

**THE BRITISH  
HERPETOLOGICAL SOCIETY**

**BULLETIN**

No. 20 Summer 1987

## BRITISH HERPETOLOGICAL SOCIETY

*c/o Zoological Society of London  
Regent's Park, London NW1 4RY*

*Correspondence, membership applications, subscription renewals and purchase orders for the British Journal of Herpetology should be sent to the above address.*

The British Herpetological Society was founded in 1947 with the broad aim of catering for all aspects of interest in reptiles and amphibians. Initiated by a small number of enthusiastic and well-known naturalists, including the first President and author of the standard textbook on British herpetofauna Dr. Malcolm Smith, the Society expanded rapidly and today enjoys national status with many international connections.

Activities of members range over a number of interrelated fields. In many cases the prime interest is in maintaining, breeding and observing various species in captivity and the Society acts as a forum for the interchange of experiences in this area. Others are concerned with the observation of animals in the wild state. There are active sub-committees which help to cater for these various tastes, notably the Captive Breeding Committee and the Conservation Committee. The former encourages the development of effective breeding techniques for captive specimens, thus providing animals for observation and study in vivaria, and for conservation purposes, while simultaneously reducing the need to take fresh stock from wild and possibly declining populations. The Conservation Committee is actively engaged in field study, conservation management and political lobbying with a view to improving the status and future prospects for our native British species. It is the accepted authority on reptile and amphibian conservation in the U.K. and has an advisory role to the Nature Conservancy Council (the statutory Government body). There are also professional scientists within the ranks of the Society engaged in increasing our understanding of all aspects of reptile and amphibian biology.

### Meetings

About ten meetings covering a broad sphere of interests are held each year.

### Subscriptions

Ordinary Members £15. Junior Members £5. (Junior Members do not receive the British Journal of Herpetology). Institution rates £25 (U.S. \$40).

All subscriptions become due on the first day of January each year.

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*The Society does not, as a body, hold itself responsible for statements made or opinions expressed in the Bulletin; nor does the Editorial necessarily express the official opinion of the Society.*

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The Bulletin is edited and produced by  
**John Pickett and Simon Townson**

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John Pickett, 84 Pyrles Lane, Loughton, Essex IG10 2NW

## REMAINING MEETINGS 1987

Meetings are held in the Lecture Theatre of the Linnean Society of London, Burlington House, Piccadilly, London W1, and start at 7.00 pm, ending at 9.00 pm, unless indicated otherwise.

- OCTOBER 13th            Mike Linley ('Survival', Anglia Television, London): Herpetofauna of New Zealand.
- NOVEMBER 18th        Dr. C.J. Reading (Institute of Terrestrial Ecology, Furzebrook Research Station, Dorset); Ecology of the common toad (*Bufo bufo*) with reference to breeding strategies.

## REPORT OF THE CHAIRMAN OF THE CONSERVATION COMMITTEE FOR THE YEAR 1986

It has long been the dream of some Committee members that BHS in some form should actually own areas of heathland that could be managed as the Committee thought fit, indefinitely in the interests of the rare reptiles. Such sites would be our models for the care of these animals in the wild and, except for disasters such as fire or compulsory purchase, would ensure that at least a few populations of Sand Lizards and Smooth Snakes would survive in our tender care. Of course we cannot hope to match the Nature Conservancy Council (NCC) with its large National Nature Reserves, but these (except perhaps for the excellent Holton Heath NNR) are largely managed for floral and faunal interests beyond those of the herptiles. On our own Reserves, too, we can in time make new studies on the biology (still mysterious in some respects, especially for *Coronella*) of these reptiles in their preferred habitat.

Now at last this dream is becoming a reality: Committee members own a South-facing site not far from Wareham in Dorset in the midst of Sand Lizard and Smooth Snake country. The area is about 7.5 acres and the price paid £5,200 (District Valuer's estimate). Our Conservation Officer began negotiations in about June 1986 and Contracts were exchanged on 2nd March, through the good offices of Mike Preston and his Firm (Messrs. Burchell & Ruston). Mike had warned us to be quick about signing papers and it was just as well, for he was asked if we would be prepared to re-sell our holding for its price plus "a modest contribution to our funds"; in fact but for his acumen we would have been gazumped. For legal reasons the title is held by Committee and Council members Trevor Beebe and myself, who will lease the land at nominal rent to other named members of the Committee.

Two-thirds of the purchase price was given by WWF-UK, through H.J. Heinz Ltd. "Guardians of the Countryside" project and the remainder by the NCC. M. Preston's Firm charged us only for "disbursements" (£33). I express the gratitude of your Committee, on behalf of BHS, for this generous support; especially to Chris Tydeman (WWF-UK), E.C. Hammond (NCC Grants Officer) and Mike Preston and his Firm. We hope to continue to realise our dream.

Through the project mentioned above, WWF-UK are supporting our management and Sand Lizard breeding work. NCC contributes to these and also to our travelling expenses for monitoring and management tasks: for 1986-7, its promised contribution to these was £1450.80. Lest members are in any doubt about this Council's generosity to us I must tell you that, because of my abysmal arithmetic, I had claimed about £62 more than allowed for the season by our Smooth Snake Contract. When I telephoned NCC about this I was told that the error had been spotted but would be overlooked: "the money was there, so we let you have it." Such a gesture warms our reptilian hearts and of course the funds go to conservation. Chris Tydeman and Ted Hammond recently reminded me how generous their organisations (and also the Vincent Wildlife Trust) had been to BHS: we can and must repay them by devotion to the cause of UK herps.

Throughout the season covered by this Report, concern for the heaths of East Dorset has dominated the activities of our Conservation Officer, Keith Corbett. Your Committee debated the matter at length at its meeting on June 22nd 1986 and, following Chris Tydeman's advice, decided to press Wildlife Link (Link) to raise the question at its meeting with NCC in July and also to invite the NCC Chairman, William Wilkinson, to inspect some of the problems himself. At the Link/NCC meeting in Peterborough on July 17th (where NCC fielded a powerful HQ team captained by its Chairman) the Link Chairman, Lord Peter Melchett, made it clear that Link regarded the plight of the Sand Lizard and Smooth Snake as a national one, transcending regional concern. This remark greatly strengthened your Committee's position and it was agreed that another Link/NCC meeting about the Dorset heaths alone should be held. William Wilkinson also consented to be guided by BHS on a tour of these heaths. On 11th August, Keith drove a hired Range Rover with a party consisting of William Wilkinson, Chris Tydeman, Jim White (NCC, Slepe Farm) and myself to view heathland sites in the Avon Valley and Wareham areas, explaining the various threats to these: NCC's position was briefly outlined by Jim. It was a friendly and pleasant outing but as we left William at Wareham Station, he was heard to remark that it was one of the most depressing days of his NCC life. On November 21st at the agreed Link/NCC meeting, held at the Ecology Centre, Covent Garden, NCC was represented by E.T. Idle (Assistant Director, England, who took the Chair), Peter Nicholson (SW Regional Officer), K. Charman (Head England Field Unit), Malcolm Vincent (reptile expert, Chief Scientist Directorate) and Jim White. Link representatives included Chris Tydeman and Simon Lyster (WWF), S. Davis (RSPB), P. Vodden (RSPCA) as well as K. Corbett and myself for BHS. Discussion was comprehensive, lively and frank: it included heated arguments about SSSI boundaries, threats to heathland by fire, development, neglect and motor cycles as well as planning procedures. Peter Nicholson agreed to a heath liaison meeting at Slepe Farm and a seminar on heath management early in 1987. (These have taken place, but are outside the scope of this Report).

The important effect of all this activity is, in my opinion, to have raised the status of our heathland fauna, especially the rare reptiles, to a point where their welfare must be taken much more seriously by those planning for any reason to damage or destroy their habitats. BHS and particularly its Conservation Officer have played a leading role in bringing about this political shift. Our membership of Link has proved most valuable in this affair, as has the stout unfailing support of Chris Tydeman. Of course we have had NCC backing too, especially from Peter Nicholson. I am sometimes asked by members if we are fighting NCC: this is far from the case. In common with other voluntary organisations your Committee's aim is to support NCC in general, but also urge it to take firm stands when commercial or other interests threaten our reptiles and amphibians.

A disturbing event in 1986 was the liquidation of the Oakley Jones Company, reported to your Committee on August 27th. The owner of the Arne Plantations had granted BHS management rights over two clear areas both having Smooth Snakes and on one of which Sand Lizards had been released in 1985. All this land was in the hands of the Receiver and it has been sold to a private developer instead of the RSPB whose magnificent Arne Reserve adjoins part of it and which made a bid to purchase. We are hoping that the new owner will honour commitments to BHS and, much more importantly, will not attempt to afforest the remaining open heath that harbours good Sand Lizard populations.

For protecting the rarest U.K. Sand Lizard race, on Merseyside, your Committee thinks that BHS involvement must depend much more on local help. As the *Bulletin* (No. 19, 1987, p.3) prints, volunteers to monitor the reptiles (and Natterjacks) there are urgently needed. Arnold Cooke (NCC, BHS) has devised a quantitative method of relating Merseyside Sand Lizard concentrations to types of habitat. He presented this for discussion at two Committee meetings and members felt that this was a potentially most useful guide as to where to concentrate efforts at conserving these gravely threatened animals.

The cause of Natterjacks has continued to have close attention. At its meeting on 22nd June 1986 the Committee decided to replace its Sub-committee formed originally to deal with the threats to Natterjacks at Syderstone, Norfolk, by an enlarged Natterjack Sub-committee the terms of reference for which are to deal with all matters concerning the conservation of the species. Trevor Beebe agreed to be Chairman and Convenor: he has already formulated a general strategy and some detailed plans and has issued a remarkably comprehensive Sites Register. This

awesome document has a history, beautifully drawn and detailed map and description of every place where *B. calamita* "has occurred since 1970, including extinctions and translocations, and is subject to annual updating." If such an exercise was needed, it puts the seal on Trevor's standing as the U.K. top expert on Natterjacks. It is also a Committee document of immense value, a major contribution to one of our principal functions: knowing about the British herps.

Brian Banks has continued his efforts to establish and maintain a permanent Natterjack reserve at the Sellafield Nuclear Fuel Station (*Bulletin* No 19, 1987, pp. 21-22).

A new initiative in the Committee's Sand Lizard breeding and release programme was the formation on February 14th 1986 of a Sand Lizard release Sub-committee. The Convenor is Mike Preston and co-ordinator for licences etc., Keith Corbett. The sites of releases of captive-bred stock are quite controversial and need debate by those concerned as well as regional NCC agreement. The new Sub-committee will consider all requests to help with the breeding programme and also the release of Smooth Snakes collected under licence from doomed sites. Mike has supplied your Committee with a most lucid summary of our breeding and release activities for the seasons 1985 and 1986 as well as projections for 1987. We received useful advice from Bert Langerwerf (now in Grand Canary) whose pioneering breeding work in Holland include *L. agilis*. It would be wrong to claim that we have solved all the problems in the captive breeding and release of these lizards and we continue to learn.

