BURGESS-SMITH, Cedar Cottage, Bembridge.
MRS. B. M. BURGESS-SMITH, Cedar Cottage, Bembridge.
MR. W. WEARN, Shore End, Queens Road, Cowes.
MRS. W. WEARN, Shore End, Queens Road, Cowes.
MRS. M. WHITELEY, 14 St. Martin's Avenue, Shanklin.

OBITUARY.

GEORGE FREDERICK MEW, B.E.M., C.A.

We record with regret the death of Mr. G. F. Mew, of Gainsville, Lushington Hill, Wootton, aged 84, on the 17th June, 1964. Mr. Mew had been a Member since 1926. A keen archaeologist and always interested in the Society's activities, he was elected President in 1954 and, during his three-year term and until his death, he spared no efforts in promoting and guiding the advancement of the Society. A man who had lived most of his life in the Blackgang and Chale area, he probably knew its history better than anyone, and it is lucky that so much of this has been recorded in his book "Back of the Wight." His many interests were particularly bound up with the Royal National Lifeboat Institution (as a former member of the Atherfield crew), the coastguards, and auxiliary services. For a long time he had taken an increasing interest in planning on the Island and recently had been appointed Chairman of the County Planning Committee. He will be greatly missed by his many friends.

A.J.H.

STANLEY FREDERICK BALL.

Mr. Ball came to the Island when he retired in 1961, joining the Society in 1962, and he remained a member until his death on the 21st February, 1964, at Fairhaven, Blackbridge Road, Freshwater, at the age of 70 years.

Prior to his retirement he had been the Curator of Ilfracombe Museum and was also in charge of the Royal Society for the Protection of Birds' Reserve, at Spreacombe. In his time he had been President of the Ilfracombe Natural History Society and, after the war, had been a member of the Lundy Field Society, where he had been a joint warden with Mr. Hugh Boyd during 1949, having put the old lighthouse into a habitable condition as a headquarters on that island.

Mrs. Ball remains a member of the Society and has very kindly presented our Library with a copy of "*The Birds of Hampshire and the Isle of Wight*" in his memory.

A.J.H.

ALECK WESTRUP.

Mr. Westrup had been associated with the Society for many years and became a member in 1963. In 1964 at the Annual General Meeting he was elected an Honorary Member, and he was delighted to learn this whilst he was seriously ill, but unfortunately he never recovered. A tribute to him and of his work by his old friend, Mr. R. V. Wells, follows:—

Aleck Westrup died just over a year ago, leaving his great self-imposed task of compiling a new Hampshire Flora for others to finish. Had he completed this work his name would have been remembered by field botanists well into the next century. As it is, the burden of this task must be shouldered by others, but the conception and the groundwork of a new county flora will be his.

He was not actually professionally trained as a botanist. A chemist, he had taught for many years at Portsmouth College of Technology, and was then made head of the department of chemistry at the new Highbury Technical College. Teaching was in his blood. No question was too trite for him to attempt to answer, no specimen was too familiar to be disregarded. It was impossible not to learn from him, it was impossible not to be inspired by him.

He held very strongly that the young naturalist was the one that really mattered. For him, the future of our Wild Life meant a great deal. A past president of the Portsmouth Natural History Society, and a founder and council member of the County Naturalist Trust, the education of the next generation in the principles and practice of conservation was of paramount importance. For many years he had been a familiar figure with botanical expeditions organised by the Botanical Society for young people, both at home and abroad. He had done work with the Boy Scout movement at all levels, as a Scoutmaster and as a member of the District Commissioner's staff.

His natural history interests extended beyond the flowering plants and ferns. He was capable in ornithology and in the study of the Lepidoptera. His training in science had taught him to look for cause and effect. It was not enough to find and recognise the variety. The variety must be explained in terms of geology, climate, and past history of its distribution. The more difficult, systematically, a group might be, the more he revelled in it.

The unusual grass round the orchid and the uncommon sedge with the marsh violets were just as important as the conventionally more exciting and obvious finds.

Unmarried, and with few family ties, he was able to throw the whole of his energies and powerful mind into the chosen fields of his work. His was a dedicated life, and at the end, after a distressing illness, he left us inspired by his courage, and himself fortified by the devout hope of a deep Christian belief.

R. V. W.

BALANCE SHEET

AS AT 31st DECEMBER, 1964.

RECEIPTS.		£	s.	d.
Balance brought forward	.....	450	9	4
Subscriptions	.....	284	19	0
Donations	.....	17	17	0
Sales of <i>Proceedings</i> , Reprints, Bird Reports, etc.	.....		6	6
Interest on Investments and Deposit Accounts	.....	15	16	3
Profits on Teas, etc.	.....	7	8	10
Gift from Hants and I.W. Trust (Conservation)	.....	20	0	0
Newtown Fund (Exhibitions, Donations, etc.)	.....	175	2	6
		£971 19 5		

EXPENDITURE.		£	s.	d.
Printing <i>Proceedings</i> , Reprints (1962 edition)	.....	182	10	0
Other Printing	.....	25	6	11
Subscriptions, Donations, etc.	.....	6	0	0
Hire of Halls, etc.	.....	30	8	8
Stationery	.....		18	5
Petty Cash, Postage, Sundries, etc.	.....	14	2	8
National Trust (4th and 5th Payment <i>re</i> Newtown)	.....	150	0	0
<i>Local Look</i> Expenses	.....	61	17	10
Conservation—Newtown Fencing	.....	4	3	10
Cost of "Addressograph"	.....	26	4	2
Balances in hand	.....	470	6	11
		£971 19 5		

Investments : 3½ Per Cent. War Stock (estimated market value) £174.

Audited and found correct:

(Signed) G. POLLARD,
J. AITCHISON,
Hon. Auditors.

(Signed) A. J. HENRY,
Hon. Treasurer.

GENERAL MEETINGS, EXHIBITIONS, AND EXCURSIONS.

Joint Meeting held on Thursday 16th January, 1964.

A joint meeting was held with the Historical Association at 7.15 p.m. in the Priory Girls' School, Nodehill, when an illustrated talk was given by Mrs. M. Piele, Secretary of the Joint Archaeological Committee and Organising Secretary at Fishbourne since 1959, entitled "Excavations at Roman Fishbourne (Sussex)".

Visit to Carisbrooke Castle on Saturday 22nd February, 1964.

Leader, Mr. J. D. Jones, M.A., Curator.

After a talk in the museum about the history of the castle, 70 members were taken in two parties round the castle and shown the three main phases of fortification; the earliest fort, believed to be the most westerly of a chain of defences built by the Romans against Saxon raids; the motte-and-bailey castle begun by the Normans in the 11th century and completed in stone in the early 12th century; and the outer fortifications, with their arrowhead bastions, constructed at the time of the Spanish Armada. Members were also able to see the interesting feature of the castle, the well-wheel worked by a donkey, believed to be the only one in Britain still worked in that way.

It was the first occasion for many years that the society had visited the castle, and the attendance was larger than had been expected. The success of the afternoon was also due to Mr. W. J. Roberts, head of the history department at Carisbrooke Grammar School, and an expert on the history of the castle, who happened to be making a private visit with friends at the time, and agreed to conduct one of the parties.

General Meeting held Saturday 21st March, 1964.

The President in the chair.

There was a large attendance to hear a most enjoyable and instructive lecture entitled "Our Changing Flora," by Mr. J. E. Lousley, President of the Botanical Society of the British Isles and author of *Flowers of Chalk and Limestone*, etc.

Although, as would be shown, there were many factors causing change in our flora, the speaker said, it was interesting to note that in some cases very little change had occurred for a long time. The Pasque

Flower recorded on the Berkshire Downs in 1830 could still be found in the same place. The flowers of Selborne were still much as Gilbert White had described them, but this was off the main lines of communication, and such threats as the proposed sewage works had, happily, been averted.

In other places considerable changes had occurred, but these were not always for the worse. They were largely man-made changes, such as the abandonment of canals, closing of railways, and drainage of marshes. Sometimes these newly-created habitats contained most interesting plants, but in other cases the coarser vegetation quickly encroaches. It was interesting to note how the Brittle Bladderfern had been spread from Wales to other parts by the railways, and it was generally rewarding to look for ferns spread in this way under the platform on the north-facing side.

As far as rivers were concerned, it was difficult to find clean streams with natural banks, uncontaminated by detergent foam. Many village ponds had been filled in or used as dumps for rubbish.

Heathland was diminishing rapidly. Destruction by fire was the danger here, as ling and other interesting heathland plants could not withstand repeated burning. It was interesting to note that where heathland was used by the Army for tank manoeuvres the plants were not so seriously affected.

Quarrying naturally destroyed existing habitats, but where a quarry became disused it made a very good nature reserve.

Many examples of foreign plants being introduced were given, and in some cases these have spread to become quite common species, such as *Rhododendron ponticum* and *Buddleia*.

The effects of modern farming practices were considerable, with large fields mechanically cultivated, hedges removed, and no cornfield weeds. Spraying of roadside verges and the withdrawal of grazing animals from chalk lands and commons had all had their effect. In order to check this loss of some of our most interesting habitats, the Conservation Corps, run by the Council for Nature, had done some very good work. Nature reserves should be properly managed to maintain the conditions necessary for the most interesting plants. It was probably more important to preserve the nature of the habitat, rather than to try and preserve a particular rare species. As in the case of the Lizard Orchid, if the habitat is right, it is likely to occur even if it has not been seen there before.

Finally, there was the problem of the week-ends, when much of the country was overrun, bluebell woods destroyed by trampling, primroses and violets dug up and taken away. By-laws can help, but by and large the only hope was a better education of the public as typified by the Council for Nature's poster: "Country-lovers leave flowers for others to enjoy."

The President, Mrs. M. Seabroke, thanked the speaker for a most interesting lecture, exquisitely illustrated by coloured slides.

General Meeting held on Saturday the 11th April, 1964.

The President in the chair.

More than 70 members attended the last indoor meeting of the season to hear Mr. T. L. Bartlett, chairman of the Selborne Society, talk on "Gilbert White—his book and village," in preparation for the Society's visit to Selborne in April. After explaining how he himself had come under the spell of Gilbert White during the first world war, the speaker went on to show how Gilbert White and Selborne were inseparable. After tracing Gilbert White's life, which, except for eight years, was spent at Selborne during the 18th century, the speaker described some of the main features of the village. The lecture was illustrated by original manuscripts and coloured slides.

Visit to Selborne on Saturday 25th April, 1964.

Leader, Mr. T. L. Bartlett.

The party of 80 travelled by coach from Portsmouth and on arrival at the village was met by Mr. T. L. Bartlett (chairman of the Selborne Society). He talked to the assembly on the Plestor before showing them the church and other interesting landmarks connected with Gilbert White. Unfortunately rain rather spoilt the walk up the zig-zag path to the top of the Hanger, where on a fine day such a wonderful view of the village and surrounding countryside can be enjoyed.

In the afternoon most members visited the Wakes (part of which was the home of Gilbert White) and now is a museum and garden full of interest to all admirers of the great naturalist.

Annual Newtown Survey 16th to 24th May, 1964.

This was the sixth annual Whitsun Survey organised by this Society and carried out under the supervision of the President and Mr. O. H. Frazer. Some 30 students from Island secondary schools participated as well as some members of the Society, and good photographs were obtained. For the first recorded time the Black-headed Gulls nested on the islands opposite the boathouse and, following a very high tide just prior to Whitsun, the area was swamped. Only the prompt action by Mr. and Mrs. Seabroke in retrieving the early eggs from the mud and replacing them in the nests enabled a reasonably successful hatching. Although the Clamerkin pair of Swans made a nest and incubated, no young were produced, and a subsequent investigation showed the remains of eggs in position, so it is feared that they were probably sterile. Oyster-catchers, Ringed Plover, Little Terns, and Linnets were noted nesting and appeared to breed successfully. Moorhens and Red-shanks nested in the saltings and a considerable number of Lapwings were observed in the area. After an initial disappointment the sheep-proof fencing erected on Fisherman's Point by the Society was found to be successful in protecting the nesting shore birds.

Visit to Cliff Farm, Shanklin, on Friday evening, 29th May, 1964.

Members of the Society enjoyed a visit to Cliff Farm, Shanklin, by permission of Mr. B. Parsons and Mr. D. Buckhurst, N.D.H. The party was conducted by Mr. Buckhurst, whose commentary on the management of the farm was extremely interesting. Members admired the Red Poll cattle, animals in good condition and a great credit to their owners. At the end of the walk round the farmlands, refreshments were served in the barn by Mrs. Parsons, Mrs. Buckhurst, and Mrs. Cooper.

Boat Trip to the Needles on Saturday 30th May, 1964.

Arranged by Mr. and Mrs. Gunn.

About 50 members went by boat from Yarmouth to the Needles to look at sea birds. Many species were seen, including shag, puffin, guillemot, and fulmar.

