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## NATURAL HISTORY NOTES

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*Natural History Notes* features shorter-style articles documenting original observations made of amphibians and reptiles mostly in the field. Articles should be concise and may consist of as little as two or three paragraphs, although ideally will be between 600 and 800 words. Preferred contributions should represent an observation made of a free-living animal with little human intrusion, and describe a specific aspect of natural history. Information based on a captive observation should be declared as such in the text and the precise geographical origin of the specimen stated. With few exceptions, an individual 'Note' should concern only one species, and authors are requested to choose a keyword or short phrase which best describes the nature of their observation (e.g., Diet, Reproduction). The use of photographs is encouraged but should replace words rather than

embellish them. Contributions are accepted on the premise that they represent a previously unreported observation, and may be edited prior to acceptance. Standard format for this section is as follows:

**SCIENTIFIC NAME** (Common Name; the abbreviation NCN should be used where none is recognised); **KEYWORD**. **TEXT**; this should include date, time and locality (with full map co-ordinates if possible), precise details on the nature of the observation with some discussion of its significance, and references to pertinent literature. If the information relates to a preserved specimen, its catalogue number and place of deposition should also be given. **REFERENCES**. Then leave a line space and close with name and address details in full.

**RANA TEMPORARIA (Common Frog): OCCURRENCE IN GROUND WATER SPRINGS.** In recent years I have been investigating ground water springs in Surrey and Hampshire, primarily for invertebrates, but have also regularly encountered Common Frogs, *Rana temporaria*.

The Chalk and Upper Greensand escarpments in north Hampshire have springs which range from seasonal seepages to permanent streams emerging from fissures in the underlying rock. All the springs investigated (over 30 to date) were surrounded by woodland. Searching at the point where the water emerged from the ground invariably produced at least one frog, regardless of the time of year. In March 2000 most of the frogs encountered were subadults at least a year old (in their second winter). The frogs were usually submerged with their heads pointing into the flow, so that water ran over the whole body. Many were completely underground, and up to 7 individuals were found in some springs, but 1 or 2 was more typical.

Adults and juvenile frogs were found in larger springs such as those in the deep hanger valley at Ashford Chace (GRSU 7326); here the frogs breed

in the spring-fed stream and are amongst the earliest spawners in the district (early February being typical). Spawning at this site is usually completed a full fortnight before neighbouring surface ponds despite the valley being out of reach of the sun's rays in early spring.

The exceptionally wet conditions in 2000 meant that many new springs poured forth, and the usual springheads were often supplemented by seepages 2 or 3 m up slope. In December 2000 I checked 8 of these 'new' springs in Lower Greensand strata at Hammer Bottom on the Surrey/Hampshire border (GRSU 8732). All had at least one small frog in residence, which looked like they were wintering for the first time.

In Cumbria I regularly found adult frogs (in both summer and winter) in spring-fed troughs sunk into the ground for watering livestock. In the colder months they were hidden away in silt. It would be interesting to know if *R. temporaria* feeds on gammarids, in which case the springhead provides everything these frogs could want for, except a breeding site!

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