Members of your Committee continue to survey the distribution and attempt to afford protection to the least rare of the protected herps, the Great Crested Newt. Richard Griffiths reported on his rather short-lived appointment as co-ordinator of the NCC-funded Leicester Polytechnic amphibian communities project: he has now taken an academic post. In these hard times for trained scientists, especially in biological disciplines, academic positions must be almost irresistible. He completed his studies of interaction between *Triturus vulgaris* and *T. helveticus* in Llysindinam Pond (mid Wales), noting inter alia that he was "largely unsuccessful" in devising a method for distinguishing between the larvae of the two species. (See also *J. Animal Ecology*, 55, 201-214: 1986).

On October 5th, 1986, a party of 16 (15 Committee members) was clearing gorse and pine from a Dorset site on a small wooded plateau above a cliff, at the foot of which is a pond threatened by a Company that proposed to fill in the site to about half cliff height. John Buckley, like any herpetologist, went to examine this pond and soon found five Great Crested Newts hibernating beneath debris around it. We all saw these animals and I informed the NCC of their presence. We were thus astonished when, later, the Area Estates Surveyor to the Company in a letter to Keith Corbett described the sighting as "hearsay" and told me that the nearby Institute of Terrestrial Ecology had said that "warty newts probably do not occur in this area." After Keith's vigorous pursuit of this affair it has apparently ended well for the herps and the Company will not destroy the pond and its environment. I cite this case not to vilify commercial interests, which can often be helpful to conservation if the need be made clear, but as an example of the value of the trained vigilance and curiosity of BHS members. Dave and Marion Dolton and Dave Bird have systematically surveyed ponds in the Wimborne-Dorchester area for newts, so that we probably have an unrivalled understanding of amphibian distribution in this region.

Ray Buckland of the Pensnett Wildlife Group, West Midlands, sent us a detailed report, with map, of the amphibians in the Fens pool area. These ponds, which are in an urbanised district, still support all our native anurans and urodeles except the Natterjack Toad and Palmate Newt: toads are "very abundant".

Chris Davis of Littlehampton told us of his experience with herps in that area, in Brighton and on Bournemouth Cliffs. A colony of Common Lizards near Brighton Racecourse has apparently since been destroyed by municipal "tidying" action: a too common occurrence.

Paul Edgar has, with the Committee's agreement, made a proposal to Marwell Zoological Park for the breeding of rare herps for release to the wild.

Members of your Committee gave talks and guided tours for various organisations. Sponsored by the Committee, Keith Corbett attended a symposium entitled "Nature Conservation in the South West — the next Challenge" held by NCC at Taunton on October 3rd, 1986; he was also present at the formation of the Poole Harbour Purbeck Trust on June 24th, 1986. Following this,

on 25th June, there was a site visit to Wareham Forest with particular reference to the conservation of rare reptiles and of bats. Beth Haslewood and I joined this visit, reinforcing the agreement between the Forestry Commission and BHS to manage some important heathland "islands" within the Forest. On August 1st, 1986, NCC declared Holt Heath, Dorset, a NNR. This 1185 acres of heathland, where Dave and Marion Dolton live, harbours both Sand Lizards and Smooth Snakes. Dave and Marion, as well as Beth and I attended this important opening. Beth and I also took part in an Open Day on Lavington Common, Sussex, on April 18th, 1986. This National Trust property comprises some excellent dry heathland: Adders, Grass Snakes and Common Lizards occur and we would like to introduce Sand Lizards. For this, however, we have been unable to gain NCC agreement although the Warden, Glyn Jones, and the National Trust would like to see them. In one part, at least, the habitat seems ideal.

Lt.-Col. C.N. Claydon has over years been most helpful to your Committee in its conservation work on MoD land. His realistic and forthright stance has been particularly valuable for Hankley Common and in Dorset. It was a pleasure, therefore, to repay something of this by conducting a tour of Sand Lizard sites for a group of RMAS (Sandhurst) naturalists on the evening of 12th June 1986. Beth and I delighted the group by leading them to five Sand Lizards, one of which, a large male, allowed itself to be examined closely and photographed.

In the period April 6th, 1986 to March 8th, 1987, members of the Committee turned out for 13 management tasks, mainly clearing heathland habitat for the benefit of rare reptiles or Natterjacks. Seven of these tasks were in Dorset, the others in Surrey/Hants. Attendances were 10-23 (average 16). An encouraging feature was the local support, especially in Dorset. We clearly cannot be maximally effective in caring for the herps unless we have the greatest possible co-operation from those living near their habitats. We are thus lucky in having newer Dorset members in Anne and Marcus Langford and Dave Bird who bring their friends to our local clearances. On one occasion we were helped by a team from a Dorset Bird Society, who gave us hard and disciplined work in heavy rain on a clay site.

**Publications.** Keith Corbett published *Biogenetic reserves for threatened species of herpetofauna in Western Europe* (Studies in Herpetology, Roczek Z. ed.: pp. 727-730 Prague, 1986), a manuscript of a paper he gave to the SEH Meeting in Prague in August, 1985.

Fresh supplies of *Garden Ponds as Amphibian Sanctuaries* and *Surveying for Amphibians* were printed and are available to members.

**Meetings.** The Committee met three times in 1986, twice at the London Zoo and once (without its Advisers) at Shoreham, Sussex. Attendance was excellent.

**Finance.** On February 12th, 1987 total funds stood at £12,168. At that time, almost all this was money committed to the Conservation Officer's account, management and Sand Lizard breeding. Refunds from NCC put us in credit and at the time of writing (June 1987), "free" funds stand at £883.26, from which further supplies of *Being Kind to Snakes* must be paid for: these have now arrived.

**Smooth Snake Survey (BHS CAT).** The third year of this was completed in 1986 and Reports for this and a Summary Report of the whole survey submitted to NCC. The overall conclusion was that this snake is absent from or extremely rare in the U.K., except in limited areas of E. Dorset and the Dorset-Hants. border.

I thank the following who generously gave their time and muscle on our management tasks in the 1986-7 season:

C. Adams, Joyce and Judith Allen, B., D. and P. Andrews, J. Baker, N. Barnes, C. Beckett, A. Beebe, P. Burgess, K. Chandler, M. Clark, A. Damon, R. Davis, M. Douglas, G. Dutson and his ornithological colleagues, M. Eley, K. Elliott, M. Grubb, R. Jones, R. King, A. Laydon, K. Leaver, L. and M. Love, J. Mitchell, C. Murgatroyd, V. Read, A. Spinney, D. Stubbs, J. Sutherland, A. Thorne, H. Tidball, J. Tomkins, L. Vychodel, A. Welch, S. Wertheim, A. and B. Whitaker, C. White, M. Wills.

## **BHS Conservation Committee in June 1987**

B. Banks<sup>1</sup>, M. Beebee<sup>1</sup>, T. Beebee<sup>1</sup>, D. Bird<sup>1</sup>, A. Braithwaite<sup>2 3</sup>, J. Buckley<sup>1 3</sup>, K. Corbett<sup>1 2 3</sup>, D. Dolton<sup>2 3</sup>, M. Dolton<sup>2 3</sup>, P. Edgar<sup>3</sup>, J. Gaughan<sup>3</sup>, R. Griffiths, E. Haslewood<sup>3</sup>, G. Haslewood<sup>1 2 3</sup>, H. Inns<sup>2 3</sup>, M. Jones<sup>1</sup>, A. Langford<sup>2</sup>, M. Langford<sup>2</sup>, J. Newton, M. Preston<sup>2</sup>, D. Race<sup>1</sup>, P. Reynolds<sup>3</sup>, C. Raxworthy, E. Wade, J. Webster<sup>2 3</sup>, W. Whitaker<sup>3</sup>.  
T. Langton resigned 6th November 1986.

## **Advisers**

E. Arnold, H. Arnold, P. Bryce, A. Cooke, J. Griffin, J. Rudge, R. Stebbings, C. Tydeman, M. Vincent, J. White, A. Wright.

1. Natterjack Sub-Committee
2. Sand Lizard breeding/release Sub-Committee
3. BHS *Coronella austriaca* team (CAT)

G.A.D. Haslewood,  
Chairman

## **CAPTIVE BREEDING COMMITTEE (CBC) REPORT 1985/86**

### **1. CBC MEMBERS AND ADVISORS**

Listed below are the names and addresses of CBC members and advisors with their special areas of interest in parenthesis. We are pleased to welcome Nick Bessant, Lee Bansil and Dave Garthwaite to the Committee, bringing with them new ideas and expertise in subjects not previously covered. We continue to offer an advice service to BHS members. All written queries should be accompanied by a stamped addressed envelope for the reply, or preferably dealt with at the telephone to cut down on paperwork.

#### **Members:**

Dr Simon Townson (Chairman), 96 The Avenue, Highams Park, London, E4 9RB. Tel: 01-531 1378 (Reptiles and amphibians in general, particularly Boids).

Mr Nick Bessant, 26 Longlees, Maple Cross, Rickmansworth, Herts. WD3 2UQ. Tel: Rickmansworth 774277.

Mr John Pickett, 84 Pyrles Lane, Loughton, Essex. Tel: 01-508 6624. (Reptiles and amphibians in general).

Dr. Anthony Millwood, 8 Whiteshott, Basildon, Essex. Tel: 0268 289475 (Amphibians).

Prof. Malcolm Peaker, The Hannah Research Institute, Ayr, Scotland KA6 5HL (Reptiles and amphibians in general, particularly snakes and chelonians).

Mr Peter Bennett, 45 Holdenhurst Avenue, Finchley, London N12. Tel: 01-346 8685. (Amphibians).

Dr H.R. Bustard, Airlie Brae, Alyth, Perthshire PH11 8AX, Scotland. Tel: 08283 2501 (Reptiles and amphibians in general, particularly the captive breeding and conservation of crocodiles and sea turtles).

Mr Peter Curry, Centre for Life Studies, Regent's Park, London NW1. Tel: 01-586 3910 (Reptiles and amphibians in general, particularly the reproductive biology of amphibians).

Mr Keith Lawrence, MRCVS, 23 Woodside Gardens, Chineham, Basingstoke, Hampshire. Tel: 025679 8061 (Veterinary aspects).

Mr Mike Nolan, 29 Rodney Close, New Malden, Surrey KT3 5AA. Tel: 01-942 0177 (Mainly snakes, including venomous species).

Mr Steven Norrie, 14 Newtonwood Road, Ashted, Surrey. Tel: 27 73643 (Mainly snakes).



Mr Jon Coote, 195B College Street, Long Eaton, Notts. Tel: 0602 729273. (Mainly Colubrid snakes).

Mrs Monica Green, 49 Greenway, Colindale, London NW9 5AU. Tel: 01-205 7635 (Chelonians).

Mr Paul Eversfield, 67 Prestbury Crescent, Woodmansterne, Surrey. Tel: 07373 50856 (Mainly amphibians and chelonians).

Mr Charles Snell, 76 Birdbrooke Road, Kidbrooke, London SE3 9QP (Reptiles and amphibians, particularly in outdoor vivaria).