Excursion to Brighstone Forest on Saturday 13th June, 1964.

Leader, Mr. N. Hindley (Forester).

Members spent an interesting afternoon when they were taken on a conducted tour of Brighstone Forest. Permission had been obtained from the head forester, and the guide was Mr. N. Hindley, forester of Brighstone Forest. Special arrangements were made to enable older members to take part in the outing.

Stops were made at different places in the forest for the identification of trees and to note and compare the plantations at varying stages of growth. As well as learning much about forestry management and planning, members were able to admire the views from many vantage points and study the natural history of the forest. It came as a most pleasant surprise to many members to learn how many beech and other deciduous trees were being planted, and that the present policy of the Forestry Commission will result in an extensive forest of pure beech by the year 2010.

In the absence of the president, Mrs. M. M. Seabroke, a hearty vote of thanks to Mr. Hindley for such an instructive and enjoyable outing was expressed by Mr. O. H. Frazer.

Visit to Chillerton Down on Saturday 27th June, 1964.

Leader, Mrs. E. M. Henry.

About 40 members met at Gatcombe Church on Saturday and, with the permission of Sir Robert Hobart, Bt., walked through his wood and up the pathway to Tolt Copse, past Long Copse, eventually arriving at "Five Barrow Camp," where a halt was made.

Mr. J. D. Jones, curator of Carisbrooke Museum, explained that, although the mounds were originally thought to have been burial barrows, it was now considered that they were more likely to have been 3rd century B.C. earthworks, defending the Tolt "spur" from the only side on which there was easy access; the remaining area of around 25 acres having been possibly defended by a palisade which, after this long lapse of time, would leave no trace. He hoped that, in the not-too-distant future, it would be possible to dig a cross-section through the mound and surrounding ditch, which would go a long way to solving the mystery.

During the walk up, and on, Chillerton Down the members found many interesting flowers of the chalk, including nettle-leaved Bell-flower (*Campanulaceae trachelium*) and some of the commoner orchids. It was interesting to note that a few plants of the Sainfoin (*Onobrychis viciifolia*) were still growing, a relic from cultivation years ago as a fodder plant, which still flowers annually here.

Refreshed by the rest, members climbed down the steep side of the down, appreciating how difficult an attack on the top would be, and explored the valley to the east of Newbarn Down. They eventually picked up the original path and obtained excellent views across the Island and of Sheat Manor before returning to Gatcombe Church, where the leader of the outing, Mrs. E. M. Henry, was thanked for a very pleasant and interesting walk.

Visit to Brading Down on Friday Evening, 10th July, 1964.

Leaders, Mr. and Mrs. Axten.

About 30 members of the Society had a delightful walk in the Brading area on Friday week. They met at the Bugle car park, by permission of the innkeeper, Mr. C. Smith.

Sketch maps were provided, showing the eastern end of the Island, from Ryde in the north to Sandown in the south, with landmarks and points of interest included. This was for the benefit especially of members who have come to live in the Island comparatively recently. The party set off via the Bull Ring and Little Jane's Cottage through Nunwell Woods up on to the Newport road and returned along the ridge of Brading Down back to the village.

The beech trees and a wealth of downland and grassland flowers were much admired. Clean air and bright sunshine enabled everyone to appreciate to the full the wonderful views obtained from various vantage points.

In the unavoidable absence of the president, a vote of thanks to the leaders, Mr. and Mrs. Axten, was proposed by Mr. O. H. Frazer, who said how much the walk had been enjoyed.

Visit to St. Lawrence on Saturday 25th July, 1964.

Leaders, Miss T. White and Mr. A. A. T. Smith.

Members met at St. Lawrence on Saturday. First, by invitation of the Rector (the Rev. R. F. Collings), they visited the rectory garden; here, among many interesting flowers, they were pleased to see ripening seeds of bee orchids, a rare sight nowadays when many are thoughtlessly picked.

The party proceeded up St. Lawrence Shute through Pelham Woods and along the old railway track to Castle Close. Many interesting plants were found owing to the continually changing habitats provided by the old line. Mr. A. A. T. Smith and Miss White, the leaders, were thanked by Mrs. Seabroke (president).

Exhibition "Local Look"—staged by the Society during the whole of August at the Seely Hall, Brook.

Attendances, profits, and public interest during the third and fourth seasons of "Local Look" continued the upwards trend established in 1962.

Seven thousand two hundred and twenty-two visitors were recorded for the two months—if 1964 summer weather had been poor this figure would have easily topped the 8000 mark. Increased interest is shown by contrasting the combined total for 1961 and 1962 of 4363.

Total receipts were £211 9s. 1d. (1963) and £242 6s. 10d. (1964), with respective expenses of £117 7s. 6d. and £107 0s. 1d.

In 1963 J. Arthur Dixon's bird postcards were introduced—1661 being sold, realising £31 2s. 10d.; 226 seaweed cards made by pupils of Priory Girls' School took £5 13s. 0d.; postcard sales of 2168 (£40 13s. 0d.) in 1964 were confined to J. A. Dixon's—including butterfly and new aerial views.

Publications sold were again *Proceedings*, *Bird Reports*, and *Geological Handbooks*, plus the residue in 1963 from May "Nature Week," of 45 *Wildlife in Britain*, for £16 17s. 6d. The addition was made in 1964 of a useful pamphlet *Geological History of the Isle of Wight*, produced by Mr. J. Jones and Mr. S. T. Waite, 200 of these realising £10.

1964 saw the expenses becoming fully realistic, covering all running costs; also publicity was extended to the mainland.

Both seasons included a special Adder and Grass Snake exhibit; 1964s being run in conjunction with the Island's Medical Officer of Health.

1963 saw a re-arrangement of the display from panels set up in bays, to "round the room" with overhead fittings and lighting; this marked improvement was designed and carried out by Mr. O. Frazer.

The chief innovation in 1964 was the arranging of displays by Leaders of the Society's various sections, helped by members from their groups. This proved most successful, and also gave more members the opportunity to participate.

Another new item was the provision of notebooks for visitors to record their natural history observations, and this proved most popular.

A subsidiary exhibition was mounted in Newtown Town Hall for the whole of 1964 summer, under the direction of Mrs. M. Seabroke.

A set of water-colours, painted 60 years ago, of Brook, by a Mrs. Smithers, daughter of Mrs. Dawkins, now resident on the mainland, was presented (1964) to the Exhibition. Ownership is now vested in the Society.

The "Local Look" committee again wishes to record its appreciation of all the help so freely given by the President; by the 67 members who carried out stewarding duties; by various Brook residents; of the inspired work of Mr. and Mrs. O. Frazer in designing the display; and to all who have worked towards the Exhibition's success, resulting in the target figure of £375 in respect of the Newtown Estuary quota, being handed over in September, 1964, to the National Trust, one year ahead of schedule.

I. GASKIN (April, 1965).

Visit to "Local Look," Brook, on Sunday 9th August, 1964.

Leader, Mr. O. H. Frazer.

There was a good attendance at the monthly meeting on Sunday, when a private visit was made to the Society's own exhibition "Local Look" at Brook.

Mr. O. H. Frazer (leader) explained how the different sections of the Society had prepared the various displays, and pointed out the main features of interest and originality, which undoubtedly made this exhibition the best the Society had yet staged.

Mrs. M. M. Seabroke (president), thanking the leader, stated how helpful this introduction had been to those members who had undertaken to do duty as stewards later in the month.

After spending some time viewing the exhibition, the party walked up Brook Hill, noting the features of interest, including the junction of chalk and upper greensand well seen in the cutting here. Typical flowers of the chalk were observed on Brook Down, and the party settled down to a picnic lunch with the incomparable view of Compton Farm, Freshwater Bay and cliffs, with Swanage beyond, making a picture that few will forget. Three kestrels hovered and dived on their prey in full view of the party as they watched.

The descent to Brook was made through Dunsbury Farm, by permission of the farmer, Mr. Flitton, but this was more hurried than originally intended owing to the rain. A visit was paid to the beach at Brook before an excellent tea was enjoyed at Hanover House, to complete a very pleasant outing in this delightfully natural area.

Visit to Bembridge on Saturday 19th September, 1964.

Leaders, Mr. O. H. Frazer, Mr. L. G. Prebble, and Mr. S. T. Waite.

There was a good attendance at the monthly meeting, when members visited the seashore at Bembridge. One of the three leaders, Mr. S. T. Waite, first described the geological formation of the shore and drew attention to the "raised beach," clearly visible in the cliffs. Some members searched for fossils, others explored the rock pools under the guidance of Mr. L. C. Prebble and Mr. O. H. Frazer.

At the end of the afternoon the specimens collected were displayed in the studio which Mr. and Mrs. Linaker made available for the occasion. A good selection of seaweeds was found, and among the marine life there were several kinds of sea shells, sea squirts, sponges, crabs, and a number of fish. After they had been identified, examined, and discussed the specimens were returned to the sea.

Visit to Roman Villa, Avondale Road, Newport on Friday 16th October, 1964.

Leader, Mr. J. Jones, M.A.

By special arrangement members met at 6.45 p.m. and were shown over the Roman Villa by Mr. Jones, who gave a most interesting talk on the discovery of this, and pointed out to his listeners the various parts of particular interest.

Fungus Foray on Saturday 24th October, 1964.

Members met in Parkhurst Forest (by permission of the head forester, Mr. McNulty) under the leadership of Mr. E. Ellis, of the Ellis Research and Testing Laboratories, who was assisted by Mrs. Thomas, of Guildford. The fungi collected in Parkhurst and other areas in the Island were taken to the science laboratories of the Priory Girls' School, Newport, where they were identified and arranged.

Fungus Display on Sunday 25th October, 1964.

The exhibition was opened by Mrs. M. M. Seabroke (president), who welcomed Mr. Ellis and expressed her appreciation of the help given by Mrs. Thomas. Mr. Ellis gave a talk from the physicist's point of view, suggesting ways in which fungi could be studied.

General Meeting held on Saturday 14th November, 1964.

The President in the chair.

More than 80 members and friends attended, when Mr. O. H. Frazer presented the report of this year's Whitsun survey at Newtown.

A fine selection of black and white photographs, mostly taken by pupils of Island secondary schools, was on display. There were close-up studies of Black-headed Gulls, Oyster-catchers, Ringed Plovers, and Little Terns. Particularly admired were the excellent photographs taken by Edward Cooke, of Priory Boys' School, and Mary Deacon, of Priory Girls' School. Coloured photographs taken by the speaker during the survey were shown, and were augmented by an excellent series in colour of Black-headed Gulls taken by Warrington, of Sandown Grammar School. Other slides of interest were taken by Miss Kathleen Cooper and Mr. Arthur Henry.

The Society's film "Birds of Newtown" was much appreciated.

General Meeting held on Saturday 5th December, 1964.

The President in the chair.

There was a good attendance when Mr. L. C. Prebble spoke on the "Distribution of the Mollusca of the Isle of Wight."

The speaker dealt with the disastrous effects of the severe winter of 1963 on all forms of shore life, including the Molluscs, or shell-fish. The Oysters at Newtown, in common with other oyster fisheries on the mainland, had suffered an almost total loss, while Piddocks and Razor-shells had also been badly hit. With the aid of a relief map he showed the distribution of many species, specimens of which were also on display.

A series of coloured slides, taken by Mr. O. H. Frazer on the Newtown Survey and during various outings of the Seashore Section of the Society, showed many species of shells, and also included pictures of fossils, showing the strong links which existed with the Geological Section. The speaker stressed the great value of these sectional outings in increasing knowledge of the distribution of Molluscs in the Island.

The Fossil Fish, previously reported in the *County Press* as having been found by Mr. S. T. Waite, was also on display.

Mr. Goodchild, of Chichester, gave a talk on "Fresh Water Molluscs," illustrated by specimens from the Island and also from the mainland.

Brian Thistleton, of Carisbrooke Grammar School, showed the beginnings of his collection and notebooks.

Mrs. M. Seabroke (president) thanked the speakers and the projectionist, Mrs. D. Frazer, for a very interesting afternoon.

FLOWER REPORT FOR 1963 AND 1964.

By Miss T. WHITE.

The Flower Section of the Society has made good progress and grown in numbers during these two years. Both individually and in group work, members have continued to collect data for the new Hampshire and Isle of Wight Flora. Excursions have been made to under-recorded areas as well as to the more interesting sites.

For "Local Look" the section concentrated on medicinal and poisonous plants, and those displayed proved attractive to visitors.

There have also been more new records for the Island and, in 1964, perhaps due to the dry season, an unusually large number of albino specimens were noted.