Mr Lee Bansil, 65 Student Village, Hendrefoilan, Swansea SA2 7PG (Reptiles and amphibians in general, particularly the light requirements of lizards).

Mr David Garthwaite, 55 Cophorne, Luton, Beds. LU2 8RL. Tel: Luton 415548 (Breeding geckos).

#### Advisors:

Prof Nicholas Mrosovsky, Dept of Zoology, University of Toronto, Ontario M5S 1A1, Canada (Marine turtle biology and conservation).

Mr Ray Hine, 34 Freshwell Gardens, W. Horndon, Essex. Tel: 0277 811495 (Snakes).

Mr Mike Hines, Chelonia Herpetoculture, The Lodge, Normanby, N. Yorkshire YO6 6RH. (Tel: 0751 32631).

## 2. SOME OF THE SPECIES BRED BY BHS MEMBERS

Here we report some of the recent breeding successes which have been sent in by BHS members for our records. The diversity of captive-bred species now available is quite encouraging. A contact telephone number has been included so that breeders can be approached directly about the availability/sale/exchange of their animals.

Mr Michael Warburg (09278 2848): *Triturus cristatus*, *T. alpestris*.

Mr P.J. Wisniewski (Amphibian Breeding Centre — 0704 894503): *Salamandra s. salamandra*, *S.s. fastuosa*, *S.s. terrestris*, *Triturus helveticus*, *T. marmoratus*, *Euproctus asper*, *Cynops pyrrhogaster sasayamae*, *Cynops ensicauda popei*, *Rana temporaria*, *Hyla arborea*, *Bufo calamita*, *Taricha granulosa*, *Xenopus laevis*, *Bombina orientalis*, *Anguis fragilis*.

Mr D. Blatchford (0292 76013): *Elaphe guttata*, *E. obsoleta quadrivittata/rosalleni*, *Lampropeltis g. californiae*, *Lampropeltis triangulum sypila*, *L.t. sinaloa*.

Mr R. Inskeep (26 Luxor Road, Leeds LS8 5JT): *Cuora amboinensis*.

Mr A. Judd (0933 650075): *Hyla arborea*, *Xenopus borealis*.

Mr. R. Davies (5 Richards Road, Standish, Wigan WN6 0QU): *Cynops pyrrhogaster*, *Triturus alpestris*, *Bombina orientalis*, *Storeria dekayi*, *Storeria occipitomaculata*, *Chalcides chalcides*.

Mr S. Worth (17 Willow Tree Lane, Hayes, Middx. UB4 9BD): *Dendrobates reticulatus*, *Hymenochirus boettgeri*, *Bombina orientalis*.

Dr A. Millwood (0268 289475): *Triturus cristatus*, *Bombina variegata*, *B. orientalis*, *Hyla arborea*, *Rana esculenta*.

Mr B. Kirk (149 National Ave., Hull, E. Yorks. HU5 4JA): *Gastrotheca marsupiatata*.

Ms. W. Newing (0752 778243): *Basiliscus plumifrons*.

Mr M. Hines (0751 32631): *Testudo marginata*, *T. hermanni*, *Geochelone pardalis*.

Mr P. Eversfield (07373 50856): *Triturus marmoratus*, *Hyla arborea*, *Terrapene carolina*.



Mr M. Mathewson (04427 74295): *Elaphe guttata*, *Lampropeltis g. californiae*.

Mr. M. Nolan (01 942 0177): *Elaphe subocularis*, *Chondropython viridis*.

Mr J. Pickett (01 508 6624): *Bombina variegata*, *B. orientalis*, *Triturus cristatus*, *Cynops pyrrhogaster*, *Rana esculenta*, *Podarcis pityusensis*, *P. lilfordi*, *Salamandra salamandra*.

Mr T. Thatcher (0865) 739396: *Lacerta trilineata*, *Triturus marmoratus*.

Mr P. Curry (01 883 8183): *Litoria infrafronata*

Mr M. Linley (0734 475745): *Bufo viridis*, *B. calamita*, *Alytes obstetricans*, *Rana esculenta*, *Triturus alpestris*, *T. cristatus*, *T. marmoratus*, *Hyla arborea*, *Eublepharis macularius*, *Hoplodactylus duveaueveli*, *Tiliqua rugosa*, *Amphibolurus barbatus*.

Mr R. Hine (0277 811495): *Constrictor constrictor*, *Elaphe guttata*, *Lampropeltis getulus californiae*, *L. triangulum sinaloae*, *Drymarchon corais couperi*, *Eublepharis macularius*, *L. triangulum hondurensis*.

Dr S. Townson (01-531 1378): *Python molurus bivittatus*, *Elaphe o. quadrivittata*.

Mr S. Norrie (17 73643): *Lampropeltis triangulum cambelli*, *L. zonata*, *L. pyromelana*, *L. ruthveni*, *L.g. getulus*, *L. mexicana*, *Heterodon nasicus*, *Liasis childreni*, *Lichanura trivirgata*.

Mr B. Betts (0440 63757): *Pituophis melanoleucus melanoleucus*, *P.m. sayi*, *Lampropeltis getulus nigrilus*, *L.g. californiae*, *L.g. getulus*, *L.g. floridana*, *Elaphe guttata*, *E. bimaculata*.

Mr Jon Coote (0602 729273): *Lampropeltis triangulum sinaloae*, *L. zonata*, *Kinosternon baurii*.

### 3. ULTRA-VIOLET LIGHT/LIZARD PROJECT

Following remarkable breeding successes of European lacertids maintained under ultra-violet "blacklights" (General Electric, U.S.A.), the CBC is now part-supporting a research project at Swansea University to scientifically investigate the qualities and suitability of various types of UV lights for the captive maintenance and breeding of lizards. Mr Lee Bansil, a final year undergraduate student is carrying out the research, and the CBC is supplying various types of lights, captive bred lizards and some advice and expertise.

The project will firstly involve quantifying certain physical properties of a range of different UV lights, including wavelength, spectrum, intensity, and the drop in UV output over distance and time. This will provide background information essential to the experimental work with the lizards, such as the time-period over which the bulb will be effective and the positioning of the bulb etc.

Lizards will be fed a standard diet and comparisons made between groups kept under different UV lights. Of particular interest will be survival, growth, development, and their level of breeding success when maturity is reached. Since UV light is thought to be essential for the synthesis of vitamin D (in the skin) which is associated with the uptake of calcium from the gut and subsequent bone development, special attention will be paid to the bones. Micro-techniques have been developed to measure the physical strength of lizard bones (using the humerus) and biochemical methods to compare the calcium content in bones.

The importance of environment lighting has been reviewed by Dave Blatchford and will be published by the CBC in the Proceedings of the Joint UK Herpetological Societies Symposium 1986 (available September 1987), details will be advertised in the next *Bulletin*.

### 4. UV "BLACKLIGHTS" FOR SALE

The CBC has bulk purchased "blacklights" from General Electric, U.S.A. These are thought to be one of the best available for reptiles, although we await scientific evidence

(see above). BHS members wishing to purchase these bulbs for their own personal use, should contact Steve Norrie, 14 Newtonwood Road, Ashted, Surrey (Tel: 27 73643) who has kindly agreed to act as distributor.

#### 5. BREEDING ANURANS USING INJECTED FISH HORMONES

Following reports from the U.S.A. of using hormones (LHSH) to stimulate breeding in amphibians, the CBC has purchased three of the types available in the U.K. to confirm the technique. The hormone is a simple peptide chain and acts as a trigger to initiate various events in the reproductive cycle. It seems to work best on those species that breed whenever the correct conditions present themselves, rather than seasonal breeders. Several species of amphibian have been given hormones and the results look promising. As of yet the exact type and dosage have yet to be determined. In addition to inducing breeding the hormone can be used to sex difficult subjects, as males call and attempt amplexus after administration. (P. Curry)

#### 6. CRESTED NEWT BANK

The Crested Newt (*Triturus Cristatus*) Bank was established by the CBC during 1981 to provide a source of captive bred newts for members to establish colonies in their garden ponds. Dr Millwood has been largely responsible for this project and during the period 1985/6 several hundred eggs and larvae have been supplied to interested persons. However, due to other commitments, Dr Millwood is now unable to continue his breeding project on the same scale. Mr Michael Warburg (Furzie Gate, Woodland Lane, Chorleywood, Herts. WD3 5LS; Tel: 09278 2848) has kindly agreed to take responsibility for the Crested Newt Bank. Mr Warburg produced over 300 larvae in 1986 and hopes to increase numbers in the future. Members should contact him directly. Our leaflet entitled "Establishing and Maintaining Crested Newts in Garden Ponds" is still available free to members (see under "Publications" below).

#### 7. MEETINGS SYMPOSIA

As in previous years, the meetings organised by the CBC have been very successful. The two open meetings held annually at Burlington House were very well attended and ran over time because of the number of enthusiastic presentations. The main meeting of 1986 was the Joint UK Herpetological Societies Symposium organised on behalf of the BHS and other societies by Jon Coote, and was held at the Zoological Society of London's Meetings Room, Regents Park. The CBC paid the travelling expenses of John Brunner, the main speaker, who gave an excellent lecture on breeding snakes, particularly various boid species and Garter snakes. 152 tickets at £5 each were sold for this meeting, producing enough income to cover all expenses excluding the travel costs of the main speaker:

Income	Expenditure	
152 tickets at £5 each	Stamps	£10.20
= £760.00	Stationery, etc.	9.93
	Typing	27.50
	Photocopying	12.64
	Printing tickets	23.13
	Speakers labels	10.00
	Artwork	12.67
	Hire displayboards	10.00
	Telephone	10.00
	Speakers expenses	231.00
	Room Hire & Projection	
	Services	306.80
	Coffee/biscuits	91.00
		£754.87
	Cash remaining	5.13
£760.00		£760.00

The papers presented at this meeting will form the basis of a new CBC book to be published during 1987. It is hoped that a similar symposium can be arranged for 1988.

## 8. PUBLICATIONS

- (i) **"REPTILES, breeding, behaviour, and veterinary aspects"** (see advertisement). This book contains most of the papers presented at the Captive Breeding Committee/British Veterinary Zoological Society meeting held on 1st October 1983, as well as several additional contributions.
- (ii) **"The Care and Breeding of Captive Reptiles"** is still available at reduced rates to members (see advertisement). Reprinted 1986.
- (iii) **"Conserving Sea Turtles"** by Prof. N. Mrosovsky. A paperback book published by the CBC in February 1983 (see advertisement). This volume is a major contribution to the present controversy and debate on sea turtle conservation. It is a 'must' for anybody interested in marine turtle conservation, breeding, politics, and the general ecology and biology of these fascinating creatures.
- (iv) **"Establishing and Maintaining Crested Newts in Garden Ponds"**. This leaflet is free to members and details pond design, management, acquiring captive bred stock and the setting up of a colony. Please send a stamped addressed envelope to the Secretary.

### Advertisement

## CONSERVING SEA TURTLES

by Nicholas Mrosovsky

*Published by the British Herpetological Society*

### Description:

"Conserving Sea Turtles" is a critical review of the current problems and controversies of sea turtle conservation. In the words of the author: "Sea turtles are beautiful complex creatures, mysterious enough to become addicting for the biologist, absorbing for anyone to watch, and of great value for their eggs, meat, shell and leather. This book is not concerned with demonstrating that sea turtles are worth preserving; that is taken for granted. It is concerned with the methods being used to achieve that end; it argues that much is wrong. If my criticisms can be refuted, then current activities on behalf of the turtles — and the turtles themselves — will emerge all the stronger. If my criticisms stand, then it is time that a strong light was shone into the dark corners of the conservation biology of these species — and of others too perhaps. I am also convinced that the intentions of those active in sea turtle conservation are irreproachable. It is only the means of proceeding that I wish to debate ....."

It is written in a clear and uncomplicated style, and will be of interest to the general reader as well as the specialist biologist. The principles discussed are currently of crucial political importance, not only for sea turtle conservation but applied generally to the conservation of the world's fauna.

### Contents:

Foreword — Preface — Turtles are Big — A Brief Life History — The Tagging Reflex — Head Starting: The Heart Has Its Reasons — Operation Green Turtle — The Styrofoam Box Story — Kemp's Ridley in a Technological Fix — The Anathema of Farming — Four Thousand Unwanted Turtles — Dangerous Categories — The Alarmist Strategy — Problem Resolving — Splitting: Strategy or Science? — An Egg-Laying Machine — Abbreviations — References — Index.

### Specifications:

176pp. Paper Cover. Lacquered. ISBN 0 9507371 1 9. Publication date: February 1983.

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U.S.A. \$10.00 + \$2.00 postage (surface mail) or £5.00 (air mail).

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# REPTILES

Breeding, behaviour, and veterinary aspects

*Edited by*

SIMON TOWNSON

*and*

KEITH LAWRENCE

*A new book published by the British Herpetological Society.*

*Publication date : January 1985.*

## CONTENTS

Breeding Colubrid Snakes, mainly <i>Lampropeltis</i>	... ..	Jon Coote
Snake Hibernation and Breeding: in and out of the zoo	... ..	Bern Tryon
The Captive Reproduction and Growth of the Yellow Anaconda ( <i>Eunectes notaeus</i> )	... ..	Simon Townson
Thermoregulatory Behaviour of Reptiles in the Field and in Captivity	... ..	Roger Avery
The Management of Juvenile Telfair's Skinks <i>Leiopisma telairii</i> with Particular Reference to the Role of Ultra-Violet Light	... ..	Simon Tonge
Breeding Arrow Poison Frogs ( <i>Dendrobates</i> )	... ..	Ernie Wagner and Frank Slavens
The Politics of Conservation: The Need for Rational Legislation	... ..	John Pickett
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The Secretary, British Herpetological Society, c/o Zoological Society of London,  
Regent's Park, London NW1 4RY, England.

- (v) **Information Sheet.** Members are reminded that basic information sheets on the care of reptiles and amphibians in captivity are available free of charge. Subject covered at present are listed below. Please send a large stamped addressed envelope to the Secretary.

1. Tortoises
2. Terrapins
3. Yellow and Fire Bellied Toads (*Bombina* spp.)
4. Clawed Frogs (*Xenopus* spp.)
5. Salamanders (mainly *Salamandra salamandra*)
6. Tree Frogs (*Hyla cinerea* and *arborea*)
7. Iguanas (*Iguana iguana*)
8. Pythons and Boas
9. Rat and King Snakes (N. American *Elaphe* and *Lampropeltis*)
10. Venomous Reptiles and the Dangerous Wild Animals Act 1976. (This deals with legal aspects only and not care)
11. Painted Frogs (*Discoglossus pictus*)

- (vi) **New style information sheets.** Produced by Peter Curry and John Pickett, these 8 page leaflets provide comprehensive advice for the beginner. Subjects presently covered include:

- (a) Royal Pythons, (b) Garter and Ribbon Snakes, (c) European Lacertids, (d) Axolotls, (e) Box Turtles, (f) Rearing tadpoles of tailed amphibians, and (g) Rearing tadpoles of frogs and toads.

Please send a large stamped addressed envelope to the Secretary.

## 9. FINANCES

### Income

£170.00	Sale of UV "Blacklights" (batch 1) to members.
100.00	Sale of UV "Blacklights" (batch 2)
200.00	Funding from BHS Council
3712.21	Booksales and Postage
4182.21	Total

### Expenditure

£185.36	Deficit from 1984
544.00	Postage and packing for booksales
173.60	U.V. "Blacklights" (batch 1)
267.64	U.V. "Blacklights" (batch 2)
300.00	Expenses for J. Brunner (USA), Main Speaker, 1986 Symposium
50.00	LHSH (fish hormone)
282.00	Metloc Printers: authors offprints from the book "Reptiles"
1551.00	Metloc Printers: reprinting of "The Care and Breeding of Captive Reptiles"
8.00	Purchase of 1 Blacklight for research (Swansea University)
51.00	Postage and photocopying
3412.60	Total

Balance £769.61 at start of 1987.

Finally, the CBC would like to thank Peter Curry for the use of facilities at the Centre for Life Studies for Committee Meetings. In March 1987 Mike Linley took over as the new Chairman of the CBC. I would like to thank those who have supported me and the endeavours of the CBC over the past years.

Simon Townson

## CONSERVATION MATTERS

*A review of herp conservation issues in the news during the period January to April 1987.*

### **Indian frogs keep their legs**

The Indian government have placed a ban on the killing of frogs and their export. In recent years the export of the hind-limbs of these animals has produced an income of £4 million a year, but there have been complaints by animal welfare groups about the cruelty involved. The legless frogs were left to die afterwards. Furthermore there have also been reports of a decline in the numbers of reptiles which predate the amphibians. The new ban follows temporary ones imposed over the last two breeding seasons.

### **Further help for toads on roads**

While the spring produced an increased number of "Help a toad across the road" campaigns, this spring also saw the construction of Britain's first toad tunnel. This received widespread publicity and on the BBC news appeared to be extraordinarily successful. The tunnel is made of polymer concrete made by mixing plastic resin with concrete. The tunnel was based on experiments in Lower Saxony (West Germany) and is thought to have the appropriate levels of light, temperature and humidity, and is well ventilated.

### **Great crested newts cause a change in the plans**

Two separate developments have been modified in order to safeguard important populations of great crested newts. One of the sites in Epsom (Surrey) was discovered to support an exceptionally large population of the newts in 1982 by BHS Conservation Officer Keith Corbett, and as a result was scheduled as a Site of Special Scientific Interest by the Nature Conservancy Council. The plans which would have resulted in parts of the site being built upon were modified following successful representations by the BHS and NCC.

Plans to build a housing estate on another important crested newt site near Peterborough have also been modified following discussion with NCC. A number of tubular tunnels are to be built into the main housing estate road to act as safe road-crossing sites, while parcels of land are to be set aside and fenced to reduce disturbance of the newts.

Brian Banks

## CONSERVATION COMMITTEE LAND FUND

Those of you who regularly read the Conservation Committee reports will know that we lease some sites which support rare amphibians and reptiles, and have recently purchased a block of heathland. This is a most important aspect of our work in conserving these animals since it safeguards the future of the sites. Up until now the rents have been paid by the BHS, but constraints on cash are likely to limit the number of lease agreements we will be able to make. Where land is concerned we are dependent on generous donations from organisations such as the World Wildlife Fund and the Nature Conservancy Council. There is always the possibility that an important site could be lost in the future because of a shortfall in funding.

For these reasons the Conservation Committee is establishing a Land Fund. So far this consists of donations given to Conservation Committee members when they give talks etc, and totals £152, held in a building society account. The interest raised will be used to pay leases and so will save the Society money and enable us to take on more land management. If the need arises some of the money could be used to make good any shortfall in funding to buy a site in future. This money is entrusted to conservation and in the event of the BHS going bankrupt or disbanding will be donated to other organisations involved in herp conservation.

To be effective we need much more money. If you would like to give a donation, or help raise funds please send these to the chairman of the Conservation Committee in letters marked Land Fund. Cheques should be made payable to the BHS Conservation Committee. We need your help now to safeguard more of Britain's and lizard, smooth snake and natterjack sites in particular, as well as ones supporting good populations of the commoner species.

Brian Banks  
BHS Conservation Committee

## WANTED — SHED SNAKE SKINS

Next time you are cleaning out your vivarium please do not throw away any sloughed snake skins. These can be used to raise money for the Conservation Committee Land Fund. David Bird is selling snake skins at the Poole Aquarium so that the funds can be contributed to the BHS Land Fund and help to conserve our rare herps. Instead of throwing them away please help by sending any clean skins by post to David Bird at The Poole Aquarium, c/o Jacaranda Cottage, Spetisbury, Blandford Forum, Dorset.

## 2nd NATIONAL CONGRESS OF HERPETOLOGY (SPAIN) 6-8 DECEMBER 1987, SALAMANCA

The 2nd National Congress of Herpetology (Spain) will be held in the Faculty of Biology, University of Salamanca. Either oral or written papers may be contributed which will be forwarded to the Editorial Committee of the Revista Espanola de Herpetologia for evaluation and, on this occasion, for publication in a special issue of the Revista six months later to commemorate the Congress.

Registration for the Congress should be made by 15th September and abstracts for papers sent in by 15th October 1987.

Besides the normal sessions of the Congress, there will be workshops on various topics and the following suggestions have been made:—

1. Methodology and analysis of feeding in amphibia and reptiles
2. Island herpetology
3. Statistics and investigation methods in herpetology
4. Herpetology of North Africa

Other workshops can be organised if sufficient interest is shown.

Normal audio-visual equipment is available in the session rooms. Upon request, 8 and 16mm film projectors can be provided in addition to video equipment.

For further information and application forms, please contact:—

Valentin Perez-Mellado, Departamento de Zoologia, Facultad de Biologia, Universidad de Salamanca, 37071 — Salamanca, Spain.

## AMERICAN FEDERATION OF HERPETOCULTURISTS

The American Federation of Herpetoculturists (AFH) is a non-profit national organization whose purpose is to represent the interests of herpetoculturists.

A primary goal of the AFH is to form effective legislation action committees to assure that herpetoculturists can uphold their rights to pursue and enjoy herpetoculture.

Another goal of the AFH is the dissemination of information related to herpetoculture among private herpetoculturists, herpetological societies, zoos, veterinarians, research institutions and the general public.

This will be accomplished through *The Vivarium* the official publication of the AFH, the first high quality national herpetocultural journal to document the accomplishments of herpetoculturists and to promote a general philosophy of herpetoculture whereby captive propagation can contribute to the conservation of biological diversity.

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- 4) Special discounts on all AFH sponsored programs and events.