Names of Contributors and Abbreviations :—

Miss G. Bullock	(GB)	Mr. C. Pope	(CP)
Mr. D. Cooper	(DC)	Mr. J. Russell	(JR)
Mrs. D. Frazer	(DF)	Mrs. A. J. Saunders	(AS)
Mr. W. Hardstaff	(WH)	Mrs. M. Seabroke	(MS)
Mrs. E. M. Henry	(MH)	Mr. B. Shepard	(BS)
Revd. Fr. Higgins, O.S.B.	(JH)	Miss T. White	(TW)
Miss L. Kennedy	(LK)	Mr. A. Westrupp	(AWW)
Miss E. M. Newnham	(MN)	Mr. J. Wooldridge	(JW)
		Many Observers	(mo)

Numbered in accordance with Dandy's *List of British Vascular Plants* (1958).

- 16 *Ceterach officinarum*, D.C. (Rustyback Fern. Whippingham (JH). New site.
- 29 *Ophioglossum vulgatum*, L. (Adder's Tongue). Havenstreet, Down End (GB). Gatcombe, Bouldnor Cliff (AWW). New site.
- 46 *Ranunculus aquatilis*, L. (Water Crowfoot). Quarr (JH). Blackgang, Aug., in flower (CP).
Ranunculus auricomus, L. (Goldilocks). Shalfleet (MS). New site.
Ranunculus flammula, L. (Lesser Spearwort). Sandown (LK). Fishbourne (JH). Binstead (GB).
Ranunculus hederaceus, L. (Ivy-leaved Crowfoot). Binstead (J.H.).
- 49 *Aquilegia vulgaris*, L. (Columbine). Rowridge Valley (DF).
- 57 *Ceratophyllum demersum*, L. (Hornwort). Ventnor (TW). New site.
- 62 *Chelidonium majus*, L. (Greater Celandine). Carisbrooke (JH). New site.
- 65 *Corydalis claviculata*, L. (Climbing Corydalis). New Barn, Apse Heath (MN).

- 66 **Fumaria martinii**, *Clavand* (Fumitory). Lake (AWW). New record.
- 67 **Brassica rapa**, *L.* (Rape). Ventnor (TW). New site.
- 71 **Hirschfeldia incana**, *L. Lagr.-Foss* (Hoary Mustard). Quarr (JH), several plants. New record.
- 80 **Coronopus didymus**, *L. S.M.* (Slender Wartress). Whiteley Bank (MN).
- 84 **Thlaspi arvense**, *L.* (Penny Cress). Shide (BS). Newtown (MS).
- 88 **Cochlearia anglica**, *L.* (Scurvy Grass). Wootton (JH).
- 92 **Lobularia maritima**, *Dear* (Sweet Alison). Ryde (JH).
- 95 **Erophila praecox**, *Stev.* (Whitlow Grass). Quarr (JH).
- 97 **Cardamine pratensis**, *L.* (Lady's Smock). Havenstreet (GB), double-flowered. Newtown (MS). Shalfleet (MS).
- 112 **Reseda luteola**, *L.* (Weld). Shanklin (MN).
- 114 **Polypala vulgaris**, *L.* (Milkwort). Quarr (JH).
- 121 **Frankenia laevis**, *L.* (Sea Heath). St. Helens (GB). New site.
- 133 **Stellaria neglecta**, *Weihe* (Greater Chickweed). Binstead (GH). St. Lawrence (GB).
Stellaria alsine, *Grimm.* (Bog Stitchwort). Wootton (JH).
- 136 **Sagina apetala**, *Arduino* (Annual Pearlwort). Appley (JH).
- 149 **Montia fontana**, *L.* (Blinks). Binstead (GB). Garden.
- 154 **Chenopodium urticum**, *L.* (Upright Goosefoot). Old Road, E. Cowes (JH).
- 156 **Atriplex littoralis**, *L.* (Grass-leaved Orache). Binstead, Quarr, and Whippingham (JH).
Atriplex glabriuscula (Babington's Orache). Ryde (JH).
Atriplex laciniata, *L.* (Frosted Orache). Quarr (JH). Binstead (GB).
- 163 **Malva moschata**, *L.* (Musk Mallow). Tolt Down, Rowridge (DF).
Malva neglecta, *Wallr.* (Dwarf Mallow). East Cowes (JH).
- 165 **Althaea officinalis**, *L.* (Marsh Mallow). Norris Castle (JH). Brading, new site (DM).
- 167 **Radiola linoides**, *Roth* (All-seed). Bleakdown (BS). New site.
- 168 **Geranium columbinum**, *L.* (Long-stalked Cranesbill). Ninham (MN).
- 170 **Oxalis europaea**, *Jord* (Upright Oxalis). Shanklin (MN).
- 171 **Impatiens capensis**, *Meerb.* (Jewel Weed). Between Quarr and Binstead (JH). 1949 (GB).
Impatiens glandulifera, *Royle* (Himalayan Balsam). Ashey (GB). Between Ashey and Brading Down (CP).
- 181 **Vitis vinifera**, *L.* (Virginian Creeper). Nr. Medham, Shide, Whitepit Lane (BS).
- 192 **Trifolium medium**, *L.* (Zig-zag Clover). Havenstreet (GB). Ninham (MN).
Trifolium squamosum, *L.* (Sea Clover). Newtown, Hamstead (MS).
Trifolium scabrum, *L.* (Rough Clover). Appley (JH). Hamstead (MS). St. Helens (mo).

- Trifolium subterraneum*, *L.* (Burrowing Clover). St. Helens (mo).
Trifolium micranthum, *Viv.* (Slender Trefoil). Ryde (JH).
 195 *Lotus Angustissimus*, *L.* (Least Birdsfoot Trefoil). Yarmouth (MS).
 202 *Ornithopus perpusillus*, *L.* (Common Birdsfoot). America Woods (MN).
 212 *Potentilla anglica*, *Laircharding.* (Trailing Tormentil). Quarr Wood (JH).
 225 *Rosa pimpinellifolia*, *L.* (Burnet Rose). Rowridge (DF).
 235 *Sedum cephaea* (identified by *Br. Museum*). Whippingham (JH). New record.
 249 *Lythrum meonanthrum* (identified by *Br. Museum*). Bembridge (Mrs. Wilkinson). New record.
 254 *Epilobium roseum*, *Schreb.* (Pale Willowherb). Havenstreet (GB).
Epilobium adnatum, *Griseb.* (Square-stemmed Willowherb). Binstead, Quarr, E. Cowes (JH).
Epilobium obscurum, *Schreb.* (Short-fruited Willowherb). Merstone (TW).
 256 *Oenothera biennis*, *L.* (Lesser Evening Primrose). Havenstreet (GB).
Oenothera parviflora, *L.* (Least Evening Primrose). Havenstreet (GB).
 269 *Hydrocotyle vulgaris*, *L.* (Marsh Pennywort). Havenstreet (GB).
 275 *Scandix pecten-veneris*, *L.* (Shepherd's Needle). Havenstreet (GB).
 283 *Bupleurum rotundifolium*, *L.* (Thorow-wax). Quarr (JH). St. Helens (GB).
Bupleurum lancifolium, *Hornem.* Ryde (MH). Newport (RJM).
 319 *Euphorbia uralensis*, *Fisch.* (Spurge). Newport (GB).
Euphorbia lathyris, *L.* (Caper Spurge). Nr. Kern (GB).
Euphorbia exigua, *L.* (Dwarf Spurge). Ninham (MN).
 320 *Polygonum baldschuanicum*, *Regel.* (Russian Vine). Carisbrooke (JH). Shanklin (MN).
Polygonum cuspidatum, *Sieb and Zucc.* (Japanese Knotweed). Shanklin (MN). Bembridge Down (CP).
 321 *Fagopyrum esculentum*, *Moench.* (Buckwheat). Shanklin (MN).
 330 *Ulmus angustifolia x glabra* (Elm). Quarr (JH).
Ulmus angustifolia x sarniensis (Jersey Elm). Quarr (JH).
 362 *Monotropa hypopitys*, *L.* (Yellow Bird's Nest). Binstead (GB). 1 specimen.
 368 *Hottonia palustris*, *L.* (Water Violet). Nunwell (MS and DM).
 370 *Lysimachia punctuata*, *L.* (Dotted Loosestrife). Binstead (JH).
 382 *Centaurium pulchellum*, *Druce.* (Slender Centaury). Havenstreet, Quarr (GB). Rew Down, Ventnor (TW).
 385 *Gentianella anglica*, *Pagsl.* (Early Gentian). Westover (mo). Rew Down (TW).
 386 *Menyanthes trifoliata*, *L.* (Bogbean). Ryde (JH).
 392 *Symphytum caucasicum*, *Bieb.* (Comfrey). Ventnor (TW).

- Symphytum asperum x uplandicum**, *Nyman*. Havenstreet (GB).
 394 **Trachystemon orientalis**, *L., G. Don.* (Abraham, Isaac, and Jacob). Ryde (CP).
 395 **Pentaglottis sempervivens**, *L., Tausch.* (Green Alkanet). Bowcombe (DF).
 407 **Cuscuta epithymum**, *L.* (Dodder). Bouldnor (GB), (TW).
 408 **Nicandra physalodes**, *L.* Ryde (MH). New record.
 410 **Atropa bella-donna**, *L.* (Deadly Nightshade). Westover (GB).
 411 **Hyoscyamus niger**, *L.* (Henbane). Havenstreet (GB).
 415 **Datura stramonium**, *L.* (Thorn-apple). Binstead (GB). Thorn-cross (DF).
 416 **Verbascum nigrum**, *L.* (Dark Mullein). Arreton (GB).
Verbascum virgatum, *Stokes* (Moth Mullein). Havenstreet (GB).
Verbascum blattaria, *L.* (Large-flowered Mullein). Brading (GB).
 421 **Chaenorhinum minus**, *L.* (Small Toadflax). Combley (GB).
 430 **Veronica scutellata**, *L.* (Marsh Speedwell). Havenstreet (GB).
 435 **Euphrasia nemorosa**, *Wallr.* (Woodland Eyebright). Bowcombe (GB).
 439 **Lathraea squamaria**, *L.* (Toothwort). Prolific 1964 Swainston (MS), (MH). Ryde (CP), and other woods (mo).
 441 **Pinguicula lusitanica**, *L.* (Pale Butterwort). Rookley (GB), increasing.
 448 **Thymus pulegioides**, *L.* (Large Thyme). St. Helens (mo).
 451 **Calamintha ascendens**, *Joro.* (Calamint). Yaverland (GB). Carisbrooke (JH).
 468 **Marrubium vulgare**, *L.* (White Horehound). Ventnor (Dr. Emden).
 472 **Plantago indica**, *L.* Brighstone (DF). New record.
 476 **Legousia hybrida**, *L., Delarb.* (Venus' Looking glass). Shalcombe (AWW). Ninham (MN).
 502 **Bidens tripartita**, *L.* (Trifid Bur Marigold). Between Quarr and Binstead (JH). Whippingham (JH). Shanklin (MN), Sandown (LK).
 506 **Senecio squalidus**, *L.* (Oxford Ragwort). Uplands Road, Ryde (AWW). Horringford (GB). Shanklin (MN).
Senecio squalidus x s. vulgaris. Ryde (AWW).
Senecio sylvaticus, *L.* (Heath Groundsell). Havenstreet (GB).
 512 **Inula helenium**, *L.* (Elecampane). Smallbrook (CP).
 516 **Anaphalis margaritaceae**, *L., Benth* (Pearly Everlasting). Downend (GB). New record.
 528 **Achillea ptarmica**, *L.* (Sneezewort). Bouldnor (GB), (TW).
 Nil **Carthamus tinctorius**, *L.* (Safflower). Downend (BS). New record (ident. *Br. Museum*).
 544 **Centaurea cyanus**, *L.* (Cornflower). Ashy (GB).
 555 **Mycelis muralis**, *L., Dumort.* (Wall Lettuce). Appley, Ryde (JH). Nunwell (mo).
 558 **Heracium perpropinum**, *Druce* (Savoy Hawkweed). Havenstreet (GB).