American Federation of Herpetoculturists

PO Box 1131, Lakeside, CA 92040

### NEW POISON ARROW FROG SOCIETY

An effort is underway to establish a formal "Society" of those individuals who have an interest in the study of Arrow Frogs of the genera *Dendrobates*, *Phylllobates*, *Colostethus*, and *Atelopus*. It is hoped that the new Society will be international in its scope. All members of the herpetological community, both professional and amateur, who share a common interest in Arrow Frogs are encouraged to respond to this announcement by writing to the steering committee for more information. Each respondent will receive a packet of information outlining the proposed goals and purpose of the Society as well as a summary of current progress and current needs in the process of the formation of the Society. Also included will be a questionnaire; all responses will be confidential and the information will be used only by the steering committee for purposes of planning and for assessing the interests, needs, and desires of the prospective members. At this point in time there are no funds to support this work and therefore it is requested that each respondent include with his/her initial letter three 22c U.S. postage stamps for the mailing of the information packet (those outside the U.S. are requested to include \$1.32 for this same purpose). Responses should be sent to:

Dale Bertram, M.D.  
Chairperson, Steering Committee  
Arrow Frog Society  
One Virginia Terrace  
Madison, Wisconsin, U.S.A.  
53705

## ON A SMALL COLLECTION OF LIZARDS FROM NIGERIA

PIOTR SURA

*Department of Biology, Medical Academy, Kopernika 7, 31-034 Kraków, Poland*

During a three month journey to Nigeria in February-May 1984 I collected, besides others, 121 specimens of lizards from four families: Gekkonidae (41), Scincidae (55), Agamidae (21), Chamaeleonidae (4), which were deposited in the Museum of Natural History of the Polish Academy of Sciences in Kraków. The most common species, e.g. *Agama agama*, are represented in the collection by only a few individuals. In this short communication some observations on different lizard species and general impressions are presented.

The trip began in Lagos on 12 February and during the whole time spent in Nigeria (a total distance travelled of 8,000kms) an almost complete lack of animals became the most conspicuous feature. The dry season restrains even insect populations (except mosquitoes!). Searching under hundreds of stones for scorpions and other invertebrates produced very poor results. However, in the beginning of May the number of various species in southern parts of Nigeria noticeably increased especially if moths are regarded. The only rich groups seen everywhere and everytime were birds and lizards. A more detailed report on this expedition has been made elsewhere (Sura, 1986).

The following species of lizards are represented in the collection:

1. *Hemidactylus brooki angulatus* Hallowell (plate 1)

The most common gecko. In Abeokuta they were abundant on both the walls of houses and rocks. Several specimens collected in Abeokuta, Osi, Yankari Game Reserve (see map). At the end of April some individuals seen hunting around lamps fishing on flying termites.

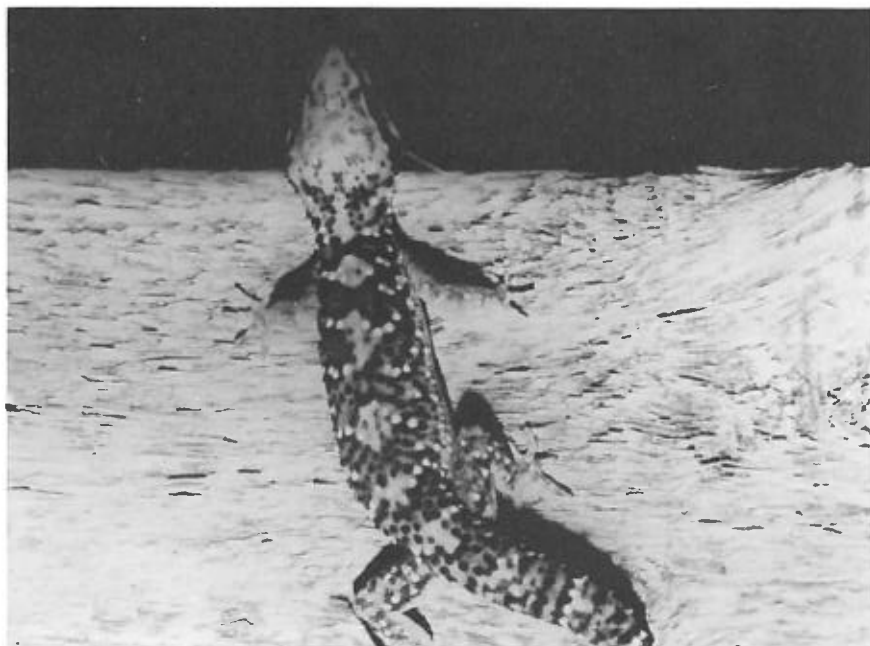


Plate 1.  
*Hemidactylus brooki angulatus* from Abeokuta



**Plate 2.**  
*Agama paragama* from Obudu Cattle Ranch



**Plate 3.**  
*Agama benueensis* (ventral side)





**Plate 4.**  
*Chamaeleo senegalensis*



**Plate 5.**  
*Chamaeleo gracilis*

2. *Hemidactylus fasciatus fasciatus* Gray  
One juvenile and one female (SVL 85mm) were collected by night on the oil palm trunks in Abeokuta on 3 March.
3. *Hemidactylus muriceus* Peters  
One specimen (SVL 56mm TL 114mm) caught by day in the vicinity of Owode when frightened away after lifting a tree branch on the floor of tropical forest.
4. *Cnemaspis spinicollis* (Müller)  
Two specimens collected on 24 April under a rotting log in a jungle near Ado-Ekiti (SVL 35 and 47mm).
5. *Ptyodactylus hasselquisti hasselquisti* (Donndorff)  
Large specimens were collected in New Bussa (the biggest had SVL 93mm, TL 180mm) where they inhabited buildings. Also one individual was caught on rocks in Rano.
6. *Mabuya affinis* (Gray)  
Common species near Abeokuta. One specimen also collected several kms north of New Bussa (TL 172mm, SVL 61mm).
7. *Mabuya quinquetaeniata scharica* (Sternfeld)  
The only skink observed both in south and north Nigeria (Abeokuta, Osi, Jos, New Bussa, Kano). This most agile species inhabits especially rocky areas where it is very difficult to catch. The largest specimen from Kano measured SVL 78mm, TL 190mm.
8. *Mabuya perroteti* (Duméril and Bibron)  
Frequently observed in Jos and Osi. A large specimen of 293mm (SVL 131mm) was collected in the last locality, but larger are known (Dunger, 1972; Hoogmoed, 1974).
9. *Mabuya maculilabris maculilabris* (Gray) (Plate 2)  
Common along the mountain road to Obudu Cattle Ranch (plate 3). The largest specimen measures 209mm (SVL 81). On April 17 I found also under a stone 7 eggs ( $x = 18, 5 \times 12\text{mm}$ ) from which after several days young hatched of a size 60mm (SVL 26mm).



Plate 6.  
*Mabuya maculilabris maculilabris*

10. *Panaspis kitsoni* (Boulenger)  
Common species in south-western Nigeria especially near Abeokuta and Owode, where at the end of April lots of hatchlings appeared in the bamboo leaf litter (average size — SVL 21mm, TL 47mm). The largest specimen measured 117mm (SVL 55mm). In Abeokuta and near Ado-Ekiti *P. kitsoni* and *M. affinis* lived sympatrically, feeding mainly on abundant termites.
11. *Panaspis togoensis* (Werner)  
One female (SVL 44mm, TL 117mm) found under a stone near Gurara Waterfalls (about 85kms SE of Minna). Not recorded by Dunger (1973).
12. *Lygosoma guineensis* (Peters)  
Two individuals of this cryptozoic and partially fossorial skink collected in Osi and vicinity of Owode respectively. The latter is larger (SVL 67mm).
13. *Agama agama* (Linnaeus)  
This commonest and most conspicuous saurian commensal of man was seen in every town and village visited. Agamas appeared to be active even in very high temperatures, hunting insects or protecting their territories. In Abeokuta I accustomed some specimens living on a wall of hollow clay blocks to eat moths and butterflies from my hand. Also one male was observed eating plant leaves. Hatchlings appeared there at the end of April.
14. *Agama paragama* (Grandison)  
Several specimens collected in different parts of Nigeria (Yankari Game Reserve, vicinity of Owode and Obudu Cattle Range). All of them inhabited wooded areas away from human settlements and were often caught on tree trunks. The appearance of specimens from the population on the mountain road to Obudu Cattle Ranch partly agree with Grandison's description (1968) though none of the males had a white head (plate 4). Some features are common, however, to *Agama silvanus* (Macdonald, 1981) which has also been found recently in Cameroon (Joger, 1982).



**Plate 7.**  
Mountain road to Obudu Cattle Ranch

15. *Agama benueensis* Monard (= *Agama doriae benueensis* Monard)  
Observed on the University Campus in Joe. One male measured TL 227 (SVL 83mm) (plate 5).
16. *Chamaeleo senegalensis* Daudin  
Several chameleons were discovered on the University Campus in Jos among banana leaves (plate 6). One was preserved (SVL 131mm, TL 245).
17. *Chamaeleo gracilis* Hallowell  
One specimen from the vicinity of Ilorin (TL 276mm, SVL 139mm) (plate 7). Because it readily ate insects I decided to take it to Poland alive, however, unfortunately it died when crossing the Sahara since the temperature in Arlit-Assamaka in Guezzam rose to 49°C in the shade at the end of May.
18. *Chamaeleo basiliscus* Cope  
These chameleons could be found on bushes and trees in Sokoto by night with electric light because being white during sleeping they were easily seen.

The number of species collected in Nigeria could be higher, but sadly political instability during that time made it impossible to travel safely all over the country. As a matter of fact, the big expedition truck caused some astonishment among Europeans or Americans working in sometimes out-of-the-way places, as Nigeria is not now a tourist country. To add to misfortune problems in exchanging currency made life a little more difficult.



Map of Nigeria showing the localities where lizards were collected.



## ACKNOWLEDGEMENTS

I am very grateful to Mrs O. Harrison and Mr G.H. Caswell from the Nigerian Field Society who kindly sent me 11 free copies of "The Nigerian Field". Thanks are also due to Dr. M.S. Hoogmoed and Mr. J. Batinck for help in identifying several specimens.

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## **OBSERVATIONS ON SOME OF THE HERPETOFAUNA OF THE PELOPONNESE**

**DAVID BUTTLE**

*3 Skoner Road, Clover Hill, Bowthorpe, Norwich, NR5 9AX, England*

### **INTRODUCTION**

The Peloponnese was visited for two weeks commencing the 7th of September, 1986 and for a further two weeks commencing the 6th of May, 1987. During the two field trips twenty two reptile and three amphibian species were observed. A checklist of the Peloponnese herpetofauna by Bringsøe (1985) has been followed for subspecific status used in this account. This paper which lists 48 taxa of amphibians and reptiles known to occur in the Peloponnese and the recent work by Chondropoulos (1986) include an excellent list of references concerning the Peloponnese herpetofauna. Due to its abundance of species Greece has long been popular with herpetologists and quite a lot of data has been published regarding its herpetofauna in comparison with many other European countries. However, there is still much to learn about its distribution, ecology and behaviour. This paper is a summary of the species seen, their localities with new locality records and general observations.

The Peloponnese is separated from the mainland of southern Greece by the Gulf of Corinth and due to the Corinth shipping canal severing its link with the Attic mainland is in effect a big island. The region is little affected by industry, agriculture and tourism being the chief sources of income. The wild rugged mountain ranges, the highest often snow-capped, and the low fertile plains provide a wide variety of habitats and climatic variation. Average daily maximum temperatures range from 31°C in July and August to 14°C in January. Temperatures are cooler in the mountainous interior. Generally it is very dry from July to October with most rainfall recorded from October to March.

### **PRINCIPAL SITES**

Altogether eleven areas were investigated. The area locations are shown in Figure 1. The letters S and M before area numbers refer to September, 1986 and May, 1987 respectively.

- |                |  |
|----------------|--|
| <b>AREA S1</b> | Rion. N.W. coast. Moist area 1km W. of Rion near small river, adjoining dry areas.   |
| <b>AREA S2</b> | Loutra Kilinis. N.W. coast. Mainly dry, well vegetated and wooded area.  |
| <b>AREA S3</b> | Olympia. W. central. Grassy fields with olive trees and adjoining hillsides.   |
| <b>AREA S4</b> | Palea Epidavros. N.E. coast. Dry coastal area, well vegetated.   |
| <b>AREA S5</b> | Epidavros. Grassy fields with olive trees 2km W. of ancient Epidavros.   |
| <b>AREA M1</b> | Kiato. N.E. coast. Small river, orchards and fields.   |
| <b>AREA M2</b> | Lake Taka. Central. Large lake S. of Tripolis and adjoining orchards and fields.   |
| <b>AREA M3</b> | Pylos. S.W. coast. Grassy hills and plains with olive trees.   |
| <b>AREA M4</b> | Mystra. S. central. Base of Taigetos mountains. Dry scrub covered hills with olive trees.  |
| <b>AREA M5</b> | Skala. S. east. Well vegetated areas beside the Evrotas river.   |
| <b>AREA M6</b> | Nea Kios. N. east. 7km W. of Nafplio. Well vegetated and extensive marshy area adjoining Inahos river and dry grassy areas near coast. |

Figure 1.

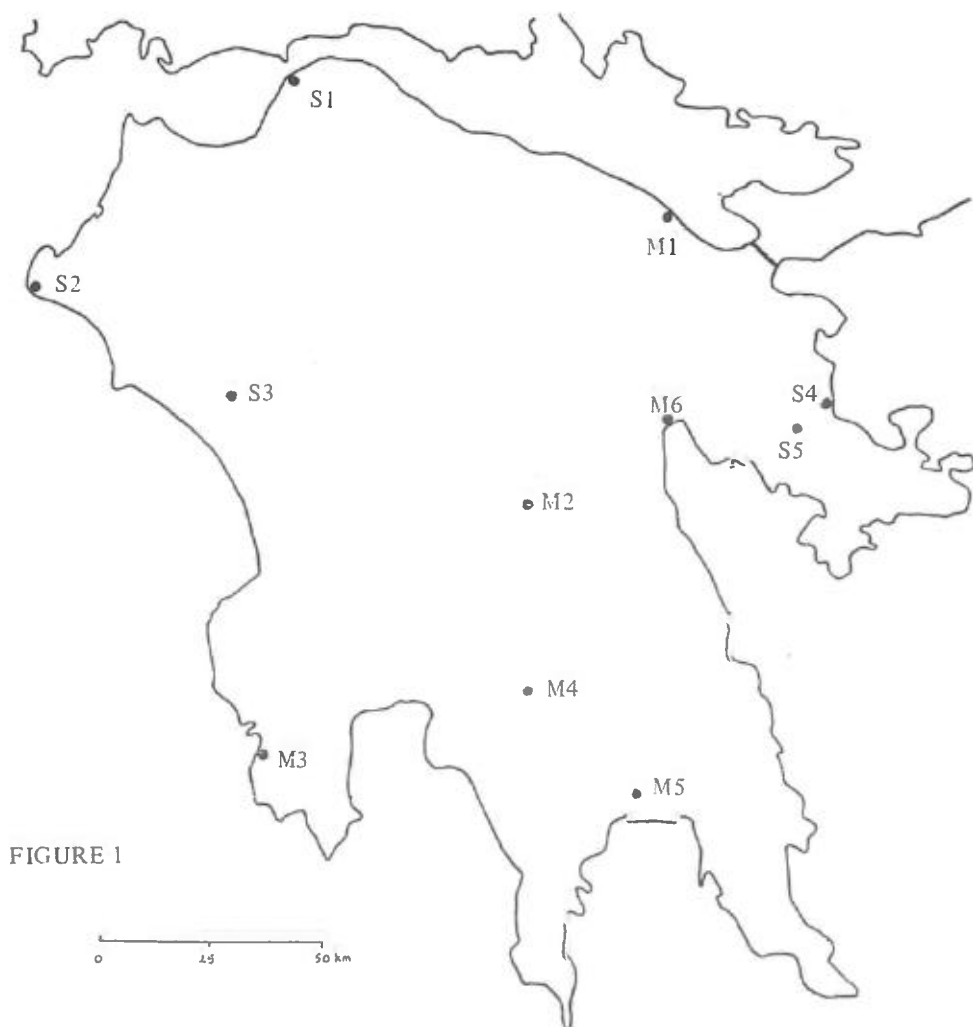


FIGURE 1

## SPECIES LIST AND OBSERVATIONS

### BUFONIDAE

*Bufo bufo bufo* (Linnaeus 1758). Common Toad

One gigantic specimen caught in area M5 in reed cover near the river at 13.40 hr., temp. 24°C, cloudy. Almost 15cm in length, 13cm wide and very obese. While being held for photography it emptied the contents of the urinary bladder, soaking my upper leg. Shortly after releasing the toad the skin on my left thumb swelled up slightly and became numb (see Harrison, 1986). It was still slightly numb a week later. I have never before experienced this effect from the toxins secreted from the cutaneous glands when handling the smaller *B. bufo* in England.

### HYLIDAE

*Hyla arborea* (Linnaeus 1958). Common Tree Frog

The distinctive strident call of this frog was clearly heard in thick vegetation near small river in area M1 during mid afternoon though I failed to see a specimen despite thorough searching. Also probably heard at areas M2, M5 and M6 where it was difficult to distinguish due to the calls of numerous *Rana r. ridibunda*.

## RANIDAE

### *Rana ridibunda ridibunda* (Pallas 1771). Marsh Frog

Very common amphibian in the Peloponnese. Five specimens up to 9cm found in area S1. Six large specimens beside small stream in area M1. Very numerous at area M2 where specimens as large as 15cm approx. were common around Lake Taka. Common alongside the Evrotas river, area M5. Very abundant also beside the Inahos river in area M6 and adjoining marshy area. Also found in streams 2km S. of Tripolis (May, 87). Thousands of well advanced tadpoles and some juveniles seen on May, 87 trip.

## TESTUDINIDAE

### *Testudo hermanni hermanni* (Gmelin 1789). Hermann's Tortoise

One young specimen of 9cm carapace length and an adult of 18cm found in area S3 in grassy field with olive trees at mid-day, temp. 31°C. 20cm specimen found amongst long grass beside the Evrotas river in area M5 at 11.25 hr., temp. 24°C. Also a 16cm specimen found on scrub covered rocky hillside on the outskirts of Nafplio at 15.00 hr. on 16.5.87, temp. 25°C. All active at time of discovery.

### *Testudo marginata* (Schoepff 1792). Marginated Tortoise

Two large adults of 25cm and 28cm carapace length found active on scrub covered hillside in area M4 during mid-day, temp. 22°C, cloudy. The slightly larger of the two had a noticeably more strongly flared carapace than the other, the female's carapace being only slightly flared compared to the male's (Hine, 1982). Another large 28cm specimen was found at 17.30 hr., temp. 24°C sheltering in the centre of a dense spiky shrub on high rocky hillside overlooking the hill where *T.h. hermanni* was found at Nafplio on same day. Hind quarters infested with ticks, the presence of sheep nearby a probable contributory factor to this condition.

## EMYDIDAE

### *Emys orbicularis* (Linnaeus 1758). European Pond Terrapin

Three adults, the largest 20cm carapace length approx. observed swimming in slow moving stream 2km S. of Tripolis at 17.20 hr. on 8.5.87 leisurely snapping up *R.r. ridibunda* tadpoles until they dived to the bottom when aware of my presence. Feeding behaviour slow and deliberate. Cold and cloudy, temp. 13°C.

### *Mauremys caspica rivulata* (Valenciennes 1833). Stripe-necked Terrapin

Found to be abundant at the Evrotas river, area M5 where five specimens were first seen basking together on fallen tree in the river (Plate 1), temp. 25°C. Dived on being disturbed, some cautiously returning about half an hour later. Largest specimen seen 23cm carapace length approx. The Evrotas is a large, in parts, fairly fast flowing river beside which are numerous areas of dry sandy soil suitable for egg laying. All along the river area investigated terrapins could be seen and heard retreating into the water. Captured terrapins (Plate 2) were all *M.c. rivulata* and I was unable to ascertain whether any *E. orbicularis* co-existed among this healthy population. Young specimens were observed apparently eating water surface weed. Also found in area M6 at 14.00 hr., temp. 26°C where a single 16cm approx. adult was seen in a small dyke the water surface of which was blanketed with weed.

## GEKKONIDAE

### *Tarentola mauritanica mauritanica* (Linnaeus 1758). Moorish Gecko

A single 14cm approx. specimen seen on the corrugated iron wall of an old stable in lush field in area S1 at 17.30 hr., temp. 25°C. In the Peloponnese limited to the N.W. coastal region (Bringsøe, 1985).

### *Hemidactylus turcicus turcicus* (Linnaeus 1758). Turkish Gecko

One young 5.5cm specimen found under rock debris at base of house in Olympia village, area S3 at 16.00 hr., temp. 31°C. Delicate gecko with pale rather translucent skin usually found in coastal areas.

### *Cyrtodactylus kotschy bibroni* (Beutler & Gruber 1977), Kotschy's Gecko

Adult of 9cm approx. seen on low wall in area S4 in shade of overhanging bush at 17.00 hr., temp. 27°C. Resembled small *Lacerta* at first glance. Also found in area M6 at 16.20 hr. near coast road basking amongst pile of discarded concrete, temp. 25°C. This 6cm approx. gecko lighter in colour with more distinct cross bands than first, larger specimen seen.

## LACERTIDAE

### *Algyroides moreoticus* (Bibron & Bory 1833). Greek Algyroides

Not an easily observed lizard due to its small size, plain colouration and secretive habits. First found among overgrown ruins in area M1 where five specimens were disturbed and briefly seen on ground amongst vegetation litter. A male and female were found together under a flat rock in same area, the male with distinct light spots on its dark flanks, the dorsal surface being plain dull brown. This sighting confirming identification. Seen at mid-day, temp. 22°C. Up to 5cm approx. snout-vent. Also found in area M5 where two specimens were briefly seen among pile of dead reeds next to the river at 17.30 hr., temp. 24°C. In both areas *Podarcis taurica ionica* was also found.