- Heracium umbellatum**, *L.* (Umbelled Hawkweed). Havenstreet (GB).
- 559 **Crepis biennis**, *L.* (Rough Hawksbeard). Asheys, Upton, Whitefield (AWW).
- 566 **Butomus umbellatus**, *L.* (Flowering Rush). Gunville (CP), in flower 6-9-63.
- 574 **Triglochin palustris**, *L.* (Arrow Grass). Quarr (JH).
- 605 **Juncus acutiflorus**, *Ehrh.* (Sharp-flowered Rush). Wootton (JH).
- Juncus bulbosus**, *L.* (Bulbous Rush). Sandown (LK). New site.
- 607 **Allium moly** (Golden Garlic). Bowcombe (DF). Garden escape.
- 618 **Crocus nudiflorus**, *Sm.* (Autumn Crocus). Bembridge (GB).
- 625 **Epipactis helleborine**, *L., Crantz.* (Common Helleborine), flowering 8-7-63 to 2-8-63. Quarr (CP).
- 629 **Neottia nidus-avis**, *Ludw.* (Birds'-Nest Orchid). Site V. (AJS).
- 635 **Coeloglossum viride**, *L., Hartman.* (Frog Orchid). Site III (GB).
- 638 **Platanthera chlorantha**, *Custer.* (Butterfly Orchid). (JH). Site IV (CP).
- 655 **Scirpus tabernaemontani**, *C.C.Gmel.* (Greyish Bulrush). Sandown (LK). Whitefield Farm (AWW).
- 658 **Cyperus longus**, *L.* (Galingale). Apes Valley (GB).
- 663 **Carex riparia**, *Curtis.* (Gt. Pond Sedge). Binstead (JH).
- Carex divisa**, *Hudson* (Divided Sedge). East Cowes (JH).
- Carex ovalis**, *G.* (Oval Sedge). Nr. Quarr (JH).
- 669 **Glyceria maxima**, *Hartman, Holmberg* (Great Water Grass). Binstead (JH).
- Glyceria declinata**, *Breb.* (Small Flote Grass). Carisbrooke, Quarr, E. Cowes, Wootton, Whitefield (AWW).
- Glyceria fluitans**, *L., Brown* (Flote Grass). Quarr (JH). New site.
- 674 **Catapodium marinum**, *L., Hub.* (Darnel Fescue). Ryde (JH).
- 683 **Bromus erectus**, *Huds.* (Upright Brome). Havenstreet (GB).
- Bromus thominii**, *Hardwin* (Soft Brome). Havenstreet (GB).
- 705 **Gastridium ventricosum**, *Gouan.* (Nitgrass). Quarr (JH). 1963 casual.
- 708 **Alopecurus geniculatus**, *L.* (Marsh Foxtail). Sandown (LK).
- Alopecurus bulbosus**, *Gouan.* (Bulbous Foxtail). Quarr (JH).
- 713 **Phalaris arundinaceae**, *L.* (Reed Grass). Sandown (LK).

In addition to the list of specimens above there have been many white ones recorded during 1964 and these are set out below :—

- Campanula glomerata** (Clustered Bellflower). Afton (MS).
- Succisa pratensis** (Devil's Bit Scabious). Clamerkin (MS).
- Cakile maritima** (Sea Rocket). Binstead (JH).
- Carduus crispus** (Wetted Thistle). Many places (mo).
- Carduus acaulon** (Dwarf Thistle). Westover (MS).
- Centaurea scabiosa** (Greater Knapweed). Thorley (MS).
- Anacamptis pyramidalis** (Pyramid Orchid). Mersley (CP).
- Ophrys apifera** (Bee Orchid). Tolt Down (MS).

Betonica officinalis (Betony). Clamerkin (MS).

Geranium robertianum (Herb Robert). Osborne, Three Gates Wood (MS).

Ononis repens (Rest Harrow). Rew Down (TW).

Centaureum erythrae (Centaury). Culver (WH), Medina (PS), Osborne (MS).

ERRATA, 1962.—No. 624 **Cephalanthera damasonium** (Broad Helleborine) should read: No. 625 **Epipactis helleborine**, *L., Crantz* (Common Helleborine or Broad Leaved).

CONCHOLOGICAL NOTES FOR 1963 AND 1964.

By **L. C. PREBBLE.**

The bitter winter of 1963 caused considerable havoc with the Island Mollusca, and this did not give the newly-formed Seashore Section a fair start. However, several well attended meetings have been arranged during 1963-64, despite the coastline around the Island having been frozen solid for around six weeks in the early part of 1963.

From records received, the Oyster Fisheries at Newtown were a complete write-off, and the Razor Shells, Piddocks, and Common Limpets only just held their own, but by the end of 1964 these began to show signs of recovery, many deeper water species seemed to have suffered a similar plight, judging by the numbers of empty shells washed in, still almost complete, but with the holdfasts of the Laminaria still attached.

The following members have contributed and enabled me to carry out this survey; although no means complete, it has been most successful.

The finding of the first complete specimen has been used for the recording, except where one valve is stated as the only find. Of some species, many have been found since.

Miss Elizabeth Clarke (EC).

Mr. O. H. Frazer (OF).

Mrs. I. W. Gaskin (IG).

Mr. and Mrs. J. M. Gunn (JMG).

Mrs. N. Jones (NJ).

Mr. C. C. Lucas (CL).

Mrs. D. Millington (DM).

Mrs. E. I. Prebble (EP).

Mr. L. C. Prebble (LP).

Mrs. M. Preece (MP).

Mrs. M. Seabroke (MS).

Master B. Thistleton (BT). Land Mollusca only.

Miss T. White (TW). Land Mollusca only.

Many others (MO). Land and Marine.

Identification of Mollusca carried out by following publications: Edward Step, F.L.S., *Shell Life, Common Names*. Scientific numeration and arrangement, R. Winckworth, M.A., *British Marine Mollusca, 1932; Journal of Conchology*.

GASTROPODA.

- 2 **Emarginula reticulata** (Slit Limpet). Seaview (IP).
- 3 **Emarginula conica** (Rosy Limpet). Brook (IP).
- 6 **Diodora apertura** (Keyhole Limpet). Thorness Bay (LP).
- 7 **Patella vulgata** (Common Limpet). All shores (MO).
- 8 **Patella depressa** (Common Limpet (Flat)). Thorness Bay (IG).
- 9 **Patella athletica** (Common Limpet (Rayed)). Ventnor (LP).
- 10 **Patina pellucida** (Blue Rayed Limpet). Horse Ledge (NJ).

- 20 **Calliostoma zizyphinum** (Common Top Shell). Brook (MP).
 23 **Gibbula magus** (Painted Top). Seaview (OF).
 25 **Gibbula cinerarea** (Grey Top). All shores (MO).
 26 **Gibbula umbilicalis** (Flat Top). Priory Bay (DM).
 31 **Monodonta lineata** (Thick Top). Puckpool, Ryde (one shell only) (LP).
 38 **Lacuna crassior** (Chink Shell). Seaview (EC).
 41 **Littorina littorea** (Common Winkle). All shores (MO).
 42 **Littorivaga saxatilis rudis** (Rough Winkle). Seaview (MS).
 45 **Neritoides littoralis** (Dwarf Winkle). Bembridge (LP).
 71 **Rissoa parva** (Rissoas). Gurnard (EC).
 87 **Turritella communis** (Auger). Yarmouth (DM).
 90 **Bittium reticulatum** (Needle Whelk). Thorness Bay (LP).
 168 **Calyptrea chinensis** (Cup and Saucer Limpet). Seaview (MO).
 169 **Crepidula fornicata** (Slipper Limpet). All shores (MO).
 175 **Lunatia fusca** (Necklace Shell). Seaview (JMG).
 176 **Lunatia catena** (Large Necklace Shell). Freshwater (in crab pots) (LP).
 177 **Lunatia poliana alderi** (Brown Necklace Shell). Seaview (EC).
 184a **Trivia monacha monacha** (3 Spotted Cowry). Seaview (MP).
 184b **Trivia moncha artica** (Plain Cowry). Brook (IP).
 190 **Nucella lapillus** (Rock Purple). All coasts (MO).
 192 **Ocenebra erinacea** (Sting Winkle). Gurnard (EC).
 199 **Colus gracilis** (Spindle Whelk). Binstead Beach (LP).
 203 **Neptunea antiqua** (Smooth Buckie). Newtown (OF).
 204 **Buccinum undatum** (Common Whelk). Newtown (OF).
 207 **Hima reticulatus** (Netted Dog Whelk). Shanklin (in crab pots) (LP).
 208 **Hima incrassatus** (Thick Lipped Dog Whelk). Shanklin (in crab pots) (LP).
 235 **Haminoea hydatis** (Bubble Shell). Ryde (MP).
 236 **Akera bullata** (Thin Bubble). Seaview (IP).

SCAPHOPODA.

- 1 **Dentalium entalis** (Curved Tusk Shell). Colony at Seaview (MS).
 2 **Dentalium vulgare** (Pink Ended Tusk Shell). Seaview (IP).

LAMELLIBRANCHIA.

- 2 **Nucula nucelus** (Nut Shell). Thorness Bay (IG).
 16 **Anomia ephippium** (Saddle Oyster). Puckpool, Ryde (IP).
 20 **Mytilus edulis** (Common Mussel). Ryde Pier (LP).
 22 **Modiolus modiolus** (Common Horse Mussel). Brook (one valve only) (LP).
 23 **Modiolus barbata** (Bearded Mussel). Brook (LP).
 35 **Ostrea edulis** (Common Oyster). Newtown (CL), (OF).
 39 **Pecten maximus** (Great Scollop). Bembridge (LP).
 42 **Chlamys varia** (Varigated Scollop). Brook (IP), (DM).
 43 **Chlamys distorta** (Hunch Back Scollop). Brook (DM), (IP).

- 44 *Acquiptecten opercularis* (Quin). Seaview (DM), (LP).
 47 *Palliolium tigerina* (Tiger Scollop). Brook (IP).
 64 *Loripes lucinalis* (Small Lucine). Ryde (IP).
 66 *Lucinoma borealis* (Lucine). Ryde (IP).
 86 *Ancanthocardia aculeatum* (Spiny Cockle). Thorness Bay (one valve washed in) (LP).
 87 *Ancanthocardia echinatum* (Prickly Cockle). Thorness Bay (LP).
 92 *Parvicardium exium* (Little Cockle). Ryde (IP).
 93 *Cerastoderma edule* (Common Cockle). All coasts (MO).
 94 *Laevicardium crassum* (Smooth or Norwegian Cockle). Seaview (DM only).
 99 *Venus verrucosa* (Warty Venus). Seaview (IP), (MP).
 104 *Venerupis aurea* (Golden Carpet), all coasts (MO).
 105 *Venerupis rhomboides* (Virgin Carpet). Rare at all times; four specimens only (LP).
 106 *Venerupis pullastra* (Pullet Carpet). All coasts (MO).
 108 *Ruditapes decussata* (Cross Cut Carpet). Binstead (LP).
 123 *Macoma balthica* (Baltic Tellin). Various bays (MP).
 124 *Scrobicularia plana* (Brittle Tellin). Medina Estuary (MO).
 137 *Ensis ensis* (Sword Razor). Seaview (EC).
 139 *Ensis siliqua* (Razor Shell). Yarmouth (JMG).
 145 *Lutraria lutraria* (Otter Shell). Seaview (one valve only) (LP);
 147 *Mya truncata* (Blunt Gaper). Binstead (LP).
 148 *Arenomya arenaria* (Sand Gaper). Gurnard (MP).
 156 *Pholus dactylus* (Pidcock). Gurnard (MP).
 176 *Pandora margaritacea* (Pandora Shell). Seaview (IP).
 // *Mercenaria mercenaria* (Hard Shell Clam). Southampton Waters (CL).

LAND MOLLUSCA.

A list of numbers for these is not available as yet, but nomenclature is as up to date as can be found.

The Land and Fresh Water are being collected by Master Brian Thistleton, who is undertaking to co-operate in the recording

List of Non-Marine Mollusca (Isle of Wight):—

FRESH WATER PELECYPODA.

- Anodonta cygnaea* (Swan Mussel). Private Pond at Gatcombe (LP).
Anodonta anatina (Duck Mussel). Brading River and Alverstone (DM), (BT).
Pisidium amnicum (River Pea Shell). Alverstone (BT).
Sphaerium corneum (Fresh Water Cockle). Brading River (DM).

FRESH WATER GASTROPODA.

- Limnaea stagnalis* (Great Pond Snail). Puckpool (LP).
Limnaea peregra (Wandering Pond Snail). Alverstone (BT).
Planorbis corneus (Ramshorn Snail). Private Pond, Binstead (LP).
Ancylus Fluviatilis (Fresh Water Limpet). Havenstreet (LP).

LAND GASTROPODA.

- Helix aspersa** (Common Garden Snail). Almost everywhere (MO).
Cepea nemoralis (Brown Lipped Snail). Parkhurst Forest (BT),
 Ventnor Undercliff (TW).
Cepaea hortensis (White Lipped Snail). Bowcombe Down (BT).
Arianta arbustorum (Copse Snail). Ventnor (TW).
Helicigona lapicida (Lapidary Snail). Niton Undercliff (LP).
Helicella virgata (Banded Snail). Bowcombe Down (BT).
Helicella caperata (Wrinkled Snail). Bowcombe Down (BT).
Theba cantiana (Kentish Snail). Brading Down (BT), Ventnor (TW).
Goniodiscus rotundatus (Rounded Snail). Bowcombe Down (BT).
Oxychilus cellarius (Cellar Snail). Bowcombe Down (BT).
Trichia striolata (Ruddy Snail). Niton Old Road (LP).
Pomatias elegans (Elegant Snail). Carisbrooke (BT).
Cochlicella barbara (Pointed Snail). Rowborough (TW).
Ena obscura (Lesser Bulin). On Beech Tree at Shorwell (BT).
Balea perversa (Tree Snail). Bowcombe Down (BT).
Clausilia (marpessa) laminata (Plaited Door Snail). Bowcombe Down
 (BT).
Clausilia (marpessa) laminata (Plaited Door Snail—Albinistic Form).
 Shorwell Shute (LP), (BT).
Clausilia bidentata (2-Toothed Door Snail). Shorwell Shute (BT).