### *Lacerta trilineata trilineata* (Bedriaga 1886). Balkan Green Lizard

Although found in eight of the eleven areas investigated a total of only eleven individuals were seen, this impressive lizard being solitary by nature. Found in variable habitats, near water as well as dry areas providing there was ample cover, typically being disturbed while basking whereupon it rapidly dashed to some handy nearby refuge, usually a dense bush. At areas S1, S3, S5, M1, M3 and M4 one specimen seen, two at area M5 and three at area M6. The dead specimen, possibly killed by a feral cat, in area M1 measured 14cm snout-vent and 42cm total length. Most specimens seen were slightly smaller. One male observed at area S3 had a vivid blue throat, this being yellow in the other specimens seen. The occurrence of the closely related *L. viridis* in the Peloponnese is considered doubtful (Arnold, Burton & Ovenden 1978, Bringsøe 1985, Chondropoulos 1986).

### *Lacerta graeca* (Bedriaga 1881). Greek Rock Lizard

A single adult female caught in area M5 at mid-day beside the Evrotas river. Found on sandy riverbank with scattered plant growth near stony bank. Cloudy, temp. 23°C. 6.5 cm snout-vent, 21cm total length. As illustration 1a, plate 30 (Arnold et al 1978). When seen ran into grass clump where it was caught. *P.t. ionica* also found in nearby areas. Although predominantly found in the Taigetos mountains, the altitudinal range has now been extended to 0-1700m (Bringsøe 1985).

### *Podarcis taurica ionica* (Lehrs 1902). Balkan Wall Lizard

Frequently seen in areas visited on the May, 87 trip though none were seen in localities searched during September, 86. From nine to fifteen individuals being seen in areas M1, M2, M4, M5 and M6. Also seen at Sparta (May, 87). Ground dwelling lizard found in dry grassy areas, fields, roadside and river banks. Gravid female caught in area M6 on 18.5.87. Typical specimens seen (Plate 3) were bright green with light dorsolateral stripes and light stippled olive brown flanks. Amount of green on dorsal surface variable, one specimen in area M1 being uniform grass green with no light dorsolateral stripes. Average total length approx. 18cm.

### *Podarcis peloponnesiaca* (Bibron & Bory 1833). Peloponnese Wall Lizard

Found to be common in areas S2 (and Vartholomio), S3 and S4 with only single specimens being seen in areas M1 and M4, *P.t. ionica* being the most frequently seen lizard in areas searched during May, 87. Whether this reflects some unlikely difference in seasonal habits and temperature preference or is simply representative of the area visited and habitats searched is unknown, the latter explanation being most likely. Usually seen on stone walls, large boulders and rocky hillsides. The large males, up to 24cm approx. total length are the most attractively coloured small *Lacertid* I have seen in Europe with their bright orange throats and the blue spots extending from the forelegs often almost to the rear flanks. The females with prominent dorsolateral stripes averaged 17cm approx. total length. Bringsøe (1985) lists three subspecies and Chondropoulos (1986) four.

## ANGUIDAE

### *Anguis fragilis peloponnesiacus* (Stepánek 1937). Slow worm.

One specimen found dead on road near the lake in area M2.

### *Ophisaurus apodus thracicus* (Obst 1978). European Glass Lizard

First seen in area M3 on grassy hillside at 13.30 hr., temp. 24°C. Approx. total length 100cm, quickly disappeared into thick vegetation. Another similar sized specimen found dead on a nearby track. Adult male of 97cm total length caught in area M6 on grassy river bank beside the Inahos river next to orchard at 15.10 hr., temp. 24°C. Reacted to being caught by twisting its

body, protruding hemipenes and defecating copiously. Rich dark brown in colour with paler head, respiratory groove prominent on sides (Plate 4).

## SCINCIDAE

*Ablepharus kitaibelii kitaibelii* (Bibron & Bory 1833). Snake-eyed Skink

A total of nineteen adult specimens seen. One found in area S1, three in area S3, one in area S5, eleven in area M1 and three in area M3. Most commonly found in dry open habitats with good ground cover into which it retreats with serpentine motion when disturbed. Lanka and Vit (1985) state that it is intolerant of members of its own species. However five specimens were found together under a flat rock on the railway embankment in area M1 on 7.5.87 though similar rocks in immediate area failed to reveal further specimens. Diurnal, found to be active at various times of the day especially mid to late afternoon. Very timid, only one captured. Two specimens unaware of my presence were observed basking in a dry ditch at 17.45 hr., temp. 24°C. Total length averaged 9cm approx. Captured skink uniform glossy bronze-brown with darker flanks.

*Chalcides ocellatus ocellatus* (Forskål 1775). Ocellated Skink

Three specimens disturbed in same area amongst dead leaves in citrus orchard at area M1 during early afternoon, temp. 24°C and slightly cloudy. Two specimens found in small field with short grass and dead leaves bordered by tall trees in area M6 at 12.35 hr., temp. 25°C, clear and sunny. Four were only briefly seen before rapidly moving into ground cover and effectively disappearing. The first specimen found in area M6 afforded a better sighting as I spent ten minutes pursuing it from one spot to another, relocating it in the short matted grass several times before it was lost. Very fast and agile. Average length approx. 17cm. The most noteworthy sightings of the trips as it has previously only been recorded from Korinthos (Bringsøe 1985). Chondropoulos (1986) lists no specific locality records for this species in the Peloponnese.

## TYPHLOPIDAE

*Typhlops vermicularis* (Merrem 1820). Worm Snake

Fossorial species also known as the Blind Snake. 22cm specimen caught after turning rock partly submerged in clay type soil on dry rocky scrub covered hillside in area M4, temp. 24°C. Also a 24cm specimen found under rock on similar hillside habitat at Nafplio (May, 87), temp. 25°C. On both occasions I was searching habitat where I was hoping to find *Vipera ammodytes*. Actively tried to escape with quick movements when handled and released small amount of slightly smelling fluid from vent. Spine at tip of tail, an aid to locomotion, could be felt poking into hand. Uniform brownish colouration with paler underside.

## COLUBRIDAE

*Malpolon monspessulanus insignitus* (Geoffrey 1827). Montpellier Snake

Two sloughed skins identified by narrow frontal scale and seventeen rows of dorsal scales at mid body found in area S5 in olive field. Three adults seen in area M1 on same day. A 128cm approx. specimen beside grassy bank in citrus orchard at 13.00 hr., temp. 21° breezy. After being almost stepped on in thick vegetation between orchards a 140cm approx. specimen hissed loudly for several seconds after retreating a short distance before disappearing at 15.30 hr. At 17.00 hr. a 120cm approx. specimen sped into thick cover when seen on orchard track. A 93cm specimen found dead on road in village of Karassitsa, area M2.

*Coluber gemonensis gemonensis* (Laurenti 1768). Balkan Whip Snake

First specimen seen in area M1 where a 45cm approx. specimen was seen lying loosely coiled amongst small rocks basking on high roadside bank, temp. 22°C at 16.15 hr., escaped into undergrowth when closely approached. A 37cm approx. sub adult seen on grassy bank beside olive field in area M3 at 10.45 hr., temp 23°C. Dark blotches on anterior body more prominent than in larger specimens seen. Also in area M3 a 60cm approx. specimen disturbed in open area on grassy hillside at 17.15 hr., temp. 25°C. In area M6 a 88cm approx. specimen sped across track between stony banks in dry grassy field at 15.30 hr., temp. 25°C. Slight variation in ground colour, grey to yellowish brown with obscure dark anterior spots. Very fast moving snake.

*Elaphe situla* (Linnaeus 1758). Leopard Snake

Unfortunately the one specimen encountered was found dead on the railway track in area M1. A large adult of roughly 90cm as estimated by the girth of mid-body remains. Red dorsal spots divided in two with greyish ground colour. Local farm workers I spoke to reported seeing *E. situla* in this and other areas and hopefully this most beautiful of European snakes is not as scarce as it appears to be.

*Natrix natrix persa* (Pallas 1814). Grass Snake

Seemingly healthy population around Lake Taka, area M2 where five specimens were seen or caught despite the cloudy conditions during much of the time the area was investigated. All five seen during brief sunny spells between 11.20 and 13.00 hrs. when temp. averaged 17°C. Largest 120cm, average length approx. 90cm. Subadult of 46cm (Plate 5) caught and 100cm approx. specimen seen beside the Evrotas river, area M5 during mid morning, temp. 24°C. In this area *N. tessellata* was abundant. Despite the favourable habitat and vast number of *R. r. ridibunda* present only one 50cm approx. specimen was seen in area M6, swimming in the Inahos river at 11.45 hr., temp. 23°C. All had the two light dorsolateral stripes typical of this subspecies in S.E. Europe.

*Natrix tessellata* (Laurenti 1768). Dice Snake

Frequently seen at the Evrotas river, area M5 where eleven specimens were seen or captured. Seven adults, largest 88cm in length and four were juveniles of 24cm. Discovered at various times of the day usually under rocks beside the river or basking on large rocks. Average temp. 25°C. One adult observed swimming under water for long periods hunting for the numerous fish in the river. One 45cm approx. specimen was observed for half an hour on a grass clump in the middle of the fallen tree shown in Plate 1 coming to within 15cm of a large basking *M.c. rivulata* which showed little interest though occasionally drawing its head slightly back when the snake was approaching closely. I am not aware of any recorded cases of ophiophagy in European terrapins, though I would consider it likely that that occasionally occurs. Little variation, ground colour light to dark olive grey with dorsal pattern of evenly spaced dark bars, alternating dark and narrow light bars on flanks. Venter whitish yellow with dark chequering to almost entirely black.

#### NOTE

During the two trips on several occasions additional specimens were partly seen as they rapidly disappeared into cover, e.g. probable Montpellier and Whip snakes during May 87. All such sightings have not been included in the account. All captured specimens were released where first found.

#### ACKNOWLEDGEMENTS

I would like to thank Dr. C.J. McCarthy, British Museum (Natural History) London for providing copies of valuable references and Mrs. P. Whitley for typing the manuscript.

#### DISCUSSION

The effects of aestivation on the number of species seen can be clearly seen by looking at Table 1. During the September trip only eight species were recorded compared to twenty three in May. Snakes, frequently seen in May, were conspicuous by their absence during September when only one unidentified snake was briefly seen, activity being restricted by the constant high temperatures. *Chalcides o. ocellatus* is probably more abundant in the Peloponnese, at least in Korinthia, than present records suggest as it is said to be very common in the nearby mainland province of Attiki (Dimitropoulos & Gaethlich, 1986). This and other scarcely recorded species such as *Emys orbicularis* and to a lesser extent *Elaphe siula* may also be more abundant than presently recorded. A German tourist told me that when a small harmless snake was seen one evening near a taverna not only was it killed but a frantic search was carried out to try and find and destroy its mate. This fear of snakes and subsequent persecution is not unusual despite the fact that only *Vipera ammodytes* of the thirteen snake species to be found can be considered potentially dangerous. I would welcome any correspondence regarding the Peloponnese herpetofauna and comments on any of my observations in the species accounts.



TABLE I

Summary of amphibians and reptiles observed in the Peloponnese and their site locations.