CONSERVATION REPORT FOR 1964.

By **S. T. WAITE, B.Sc.**

The open space at Brading Down is, according to the *County Press*, being handed over to the Brading Parish Council.

At the end of the year progress towards the declaration of the Newtown Local Nature Reserve was continuing satisfactorily.

Further attempts to transplant the Field Fleawort are being made by Mr. N. H. Hindley, of the Forestry Commission, to whom our thanks are due.

The colony of Frog Orchids on Tennyson Down is flourishing, but owing to the dry summer the flowers were very small this year.

The Purple Cow-wheat again flowered well this year. During August a small working party put up a fence to protect an area from the depredations of the cattle. Finance was provided by the Hampshire and Isle of Wight Naturalists' Trust, Limited, and materials were provided at cost price by Messrs. H. W. Morey and Sons, through Mr. W. S. Wearn, and by Mr. J. E. Cooper, to whom our thanks are also due. We also wish to record our appreciation to the owners, Mrs. A. Noyes and Mr. H. Noyes, for allowing us to carry out this work of conservation.

Again this spring the undergrowth was cleared at the site of the Wood Calamint. The plant continues to spread, but was less spectacular this year than last.

A revision of the Sites of Special Scientific Interest is being carried out in conjunction with the Nature Conservancy.

A proposal to create an area for special recreational purposes in the Yar Valley was turned down by the Minister of Housing and Local Government.

The balance of the money provided by the Hampshire and Isle of Wight Naturalists' Trust and not used at St. Lawrence bank are placed in a Conservation Fund for other similar work.

GEOLOGICAL SECTION REPORT FOR 1964.

By S. T. WAITE, B.Sc.

Four meetings were held during the year.

Gurnard Ledge, 9th May.—Sixteen members turned out on a fine sunny day. The Bembridge limestone was followed along the cliff from Gurnard Luck to Gurnard Ledge (also known as Baxter's or Bachelor's Ledge). Along this stretch it was seen that the limestone is in two bands, separated by several feet of marl. The upper band forms a minor ledge at Sticelet. The oyster bed is well seen above the upper layer, and then, separated by a few feet of carbonaceous clay, a thin band of hard calcareous claystone, very fine-grained, and of a bluish-grey colour. This is the "insect bed" which is persistent over long distances, although it is, as a rule, only a few inches thick (maximum recorded thickness is about two feet). Stinton reported that several good wing-cases of beetles were found during his visit, but none was found on this occasion.

Hamstead, 20th June.—On a fine windy day with occasional showers 10 members visited the coast at Hamstead, descending to the shore at Hamstead Ledge, where the Bembridge limestone passes out to sea. Unfortunately the cliffs were much covered by debris, but some exposures of the Bembridge marls were seen. The "Black Band," which marks the boundary between the estuarine and marine marls and the overlying fresh water beds of the Lower Hamstead, was clearly seen and some exposures of these beds as far as the "White Band" were also examined.

Foreland, 19th September.—A combined meeting with the Seashore and Biological Sections drew a large attendance on a fine day. The area was chosen for general interest and was not particularly good for geology. However, the top of the Bembridge limestone was again studied and the overlying few feet of beds as far as a hard compact fine-grained calcareous claystone, which is obviously the "insect bed" of Gurnard. Numerous turtle plates were found lying loose on the beach.

The Pleistocene "raised beach," formed probably during the Ice Age, was examined and a discussion ensued as to why it was considered a "beach" and not an outcrop of the Plateau Gravels, as originally believed. The fact that similar beds at Selsey are underlain by marine beds seems inconclusive evidence.

Colwell Bay, 15th November.—A joint meeting with the Seashore and Shells Section attracted 26 people, including a large number of younger members, on a fine but cold day.

The Warden Point sandstone and its relation with the limestone of Headon Hill, into which it passes by lateral lithological change, was described, but it was not examined as the tide was still high. At the place where the road reaches the beach the How Ledge limestone, with

its irregular base and the underlying carbonaceous clay with plant remains was studied. It was explained that these indicated that a warm, almost tropical, climate existed at the time the beds were being laid down.

The main attraction was the "Venus" bed in the Middle Headon beds with its rich marine fauna. Many excellent specimens of the type fossil were collected. The oyster bed also yielded some good specimens.

The small steep fold at Linstone Chine was examined. It was considered to be probably formed when the rocks were still unconsolidated and to have no tectonic significance.

ENTOMOLOGICAL SECTION REPORT FOR 1964.

By T. D. FEARNEHOUGH, A.Met.

The first meeting of the Section in 1964 was held in the Unity Hall, Newport, on 17th April. Exhibits prepared by the Leader for the "Local Look" exhibition were shown, and a programme of field meetings for the coming season was arranged.

At the invitation of Mr. and Mrs. O. H. Frazer the group paid an evening visit to Mottistone Mill on 18th April. The many mature willows, which were giving a wonderful display of blossom, were inspected after dark with the aid of electric torches, but only four moths were found. These were of the following species: *Orthosia gothica*, the Hebrew Character; *O. gracilis*, the Powdered Quaker; *Depressaria applanata*; *D. ocellana*.

The next field meeting was held at Newtown under the leadership of Mr. C. C. Lucas in the morning and Mrs. M. Seabroke in the afternoon. A notable find was a caterpillar of *Limenitis camilla*, the White Admiral. This larva is notoriously difficult to detect, but in the present instance the caterpillar had been killed by parasitic grubs which had spun conspicuous white silken cocoons adjacent to it. Several White Admirals were seen flying. Another interesting find was a freshly emerged specimen of *Thecla quercus*, the Purple Hairstreak, which displayed itself on the hand of one of the party before flying away. Other butterflies observed were: *Maniola jannet*, the Meadow Brown; *Aphantopus hyperantus*, the Ringlet; *Pararge aegeria*, the Speckled Wood; *Caeonympha pamphilus*, the Small Heath; *Melanargia galathea*, the Marbled White. Several species of moths were seen, including *Ortholita plumbaria*, the Lead Belle; *Euphia bilineata*, the Yellow Shell; *Hydriomena furcata*, the July Highflyer; *Opisthocraptis luteolata*, the Brimstone. A short visit was made by the party to the Old Town Hall, where a representative collection of West Wight butterflies, arranged by Mr. Lucas, was viewed.

On 19th July a field meeting was held in the Luccombe area. This was a joint meeting with the South London Entomological Society, but only one member of that body arrived. A very pleasant day was enjoyed and several notable Lepidoptera observed. Larvae of an extremely local moth, *Leucoptera Lathyrifoliella*, were found mining the leaves of *Lathyrus latifolius*, the Broad-leaved Everlasting Pea. On the Landslip numerous specimens of *Platyptilia lunaedactyla*, the Rest Harrow Plume were observed flying around the foodplant. A good find on the Rest Harrow was a female specimen of the moth *Pyrria umbra*, the Bordered Sallow, which later laid a number of eggs. This species is rather difficult to rear as the caterpillars are cannibals, but two pupae were eventually obtained. Many specimens of the pretty micro-moth *Eucosma farfarae* were seen flying around Coltsfoot.

Under the leadership of Mr. O. H. Frazer a very enjoyable meeting was held at Freshwater Marsh on 12th September. Mr. Frazer exhibited

a fine living specimen of *Acherontia atropos*, the Deaths-head Hawk. A number of caterpillars were found feeding on the leaves of small White Poplars. They included two *Smerinthus populi*, the Poplar Hawk, and four *Notodonta ziczac*, the Pebble Prominent. These six larvae were remarkable for their almost white colour, which exactly matched the undersides of the Poplar leaves. The favourite food of the Pebble Prominent is Aspen and the caterpillars are usually ochreous grey, tinted variously with pink and purplish brown. A caterpillar of *Scoliopteryx*, *Libatrix* the Herald, was found and also one of *Mamestra persicariae*, the Dot Moth. The latter was unexpected since it feeds only on herbaceous plants. The reason was seen to be that it had ascended the young Poplar to find a suitable site to spin a silk-pad and attach itself for the purpose of casting its skin. Another larva of a different species, which was about to moult, was also found. These two were kept together in the same tin to await their skin casting. The Dot Moth caterpillar changed first and, looking round for food, could find only White Poplar, which it does not eat. Either through hunger or from anger at such poor treatment it devoured the other caterpillar, whose identity will not now be determined.

The final field meeting had been fixed for 9th October at Borthwood, but it was unfortunately washed out by rain.

General Observations.

The year 1964 showed some improvement in the butterfly population, but this was mostly due to the arrival of migrants from the Continent. In considering native species individually there was little encouragement to be found. The Holly Blue was again not seen and the Small Copper, Adonis Blue, and Brown Argus were again very scarce. The numbers of the Common Blue and the Chalkhill Blue were further reduced in the localities visited. The Browns, with the exception of the Speckled Wood, were in poor numbers generally. The noteworthy records were the White-letter Hairstreak reported at Newtown by Mrs. M. Seabroke and a single larva of the Brown Hairstreak found by Messrs. Greenham and the writer at Cranmore during a visit specially organised to hunt for this species.

Of the migrants, the appearance of Clouded Yellows was most welcome. The first specimen was seen on Brading Down on 1st August and from then onwards the butterfly was reported at intervals from various parts of the Island. The writer saw about 12 specimens near enough for sex to be determined and all were males. The scarcity of females probably explains why, in spite of very favourable weather, the species did not produce an autumn brood. The last specimen seen was flying on Brading Down on 7th November. The Red Admiral came in good strength, but only few Painted Lady butterflies were seen. The Comma produced a numerous autumn brood at Shanklin.

The moths provided plenty of interest. Two specimens of the Convolvulus Hawk, *Herse convolvuli*, were recorded at Shanklin on 12th

September and 25th September respectively. The only specimen of *Macroglossum stellatarum* seen by the writer was hovering over *nicotiana* flowers on 19th September. A male specimen of the very rare migrant *Leucania unipuncta*, the American Wainscot, came to light at Shanklin 5th October.

Of our resident moths, the best find was a female *Acronycta tridens*, the Dark Dagger, found on a tree bole near Sandown. It laid 15 eggs, of which 10 eventually resulted in pupae.

A SURVEY OF THE FROG AND TOAD SPAWNING AREAS IN THE ISLE OF WIGHT—1964.

By O. H. FRAZER.

Introduction.

In the past few years there have been indications that the numbers of frogs were decreasing in some areas in the Isle of Wight. Science teachers in schools, who had relied for many years on local sources for frog-spawn, were finding it increasingly hard to obtain, and in some cases were compelled to purchase it from biological suppliers on the mainland. Many farmers, when questioned, agreed that in earlier years frog-spawn was found in many ponds and ditches on their farms, where in more recent years none at all had been seen. In 1962, when it was desired to show a representative selection of Isle of Wight amphibians at the Society's "Local Look" Exhibition, an appeal for a frog was made through the *I.W. County Press*, which resulted in the procuring of one half-grown frog some three weeks later. A number of people expressed their amazement at being unable to find a frog in answer to the appeal.

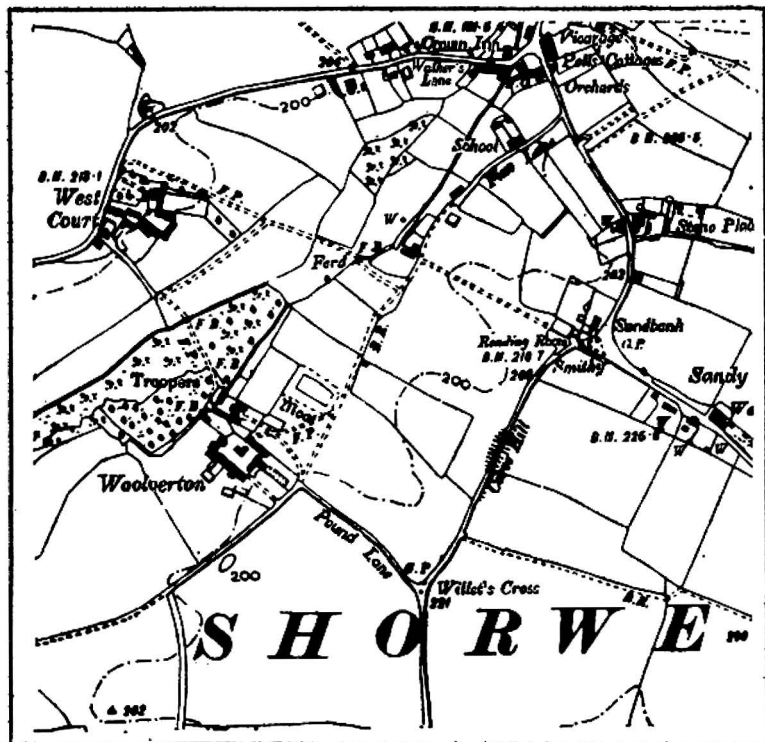
In view of this, therefore, it was felt that a survey should be carried out to ascertain the exact extent of this apparent decline, and from the information thus obtained attempt to assess the possible causes, if, in fact, such a decline were shown. A preliminary survey over the central part of the Island was carried out in the spring of 1963 in order to obtain experience, and the results obtained were sufficient to show that a full-scale survey was warranted. It was clear that, in order to show that there really was a decline in population and not just a movement of frogs from one area to another, it would be necessary to cover the whole Island in the same season. This would clearly be a formidable task, but with the assistance of members of the Mammals, Reptiles, and Amphibians Section of the Society, the staff and pupils of a number of Island schools, the I.W. County Council, the *I.W. County Press*, and individual members of the public, a full-scale survey was successfully carried out in the spring of 1964.

Procedure.

In order to obtain a clear picture of any real decline in frog population and not just local movement from one pond to another, it was decided to base the survey on the Kilometre Squares of the National Grid. There are 419 such kilometre squares covering the Island. A full set of photostat copies of the Ordnance Survey Maps to a scale of 6in. to the mile, covering the whole Island, were kindly supplied by the Town and Country Planning Department of the I.W. County Council. Some of these already bore the grid lines, but others, being of an older edition, had to have the grid lines drawn on them. The maps were then cut into kilometre squares, and each was stuck to a Recording Sheet, an example of one being shown in Fig. 1. The considerable task of

ISLE OF WIGHT FROG AND TOAD SPAWNING AREAS - 1964 SURVEY

KILOMETRE GRID SQUARE NUMBER SZ/48/76
(Scale 6" represent 1 mile)



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NAME OF RECORDER _____

1. Is there reliable evidence that Frog-spawn has been found in this square before 1964 ? YES/NO
2. Did you find any Frog-spawn in this square this year ? YES/NO
3. If you did, mark the exact spot on the above map with the letter F.
4. What was the date on which you found it ? _____
5. Did you find any Toad-spawn in this square this year ? YES/NO
6. If you did, mark the exact spot on the above map with the letter T.
7. What was the date on which you found it ? _____

WHEN COMPLETED, THIS FORM SHOULD BE RETURNED TO :—

O. H. FRAZER, Priory Sec. Girls' School, Newport.

NOT LATER THAN 1ST MAY, 1964.

Fig. 1. Specimen Recording Sheet.

preparing 419 such Recording Sheets was undertaken by a group of pupils at the Priory Secondary Girls' School, Newport, I.W. Each kilometre square was identified by numbering the squares contained in each 10-kilometre square from 1 to 100, starting at the top left-hand corner and counting from left to right along each line in descending order. This number was prefixed by the 10-kilometre square Sheet Number as used by the Ordnance Survey on their 2½ in. maps, appropriate copies of which were supplied to the area organisers. This method was adopted in preference to the use of grid references, in view of the large number of people taking part, some of whom might be confused by grid references. The Recording Sheets were distributed, together with full instructions, to area organisers, who were responsible for allocating them to individual recorders.

As can be seen on the specimen Recording Sheet (Fig. 1), for each kilometre square the recorder had to state clearly whether any frog-spawn had ever been found in that square before 1964, and also if any frog-spawn was found during 1964, and, if so, where and on what date. In addition, the exact position and date of any Toad-spawn found within the kilometre square during 1964 was to be shown. Regular visits to suitable spawning sites in each square had to be made over a period from 1st February to the end of April, after which the Recording Sheets were to be returned for collation of the results.

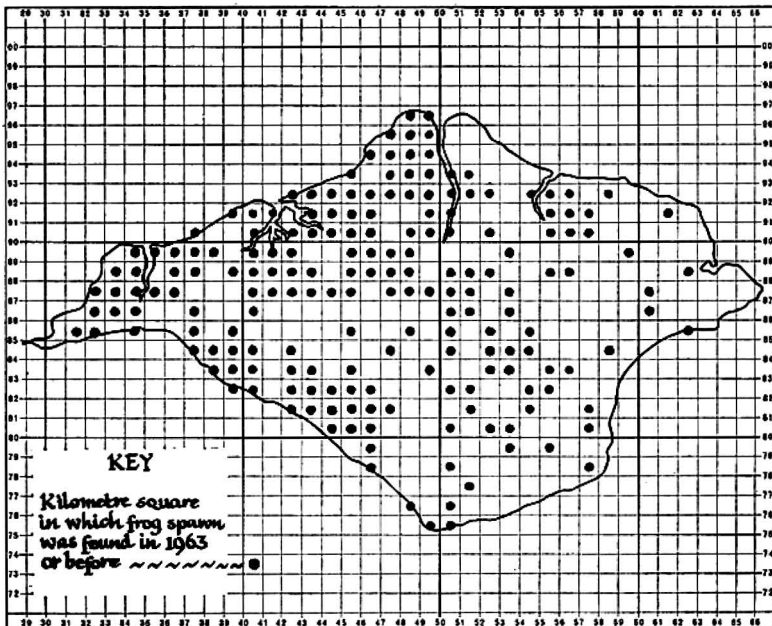
As might be expected in such a large survey with so many recorders, there were a number of cases where, through sickness and other causes, a square was inadequately covered by the recorder, but steps were taken in good time to ensure that such squares were visited and possible sites explored for the existence of any tadpoles before these would have metamorphosed and left the water. A further check on possible errors was provided by an appeal in the local press for information about any cases of spawn being found in private ponds, which were not accessible to the recorders. In addition, the results obtained were displayed at the Society's "Local Look" Exhibition at Brook during August, which was visited by nearly 4000 people, many of whom were residents, with a request for any additional information or amendments. As a result of these additional checks a small number of amendments were made, and it is considered that the results now published are as accurate as can possibly be obtained by any method, and show a true picture of the past and present distribution of Frog and Toad Spawning areas in the Isle of Wight.

Results of the Survey.

The information contained on the Recording Sheets, when they were returned, was transferred to master maps to a scale of 1 in. to the mile, and shown by means of coloured map tacks. All kilometre squares were covered, but for the purposes of reproduction in black and white positive returns only are shown by means of black pins, while those squares for which a negative return was received are left blank.

As will be seen by a study of Fig. 2, the squares in which frogs are known to have spawned prior to 1964 are very widespread. There was difficulty in some cases, especially when the recorders were young or did not have a long association with the neighbourhood, in answering this question accurately. Every attempt was made to ensure that the information given was reliable, and in cases where there was any doubt the squares have been left blank, so that this may be regarded as the minimum distribution prior to 1964. It must be realised, however, that this takes no account of any annual fluctuations which may have occurred in the past, and the actual distribution in any one year prior to 1964 may well have been very different.

Comparison with Fig. 3, which shows the squares in which frogs were known to have spawned in 1964, would seem to indicate a very drastic reduction in spawning areas, but one must bear in mind that one is comparing the results of one particular year with the records over a period of years. An interesting point, however, is that although the reduction would seem to be general, it is more marked in the southern half of the Island, which is largely farming land, and much less marked in the wooded and semi-urban areas in the northern half.



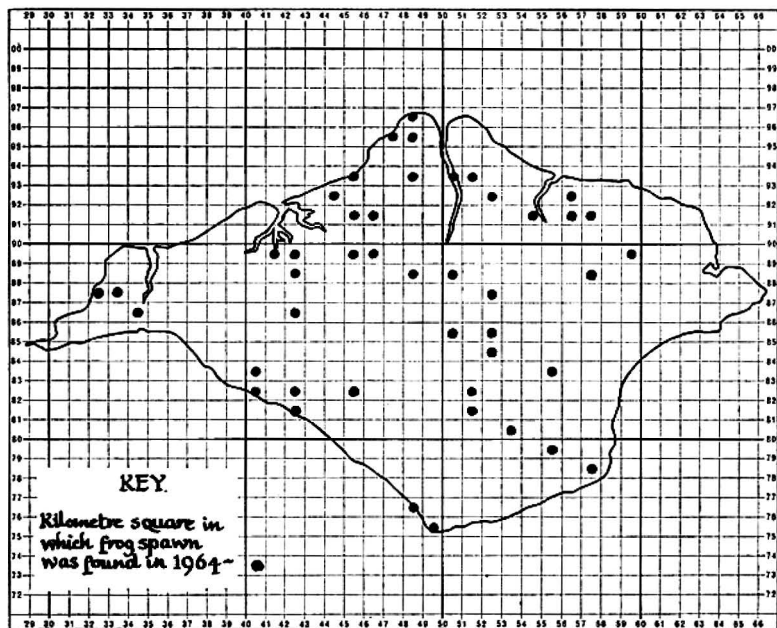
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Fig. 2. Map showing Frog Spawning Areas before 1964.

The Toad-spawning Sites, as shown in Fig. 4, are fairly evenly distributed throughout the Island, as one might expect from the habit of toads in selecting communal breeding ponds for individuals from a wide area. The interesting point here, however, is that toads would seem to be breeding successfully in those areas where the frogs have been most reduced, so that one can assume that whatever it is that is reducing the numbers of frogs is not having the same effect on the toads.

Discussion.

Accepting that a reduction in frog spawning areas has, in fact, occurred, and bearing in mind the points already made, a number of possible causes for the facts observed can be advanced. The fact that the reduction of frogs would seem to be most marked in the farming areas might lead one to suppose that there is something in modern farming practice which is contributing to this reduction. The use of chemical sprays, either directly or indirectly, by breaking links in the food chain, cannot be ruled out, but it is hard to see why frogs should be so seriously affected, while toads continue to use ponds from which the frogs have recently disappeared. One farmer, at least, was quite

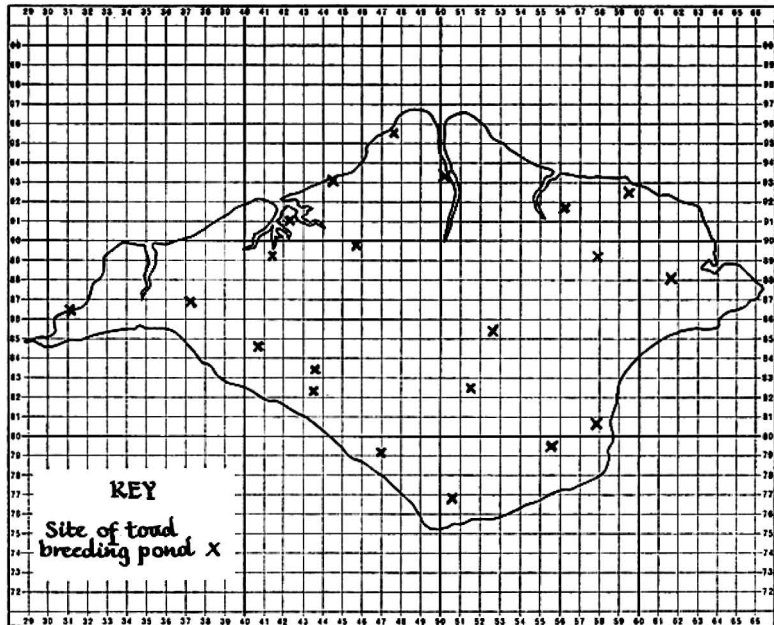


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Fig. 3. Map showing Frog Spawning Areas in 1964.

certain that the disappearance of frogs from his farm coincided with the use of a certain sterilising detergent in his dairy by order of the Ministry of Agriculture. Discussions with other farmers revealed that a number of ponds had been filled in during recent years. This is work usually undertaken in the winter months, when many frogs would be hibernating at the bottom of the ponds and consequently would have been killed. As toads are known to hibernate on land, they would not be thus affected, so this could account for the fact that frogs have been more seriously reduced than toads in these areas.

It is well known that frogs have more natural enemies than toads, at least, in the adult stage, and one cannot rule out the possibility of an increase in one or more of their predators. Personal observation has given the impression of a considerable increase in the number of ducks visiting ponds in recent years, and in one particular instance a small pond, where there was plenty of spawn in 1963, had none at all in 1964, but for the first time a number of ducks were observed on the pond. It has also been suggested that the shortage of rabbits owing to myxomatosis may have forced such predators as foxes to feed on frogs, which especially at spawning time would be very vulnerable to a hungry fox (R. Machin).



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Fig. 4. Map showing Sites of Toad Breeding Ponds recorded in 1964.

There is also the possibility of widespread disease amongst frogs, causing a decline in population, in much the same way as myxomatosis so seriously reduced the numbers of rabbits, but no corpses have been recovered for examination.