SPECIES	SEPT. 1986	MAY 1987
<i>Bufo bufo bufo</i>		M5
<i>Hyla arborea</i>		M1, M2?, M5?, M6? (calling)
<i>Rana ridibunda ridibunda</i>	S1	M1, Tripolis, M2, M5, M6
<i>Testudo hermanni hermanni</i>	S3	M5, Nafplio
<i>Testudo marginata</i>		M4, Nafplio
<i>Emys orbicularis</i>		Tripolis
<i>Mauremys caspica rivulata</i>		M5, M6
<i>Tarentola mauritanica mauritanica</i>	S1	
<i>Hemidactylus turcicus turcicus</i>	S3	
<i>Cyrtodactylus kotschy bibroni</i>	S4	M6
<i>Algyroides moreoticus</i>		M1, M5
<i>Lacerta trilineata trilineata</i>	S1, S3, S5	M1, M3, M4, M5, M6
<i>Lacerta graeca</i>		M5
<i>Podarcis taurica ionica</i>		M1, M2, M4, Sparta, M5, M6
<i>Podarcis peloponnesiaca</i>	S2, Vartholomio, S3, S4	M1, M4
<i>Anguis fragilis peloponnesiacus</i>		M2
<i>Ophisaurus apodus thracicus</i>		M3, M6
<i>Ablepharus kitaibelii kitaibelii</i>	S1, S3, S5	M1, M3
<i>Chalcides ocellatus ocellatus</i>		M1, M6
<i>Typhlops vermicularis</i>		M4, Nafplio
<i>Malpolon monspessulanus insignitus</i>	S5 (sloughs)	M1, M2
<i>Coluber Gemonensis gemonensis</i>		M1, M3, M6
<i>Elaphe situla</i>		M1
<i>Natrix natrix persa</i>		M2, M5, M6
<i>Natrix tessellata</i>		M5

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## SPADEFOOT TOADS IN SOUTH WALES: A PROVISIONAL REPORT

HUW GRIFFITHS

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On April 24 this year, whilst taking part in the Nature Conservancy Council Amphibian Survey, I discovered five clumps of spawn at a site not far from Cardiff. The egg masses consisted of 15cm continuous ribbons of embryos measuring 2mm, lacking obvious pigmentation and loosely folded into bands of eight or nine eggs enclosed within a jelly envelope. The spawn was loosely wrapped around submerged branches above a concrete base adjoining two overflow channels in 15cms. of water.

The site location consists of two man-made freshwater ponds situated within deciduous woodland and surrounded by arable pasture. The spawn was found in the lower of the two ponds which is approximately 150 metres long by 30 metres wide and attaining a maximum depth of about 3 metres. The ponds are situated on red sandstone and are firm bottomed.

Using the key provided for European anuran spawn in Arnold, Burton and Ovenden (1978), the egg masses were identified as those of *Pelobates* spp., the spadefoot toads, though there were certain dissimilarities with the spawn description of *P. fuscus* ssp. given by Andreone (1984). A small amount of spawn was taken for captive rearing to enable identification to species level, however this died within 24 hours. On revisiting the site on 29 April, all five spawn masses were found to be dead, the embryos having reached a developmental stage resembling number 19 in the life tables prepared by Gosner (1960) but with a large yolk. The cause of death was not apparent. The ponds are visited by weekend anglers and stocked with tench, pike, perch, roach, rudd, eel and carp. In early May the herbicide Reglone (Diquat dibromide) was added to control duckweed by which time the *Pelobate* sp. spawn had already died. Larvae of *Bufo bufo* were still present. Possibly a sudden drop in temperature after a particularly warm April may have been the pertinent mortality factor.

As far as I am aware spadefoot toads have never been recorded in Great Britain, Lever (1977) makes no mention of them and at a more local level neither does Wisniewski (1984). As yet, further visits to the site have failed to reveal the presence of adult spadefoots. The chances of finding the animals outside the breeding season are minimal, especially as population numbers are presumably small. Next spring I hope to be able to identify conclusively the species concerned and attempt to assess population size, provided that any animals survive until then.

I would be interested to hear from readers who know of cases of *Pelobates* spp. breeding in the U.K., or who have knowledge of the breeding biology of these animals.

### ACKNOWLEDGEMENTS

I would like to thank Dr C Mettam of University College, Cardiff for his help in the preparation of this manuscript and Dr R A Griffiths of North East Surrey College of Technology for his helpful comments on the penultimate draft. I would also like to thank Mr Lewis of Cardiff for permission to enter his private lands, Mark Simmons of Queen Mary College and Patrick Wisniewski.

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## NEW BOOKS FROM SSAR

*Introduction to the Herpetofauna of Costa Rica*, by Jay M. Savage and Jaime Villa R., 1986. A bilingual review, in both English and Spanish, of the 150 amphibian and 212 reptile species inhabiting Costa Rica. Checklist with range for each species; extensive illustrated keys to species and additional keys to tadpoles and coral snakes; annotated bibliography with index; index to published illustrations of tadpoles; comprehensive index. 225 pages, 8½ x 11 inches, clothbound, \$30. A full description was published in *Herpetological Review*, September 1986.

*Biologia Centrali-Americana. Reptilia and Batrachia*, by Albert Günther, 1885-1902 (reprint 1987). Classic review of herpetology of Middle America, from Texas border through Panamá. Seven hundred species covered, 138 of which depicted in 76 full-size plates including 435 individual figures. Twelve plates in full colour. Includes extensive new introductions by Hobart Smith and S.E. Günther. About 500 pages, 8½ x 11 inches, clothbound, \$50. A full description with sample color plate was published in *Herpetological Review*, March 1987 (copies available from Dr. Taylor).

Orders may be placed with Douglas H. Taylor, SSAR Publications Secretary, Department of Zoology, Miami University, Oxford, Ohio 45056, USA. Prices include domestic postage. Orders should be payable in US funds. Complete publications pricelist available on request.

## LETTERS TO THE EDITORS

### New Amphibian Records for Argyll

Dear Sirs,

On a holiday in Argyll last week (April 11-17), I made several observations of breeding amphibians. Having since looked at Frazer's New Naturalist, I realise that this area is grossly under recorded. I am therefore writing with a brief record of what I saw.

I was staying at "Crispie", a house on Bagh Buic, part of Loch Fyne (OS 1:50 000 Sheet 62 Map Ref NR 914712). The house has a garden containing two small ponds (c3sgm). The higher of the two ponds is on the edge of mixed woodland and is choked with vegetation, the lower pond is surrounded by lawn and is about 3m from a hedge and c20m from the loch. This second pond was largely clear of vegetation.

Both ponds held spawning toads (c30 individuals being present in the two ponds at one stage) but it was the newts which were of most interest. One or two individuals were found in the higher pond but the vegetation made them very difficult to see. However the open nature of the lower pond made observation very easy. No newts were caught for close examination. The most newts seen at one time was 11 "small" newts and 3 "larger" ones. The small newts were identified on the basis of the displaying males as being Palmate Newts. The larger individuals could have been female Great-Crested Newts but they seemed too pale and the difference in size between them and the Palmate Newts seemed to be too small.

However, later in the week a newt was seen which may explain the identity of these mystery individuals. This individual was slightly larger than the Palmates, slate-grey above, had pale flanks and legs marked with dark spots and blotches and had a low, pale, spotted dorsal crest. This I identified as a male Alpine Newt. A note on animals seen in the area, which is kept in the house, records the introduction of this species in 1968. I can only assume that the "larger" newts were females of this species and that the species has survived in the area for the last 19 years.

I hope that these records are of use to your group.

Yours sincerely,

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## MEMBERS' ADVERTISEMENTS

*The attention is drawn to the various Acts of Parliament and EEC regulations governing the import, possession and sale of reptiles and amphibians. Advertisements are accepted on the understanding that animals are legally obtained and offered for sale.*

- \* **Wanted:** detailed information on the keeping and breeding of Parsley Frogs (*Pelodytes punctatus*) and Spadefoot Toads, especially *Pelobates cultripes*.  
Simon Hartley, 8 Harnolen Road, Peverell, Plymouth, Devon PL2 3NU. Tel: Plymouth (0752) 779392.
- \* **For Sale/Exchange:** one sub-adult male *Elaphe taeniura*, captive bred. An excellent specimen, 4-5', beautifully patterned, feeding well on juvenile rats and adult mice. Ideally I would prefer to exchange for a captive bred female in similar condition. Also **Wanted:** *Snakes of Taiwan* by R.E. Kuntz, and the identification manual of Asian snakes which was issued to U.S. troops.  
Trevor Smith, 3 Juniper Close, Greasby, Wirral, Merseyside, L49 3QX. Tel: 051 678 2307.
- \* **Wanted:** Poison arrow frogs of the genus *Dendrobates*. All species considered.  
Richard Wallis, Forest House, Kelsall, Nr. Tarporley, Cheshire CW6 0PE. Tel. (0829) 51358.
- \* **For Sale:** captive bred hatchling Indian Pythons, *Python molurus bivittatus*; £45.  
Iain Andrews, 9 Vineyardway, Buckden, Huntingdon, Cambridgeshire PE18 9SR. Tel: (0480) 811313.
- \* **Wanted:** Green Toads (*Bufo viridis*), Yellow Bellied Toads (*Bombina variegata*), Fire Bellied Toads (*Bombina bombina*). Will buy, or exchange for *Bombina orientalis*.  
R. Nutt, 6 Bembridge Drive, Kingsthorpe, Northampton. Tel: (0604) 720963.
- \* **For Sale:** captive born garter snakes (Checkered and North Western). Pair of captive hatched Snapping Turtles, 2 years old.  
N.H. Claydon, Llyg-y-fynydd, Clocaenog, Ruthin, Clwyd, LL15 2BB. Tel: (office) 08245 208/315/316.
- \* **For Sale:** captive bred Indian Pythons, *Python molurus bivittatus*, £45; Boa Constrictors, nicely marked, £75. All feeding well. Rodents available.  
Simon Townson, Tel: 01-531 1378.
- \* **For Sale:** White's Treefrogs (*Litoria caerulea*); captive bred from unrelated parents.  
Joe Church, 363 Unthank Road, Norwich, Norfolk NR4 7QG. Tel: (0603) 57473.
- \* **For Sale or Exchange:** Registered D.O.E. captive bred juvenile *Testudo marginata*, *Testudo hermanni*, *Geochelone pardalis* available end of September/October.  
**Wanted:** female *Geochelone carbonaria* (yellow phase), *Clemmys insculpta*, *Clemmys guttata*, *Mauremys caspica*, *Lacerta lepida*, *Lacerta schreiberi*.  
M.L. Hine, Chelonia Herpetoculture, The Lodge, Normanby, North Yorkshire YO6 6RH. Tel: (0751) 32631.
- \* **For Sale:** captive bred Bearded Dragons, *Amphibolurus vitticeps*. Healthy stock, 8-16 weeks old. £30 each.  
Phil Nussle, 188 Longfield Lane, Cheshunt, Herts. Tel: Waltham Cross 24895.

# BRITISH HERPETOLOGICAL SOCIETY COUNCIL 1986/87

Society address: c/o Zoological Society of London, Regent's Park, London NW1 4RY

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