Observation will continue in selected areas, but it is not felt that any useful purpose would be served by carrying out the full survey every year. It is hoped, however, to repeat it in two or three years' time, when the results thus obtained can be compared with the results in 1964, and this will show more clearly whether, in fact, a true decline in population is occurring, or whether there is a natural fluctuation in numbers or general movement from one area to another in different years, which has not been previously recorded.

Acknowledgments.

A considerable debt of gratitude is owed to all those who took part in the Survey. The numbers are so great that it is not possible to name them all, but the Recording Sheets bearing their names are testimony to their hard work.

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A RARE FOSSIL FISH FROM ATHERFIELD IN THE ISLE OF WIGHT.

BELONOSTOMUS HOOLEYI (ARTHUR SMITH WOODWARD).

By S. T. WAITE, B.Sc.

Introduction.

While examining the rocks at Atherfield Point in August, 1964, an unusual fossil was discovered, which I was quite unable to identify. Unfortunately it was broken, but as many pieces as possible were collected and submitted to the Department of Palaeontology at the British Museum (Natural History) at South Kensington, where it aroused much interest.

The fossil proved to be parts of the body of a fish, the head and the tail being missing (Fig. 1). Details of the occurrence of the genus and species and the relevant literature have very kindly been supplied by Mr. H. A. Toombs, Chief Experimental Officer in the Department of Palaeontology; he has also read the manuscript of this article and made many valuable suggestions, and to him my thanks are due. I also wish to thank Mr. O. H. Frazer for the photograph (Fig. 1) and Messrs. Macmillan and Co., Ltd., for permission to publish the diagram of *Aspidorhynchus* (Fig. 2), which is taken from Zittel's *Textbook of Palaeontology*.

The specimen has been presented to the British Museum (registration No. P. 47358), and plaster casts are being made, one of which will be given to the Sandown Museum and one to the Isle of Wight Natural History and Archaeological Society.

Stratigraphical Background.

The fossil was found some 15-20 feet below the *Perna mulleti* bed, which marks the boundary between the Lower Greensand above and the Wealden beds below. No other fossils were seen in the immediate vicinity, but ostracods and gastropods are known to occur near by. The enclosing rock is a rather hard bluish-grey clay.

According to the latest available estimates (Holmes, *Principles of Physical Geology*, New Edition, 1965, page 360) the Lower Greensand in Surrey is some 115 million years old, so this fossil must be slightly older.

Zoological Background.

Belonostomus is one of the genera once known as "ganoid" fishes, that is, fishes with enamel scales. The scales have a bony inner layer with a superficial layer of enamel. It is an actinopterygian or "ray-finned" fish and is included in the Holostei, a group including actinopterygians which have reached a certain evolutionary stage. The evolutionary changes include a reduction of the heterocercal tail of the

primitive forms to hemi-heterocercal or even homocercal types. In the heterocercal type the hinder end of the vertebral column passes into the upper lobe of the tail, as in the sharks, rays, etc., whereas in the homocercal type the backbone ends in front of the tail fin. Other changes involve alteration in the skull bones and a reduction in the number of fin-rays.

Geological History.

The first actinopterygians were called palaeoniscoids and were characteristic of the Palaeozoic rocks; from them evolved first the sub-holosteans and thence the holosteans which were predominant in the Jurassic. From them, in turn, evolved the modern teleosteans or bony fishes, but a few holosteans, such as the Sturgeon, survive to the present day. For the most part the holosteans were marine dwellers, but at times they became adapted to fresh water. The present specimen probably came from brackish, if not actually fresh water beds.

The Genus.

Belonostomus belongs to the family *Aspidorhynchidae*, which is composed of long slender fishes (up to one metre long), externally not unlike the gar-pike of the present day. The notable feature is the long and pointed snout. In the genus *Aspidorhynchus* only the upper jaw is elongated, but in *Belonostomus* the lower jaw is almost as long.

The genus was widespread in the Jurassic and Cretaceous periods, being known, apart from the British specimens, from Europe, The Lebanon, Brazil, and Queensland. It became extinct at the end of the Cretaceous, the last known specimens coming from the English Chalk.

The Species.

Belonostomus hooleyi was established by Arthur Smith Woodward in *The Fossil Fishes of the English Wealden and Purbeck Formations*, pp. 100-101 and plate 21, published by the Palaeontographical Society, 1916-1919. The holotype is a single principal flank scale found at Atherfield by Reginald W. Hooley, and now in the British Museum (Natural History) (R. W. Hooley Colln. p. 13265). Of two other specimens described at the same time, one is also in the British Museum (Mantell Colln. No. 28419) and is labelled simply "Wealden, Isle of Wight"; it comprises four separate pieces, one the rear part of the cranium and three pieces of the body. The second is again a single scale and is now in the Sedgwick Museum, Cambridge. It came from the Wealden near Sevenoaks in Kent.

Since Smith Woodward's work, apparently nothing has been written about the species, and no restoration drawing even of the genus seems to have been published. The closely related genus *Aspidorhynchus* is shown in Fig. 2 (taken from Fig. 228A of Zittel's *Textbook of Palaeontology*). Note the long snout and short lower jaw.

FISH FOUND IN THE ISLE OF WIGHT COASTAL WATERS—1956-1964.

By **IAN J. H. DRAPER.**

Allis Shad, *Alosa alosa.*

These fish, which belong to the Herring family, are sometimes caught during late summer and autumn. They spawn in rivers as does the Salmon and they like to feed in the estuaries of the larger southern rivers. The young fish, which abound in our bays at this time of the year, lure them from the estuaries and a few are caught using small fish (Sand eels usually) as bait.

Twaite Shad, *Alosa finta.*

Very similar to the Allis Shad in appearance and habits, but more common. It arrives in our waters around October.

Angler Fish, *Lophius piscatorius.*

This fish appears in late spring and leaves in the autumn. A large fish, anything up to 50lb., it generally stays in the deeper waters off the West coast of the Island. At night it will come close inshore and lie in wait for small fish which it attracts with a "Tassel" suspended above its huge mouth.

Basking Shark, *Cetorhinus maximus.*

It can weigh anything up to five tons and is sometimes seen in the summer, particularly during long, hot, calm spells. They will venture as close to the shore as half a mile if there are no speed boats around. The best place to see them is from the cliffs at Freshwater.

Porbeagle Shark, *Lamna cornubica.*

These sharks follow the shoals of Mackerel during the summer and are caught about four miles south of Shanklin. They weigh up to 100lb. and are extremely fierce in their habits.

Thresher Shark, *Alopias vulpes.*

So called because of its long tail which it uses to stun the fish it feeds on. It is usually spotted around the "Pot Bank" area off the Needles.

Coal-Fish, *Gadus virens.*

A fish of northern waters; but since the very cold winter of '62 they have moved south. The fish are nearly all young ones about 1lb. in weight. They arrive in large shoals towards the end of the summer and are caught until March. The shoals tend to move to deep water during the day, but at night they feed freely on the worm beds close inshore. Before the cold winter no specimens had been caught as far south as the Island. In appearance they resemble a Whiting, but are darker on the back.

Cod and Codling, *Gadus callarias*.

Cod are rare in the Island waters because unless the winter is very severe our seas are too warm for them. Small cod up to 9lb., called Codling, are sometimes caught and the catches vary with the presence of the shoals of sprats and young Herring. The sprats form the basis of the Cod's diet. and if the sprats are driven south by cold or gales then the cod follow and may then be taken in fair numbers. If they do arrive, they come in the coldest months from the North Sea.

Lump Fish, *Cylopterus lumpus*.

These fish are lumpy to look at, but are a bright brick-red colour when they arrive in our waters. They arrive during the spring, which is the spawning time for them. The eggs are laid just below the low tide mark and the male fish anchors himself to a rock close to them by means of a suction disc on his under-side. He remains there until the eggs are hatched, guarding them from predators and fanning them with water. It is due to this that he gets his other names of Sea Hen, or Lump-Sucker. These fish are never caught, but they are seen from time to time, when a very low "Spring" tide leaves them stranded, still clinging tightly to their rock.

They are fish of colder waters and are mostly found north of the Thames. Denmark is famous for them and their eggs are sold as Danish caviare.

Monk Fish, *Squatina spuarina*.

Also known as the "Angle" or "Fiddler" fish, seems to be the connecting link between the dogfish and the rays. It feeds on small flat-fish and whiting and is more common in the spring when its food is in abundance. It grows up to five feet in length and is brownish-grey in colour. These fish are mostly caught on the south-west coast of the Island.

Dogfish, *Scyliorhinidae*.

There are two species:—

The Lesser Spotted Dogfish, *Scyliorhinus caniculus*.

The Greater Spotted Dogfish, *S. stellaris*.

Both these fish swim in large shoals and are very common in all Island waters at times. They are of the shark family and feed on almost anything, sometimes coming close inshore to get food. The average size is about 12lb. The skin is very rough and the flesh is sold as "Rock Salmon."

Opah, *Lampris luna*.

Very rare and the only representative of its family in British waters. One was caught in 1954, but a few are seen from time to time during the summer. The Sun fish, as it is sometimes known, is brightly coloured and can weigh anything up to 100lb.

Sea Trout, *Salmo trutta*.

These fish usually stay in the vicinity of river estuaries, but will sometimes follow "white bait" (small fish) into our waters. They come in late summer and can be caught with the Mackerel. The average weight is 2-5lb.

Smelt, *Osmerus eperlanus*.

A small fish about six inches in length, it is common during September and is found around the pier-heads. It has an unmistakable smell of cucumber and is very good to eat. It feeds on small fish and Plankton.

Piked Dogfish, *Squalus acanthias*.

Sometimes found in the deep water off the south and south-west coast of the Island. The fish is a very voracious hunter and can scatter large shoals of more valuable fish (mackerel and herring).

Pollack, *Gadus pollachius*.

These fish are common around rocky areas of the Island. They do not reach the large weight that they can do in other areas and a fish of 3lb. can be compared with one of 12lb. in Cornwall. Small fish are the favourite food, but they seldom venture far from rocks or pier piles to get this. The season for Pollack is from April under October.

Pout, *Gadus luscus*.

A small fish growing to about 2lb. They stay with us all the year round. During the day they keep to deeper waters, about 60ft., but in darkness they come close inshore. Pout will feed on worms, crabs, fish, and almost anything that they can swallow. They favour rocky areas in day time and may be caught anywhere round the Island if a boat is available to get to the deeper water.

Rays, *Rafidae*.

The Common Skate, Thornback, Painted, Sand, and Blond Rays are all found in Island waters. They are most abundant in autumn and are caught in all sandy areas. Sand Eels (*Ammodytidae*) and crabs are their main food. The Common Skate is the largest, and in 1964 one of 100lb. was caught on Pot Bank off the Needles.

Sea Breams, *Sparidae*.

The Common Sea Bream, *Pagellus centrodontus*, is a silvery red in colour and weighs about 2lb. It feeds on Shell fish, worms, squid, and sand eels. More common in Island waters is the Black Bream, *Spondyliosoma cantharus*. These feed on the same food and weigh about the same as the former, but they are darker in colour and more active in their habits. They migrate from Mediterranean waters and arrive in our waters in early May. They move from west to east and leave in late summer. The favourite haunts of these fish are in about 40ft. of water over rocks, *i.e.*, Bembridge Ledge.

Rocklings, *Gadidae*.

There are three species of Rockling to be found around the Island :—

The Three-Bearded Rockling, *Onos tricirratus*. This fish prefers shallow water where the sea bed is rocky. It averages 12 inches in length and is a deep brown in colour with large spots of green and yellow merging into it. It is present all the year round, moving to deeper water, say, 40 feet in depth, if the winter is cold.

The Five-bearded Rockling, *Onos mustelus*. It is more common than the three-bearded Rockling and is slightly larger, growing to 15 inches in length. It has a pair of barbels in front of the nostrils, two more on the upper lip, and one under its chin. Its habitat is the same as the other Rockling and its food consists of small creatures found in the rocks.

The Four-bearded Rockling, *Onos cimbricus*. It is smaller than the other two and is not so common in our waters. The colour is similar to the other two but it lacks the mottled effect caused by the spots in the other two.

Sprat, *Clupea sprattus*.

The Sprat is a distinct species of fish and is not merely a young herring, and the two species differ in both bone and fin structure. They appear in Island waters any time from November to June and, owing to the fact that they are in large shoals, vast numbers are sometimes caught. They form a valuable food for many of the larger fish captured in our waters.

Conger Eel, *Conger conger*.

This fish inhabits rocky ground where there is cover for it to lie in ambush for its prey. The Island record is about 60lb., but much larger eels are known to inhabit the rocky coastline of Atherfield. Its food consists of almost any species of fish that it can kill, and cuttle-fish are amongst the favourite of its prey. It is essentially a fish of the summer months, when it will venture close inshore at night time. In day time, and during the winter, it moves to deeper water, but if the winter is warm Conger can still be caught by boat-fishermen fishing deep "Marks." It is armed with a very formidable set of teeth and its tough skin make it impervious to wounds caused by the creatures it attacks.

Gurnards, *Triglidae*.

There are three species of Gurnard found in Island waters :—

The Grey Gurnard, *Trigla gurnardus*. This is the most common of the three and it may be caught from April until October. As in the other species of Gurnard, the head is large in proportion to the size of the body, and the front rays of the pectoral fins are separated to form "fingers," which it uses to "walk" along the sea bed. The food consists of small crabs, sand eels, and worms. The average size is about 1½lb.

The Yellow Gurnard, *Trigla lucerna*. It is the largest of our Gurnards, sometimes attaining a length of 18 inches and a weight of 4-5lb. The season begins in June and ends in October.

The Red Gurnard, *Trigla cuculus*. This is the smallest of our Gurnards with a length of 12 inches as a maximum. The colour is deep red and the pelvic fins are brightly coloured. It arrives in our waters in late April and leaves in September.

Bass, *Morone labrax*.

The Bass is the favourite sporting fish with anglers in Island waters. The Island record stands at 13lb. and fish up to 10lb. are not uncommon. It spends most of the year close inshore and only leaves for a few weeks in January and February. The Bass is a handsome fish, powerfully built, and silvery in colour. It feeds on small fry and most other marine foods, which it hunts with fierce voracity. The smaller Bass hunt in shoals and are called school Bass. These may be found anywhere around the Island, particularly in river mouths and harbours. The larger Bass are more solitary in their habits and favour rocky haunts.

John Dory, *Zeus faber*.

This fish is not commonly caught in our waters, but from time to time specimens have been reported. It is a curious fish, very narrow, but with a great depth. When viewed from the front there is little indication of its size and by this means it captures the small fish it feeds on. It inhabits rocky ground where there is a good growth of weed. On both sides of its body just behind the pectoral fins there is a circular black patch with a golden edging and this has given rise to the legend that this was the fish caught by St. Peter in the Sea of Gallilee.

Sole, *Soleidae*.

Two kinds of Sole are found in local waters, the Common Sole (*Solea solea*) and the Sand or French Sole (*Pegusa lascaris*). They are found over most sandy areas, but particularly where there is plenty of worms for them to feed on. The biggest caught off the Island weighed 4lb., and this is the top weight, the average being about 1-2lb. It is longer and narrower than other flat fish.

Tope, *Eugaleus galeus*.

This is fairly common in deep water off the Island. It is caught during the summer months by boat fishermen using small fish as bait. The Tope can weigh anything up to 60lb., but the average size is about 30lb. It is a member of the Shark family and has the same shape as its larger cousins. The colour is brown and its skin is rough like sandpaper. Flatfish are its favourite food, but it will feed on any fish it can capture. Unlike other Sharks, it keeps close to the sea bed and hunts its food by stealth, but when the need arises it is capable of swimming very swiftly.

Turbot, *Scophthalmus maximus*.

This is one of the largest flat fish found in our waters. They have been caught up to 30lb. in weight, but the Island record stands at 16lb. These fish are oval in shape and wider in proportion to their length than other flat fish. They have no scales, but the top side is dotted with small bony tubercles. The Turbot is a fish eater and its mottled colour camouflages it well with the sea bed.

Brill, *Scophthalmus rhombus*.

It is the same in appearance as the Turbot but lacks the bony tubercles. The habitat is similar, with sandy areas its favourite. Fish form the basis of its diet and it is particularly fond of sand eels. The Island record is about 2lb., and the largest it grows to is about 8lb.

Weever Fish, *Trachinidae*.

The two species of Weever Fish found in our waters are both capable of inflicting a poisonous wound.

The Greater Weever, *Trachinus draco*. It comes close inshore during the summer and feeds on small shrimps and worms. The colour is yellowish and turns to dark green on the back. The poisonous spines are the dorsal fin, which is black and contrasts sharply with the rest of the fish. The usual size is about 8in. in length.

The Lesser Weever, *Trachinus vipera*. This fish is much more common than the Greater Weever and many unwary holidaymakers are stung by it. The wound is very painful and its effect is felt for several days. It is about six inches in length and silvery in colour. The poison is contained in a sac at the base of the black spines and when the spines are touched the poison runs up a groove in the spines and into the wound.

METEOROLOGICAL REPORT FOR 1964.

This summary was compiled by Mr. H. Hoare, Meteorological Officer for Shanklin.

The Maximum, Minimum, Wet and Dry Bulb Thermometers, and the Rain Gauge are situated in Big Meade, Church Road, 180ft. above sea level.

The Sunshine Recorder and Weather Vane are on the roof of the Town Hall.

Readings are taken at 0900 hours and 1800 hours daily, G.M.T.

THERE IS ONLY ONE YARDSTICK BY WHICH THE QUALITY OF THE YEAR'S WEATHER CAN BE JUDGED, AND THAT IS BY COMPARISON WITH PREVIOUS YEARS.

Shanklin Met. Officer, Mr. H. Hoare, in his report for 1964, says local official records which date from 1947 include a number of outstanding years. He mentions the exceptional summers of 1949 and 1959, the very wet 1960 when over 50in. of rain was recorded, and the Arctic spell in 1963, when the temperature hardly rose above freezing point for months.

1964 produced nothing to compare with any of these high (or low) spots and, therefore, cannot be regarded as an outstanding year—except perhaps to farmers for whom the weather has been unusually kind both for growing and harvesting crops.

The sunshine total of 1823.4 for the year was not good, but there have been many worse. A sequence of six months from January-June with an exceptional losing run of below average sunshine made it impossible for the remaining months to adjust matters. January had only a little over half the average, the lowest total on record, and February wasn't much better. By June 30th a deficit of over 200 hours had been built up. A sunny July eased the position, but there was a slight setback in August. Then the tide really turned and in September 246 hours were recorded—the second highest total on record—followed by an Indian summer and a sunny December.

RAINFALL

As far as rainfall is concerned, many records have gone by the board. It was the driest January on record, the wettest spring, and the driest July-September, and the second driest August-September. There were four occasions when an inch or more of rain was recorded in 24 hours.

The number of thunderstorms (11) was normal for the 12 months. Two, however, were exceptionally heavy, accompanied by severe rain-falls of well over an inch, which caused flooding in several parts of the town.

Snow recordings totalled 14, but nearly all were of a very light character.

The proportion of rainless days (210) was well above the average.

TEMPERATURE.

On balance, it was a mild year. There were no prolonged periods of very hot or very cold weather. Screen temperatures ranged from 78 degrees on August 4th to 11 degrees of frost on December 21st—the lowest for that month on record.

WIND.

Gales were less numerous and this part of the Island escaped the ferocity of several that surged up and down the Channel. Winds came from a westerly direction on 225 occasions, and from an easterly direction on 133 occasions. There were eight days of calm.

CONCLUSION.

Despite the disappointing sunshine total, the claims of the Island were fully upheld, Shanklin being top of the summer sunshine league. Though not an outstanding year weatherwise, there were plenty of times when Shanklin had a lot to be grateful for—the near perfect weather for all the bank holidays, the Carnival, and Regatta, and the chief cricketing event locally when the sun shone for the Lord's Taverners' match at Westhill. Mention was made earlier of the good year for farmers—and this would apply also to those earning their livelihood on the beaches, who surely had little to grumble at.

Monthly Summary.

JANUARY.

A bad start having the lowest sunshine total on record, only a little over half the 17-year average. It was also the driest with less than an inch of rain. Temperatures were normal, extremes ranging from 51° to 27°. Winds were very light, but fogs more frequent and dense.

FEBRUARY.

Very similar to January, with a low sunshine total and again very dry, only .82 of an inch. The first few days were very sunny, but the remainder had frequent mist and fog, with mild moist air and consequently a very high humidity.

MARCH.

Sunshine again disappointed with only 78.7 hours (average 144.7), the second lowest on record. It was a cold, wet month with nearly twice the average rainfall, helping considerably to redress the driest winter on record.

APRIL.

Again the sun disappointed. Relatively dry and sunny the first half, and wet and cloudy the latter part. The last of the winter frosts occurred on April 7th.

MAY.

The pattern of below average sunshine, alas, continued. Rainfall was heavy with 4.35in., more than twice the average; 1.25in., of which was accounted for by a heavy thunderstorm on the last day of the month. Winds were stronger than usual for a May and temperatures were above average.

JUNE.

Certainly not flaming. Sunshine again down and rainfall up; making the wettest March to June on record.

JULY.

At last, after 11 consecutive months with a below-average sunshine total, July turned up trumps with an above-average total of 269.4 hours. Rainfall was very light, only .98 of an inch (average 2.59in.). A three-star month.

AUGUST.

Rather variable weather with a sunshine total of 11 hours below average. Temperatures were normal and rainfall low with only 1.82in. With 26 days having no rainfall between 10.00 a.m. and 6.00 p.m. and a faultless Bank Holiday, visitors had a lot to be thankful for.

SEPTEMBER.

What a month! Very sunny (the second highest total on record), very dry (the second driest on record), and with a mean temperature well above average, even the most hard-boiled weather critic would be hard put to it to find fault.

OCTOBER.

The Indian summer continued with a sunny month, but the exceptionally heavy thunderstorm in the early hours of the 14th with a torrential downpour of 1½in., causing flooding in many parts of the town, spoilt the chance of a very dry month. The total of 3.21in. was still over an inch below average.

NOVEMBER.

Sunshine was down a little, rainfall well below average, and temperatures well up. Quite a pleasant month with the Indian summer loath to depart.

DECEMBER.

A month of great contrasts. Dry and warm with day temperatures in the 50s for the first week. Second week temperatures still well up but rather wet. Then a dry spell to the 29th with a few severe frosts.

The sunshine total, though not breaking any records, was high at 75.3 hours, well above average, ending what can be considered a good year.

RAINFALL RECORDED AT NEWTOWN 1964

By Mr. P. Seabroke

January	.62	May	2.90	September	.99
February	.86	June	2.39	October	2.42
March	2.99	July	.64	November	2.27
April	3.05	August	1.00	December	3.31

Total: 23.44 inches.

1964 WEATHER AT SHANKLIN.

Month	Max. Mean	Min.	Temperatures		Dry Mean	Wet	Rainfall		Sunshine		
			Extremes				Inches	28-yr. av.	Hours	17-yr. av.	
Jan.	42.9	36.3	51	27	39.3	38.4	.91	4.22	37.9	71.4	
Feb.	44.8	37.4	53	23	40.2	39.2	.82	2.50	64.1	92.2	
Mar.	44.9	37.5	54	29	40.9	39.6	4.51	2.35	78.7	144.7	
April	52.3	42.4	61	32	47.6	45.6	3.03	1.80	173.8	202.3	
May	60.3	48.8	70	41	55.7	53.3	4.35	1.85	224.3	250.6	
June	63.1	51.7	73	43	58.7	55.9	3.02	1.87	217.8	264.2	
July	67.8	55.9	77	49	62.8	59.8	.98	2.59	269.4	254.8	
Aug.	67.7	55.0	78	44	62.1	58.9	1.82	2.84	220.2	231.2	
Sept.	65.8	54.3	73	44	61.2	58.7	1.16	3.20	245.7	171.3	
Oct.	56.2	44.1	65	33	50.2	48.8	4.11	3.87	146.4	130.2	
Nov.	52.1	44.6	57	28	48.2	46.8	3.21	4.68	69.8	75.2	
Dec.	45.9	35.5	55	21	40.8	39.5	4.32	4.14	75.3	60.1	
							32.24	35.91	1823.4	1948.2	

**INFORMAL MEETINGS OF SECTIONS AS SHOWN IN 1964
PROGRAMME**

January	5	Medina Bird Walk.
"	12	"
"	19	"
"	26	Newtown Bird Walk.
"	31	Mammals and Reptiles.
February	2	Brading Bird Walk.
"	9	Medina Bird Walk.
"	15	Bird Outing—Langstone Harbour.
"	16	Medina Bird Walk.
"	23	"
"	28	Botanical.
March	1	Medina Bird Walk.
"	8	"
"	15	"
"	22	"
"	29	"
April	4	Botanical.
"	10	Ornithological.
"	12	Seashore and Shells.
"	17	Entomological.
August	30	Botanical.
September	6	Newtown Bird Walk.
"	13	Botanical.
"	26	Seashore and Shells.
October	4	Medina Bird Walk.
"	11	Newtown Bird Walk.
"	18	Medina Bird Walk.
"	25	"
November	1	Medina Bird Walk.
"	8	Newtown Bird Walk.
"	15	Seashore and Shells.
"	20	Ornithological.
"	22	Medina Bird Walk.
"	29	Newtown Bird Walk.
December	6	St. Helens Bird Walk.
"	13	Medina Bird Walk.
"	20	"
"	27	"

