

A REPORT ON THE REPTILE LIFE OF SOUTH CENTRAL FRANCE

RICHARD CLARK

Haugnesveien 6, 8480 Andenes, Norway

INTRODUCTION

Herpetological notes were made during a trip to France in the summer of 1989.

My wife and I were stationed for a week in the Perigord area and for three weeks in the Tarn region. Furthermore, shorter trips from one to three days were undertaken to other places, including Andorra. The localities are indicated in the accompanying maps and are referred to by site numbers in the text. Altitudes were determined from local maps and an aneroid altimeter, calibrated in feet. These measurements have been converted to metric values to accord with general practice. Heights were double checked wherever possible and any error is very small. Locality references are given below together with a descriptive account.

The author has had no recourse to detailed literature on French reptiles and amphibians. Species identification proved no problem except in the case of Green and Brown Frogs but these are taxonomically difficult in any case. Whereas by no means an exhaustive survey it is hoped that the observations made may prove useful to other herpetologists in an area which is not so frequently visited as the more popular Mediterranean regions.

SITES VISITED

1. Hamlet of Champeau-et-la Chapelle Pommier. 150-200 metres. July 9th. to July 14th.
2. a) Forêt de la Garrigue near Montricoux. 250-300 metres.
b) River valley below site 2a. 180 metres July 16th. to August 5th.
3. Artificial lake dammed by the Barrage de Roucarie. July 21st.
4. Parc Naturel Regional south of Monts de Lacaune.
5. French Pyrenean foothills. a) 1400 metres b) south of Ax-les-Thermes 1000 metres.
6. Northern Pyrenees, Andorra principality.
a) Canillo 1600 metres b) Arans 1500 metres c) near El Sarat 2000 metres
d) Pas de la Casa 2096 metres.

PHYSIOGRAPHICAL DESCRIPTIONS

1. The village of Champeau-et-la-Chapelle Pommier lies in the Perigord region between the Massif Central and the Atlantic. More precisely it is situated 15 kms S.W. of Nontron which is roughly central in the triangle formed by Limoges, Périgueux and Angoulême. The village is located in the valley of the Nizonne river, one of several small rivers and streams that empty into the Dronne. There is contrast in habitat from lush water meadows, fields, hedgerows, woodland, which is mainly deciduous though with some conifer plantations as replacement forest, to dry scrubby hillsides that lie on the limestone escarpment that rises to the north of the valley, one of many such limestone ridges in the region. Here one finds a more "Mediterranean" aspect with dwarf oak, juniper and low aromatic plants. The countryside otherwise is gently rolling with light agriculture, mostly grazing and wheat. Little habitat destruction was evident apart from controlled tree-felling for the timber mills. The area represents an unspoilt natural environment. We were stationed on the south side of the valley.

2a. The Forêt de la Garrigue lies 30 kms. from Montauban which is about 60 kms. north of Toulouse by Autoroute. The forest itself is on a limestone plateau and is densely wooded with mixed farmland, a good deal of which has been neglected allowing large fields to revert to natural vegetation in places. The region is especially dry in summer and by August a lot of trees were turning brown.

Of interest are the several artificial ponds. Some of these are used as watering holes for cattle but others were found to be stocked with fish, both "goldfish" and catfish. The ponds measured about 10 metres by 4 and the water table seems high enough to maintain the water level. From the state of the vegetation round the margins of these ponds they must be of considerable antiquity. We were stationed at the Gîte "Le Figat" which is let out as a holiday home. Forêt de la Garrigue is separated by another densely wooded plateau, Forêt de la Domaine Gresigne, by the Gorges de l'Aveyron. These areas of relatively high ground 250-450 metres high, link through to Les Monts de Lacaune to the south east.

2b. The river valley in the above named Gorge at the confluences of the Aveyron and Vere rivers below the medieval valley of Bruniquel. The river is flanked with woodland and lush meadows.

3. The lake lies in another extension of the higher ground mentioned under 2a. The lake is fed by a small river which acts a hydro-electric plant. Fairly open country with grassy borders to the lake, some woodland containing small ponds.

4. The National Park is a richly forested region with both deciduous and coniferous forest. There are more open areas with paths, fields and streams. A small lake was present near our camp. To the north rises Les Mons de la Lacaune with summits of over 1200 metres and to the south Du haut Languedoc.

5a. and b. Two sites along the route from France to Andorra between Foix and the border post at Pas de la Casa. These represent the progressive change from lowland to highland aspects. The road runs up a steep-to valley and stopping here was difficult.

6a. and b. These sites were on the only route through Andorra. Steep mountains flank the valley in which there are tobacco plantations and small streams.

6c. Well-watered valley running up to the alpine zone at the N.W. of the country. Stone walls, hedgerows, fields and woodland.

6d. and e. High open meadows with tumbled rocks and numerous small rivers and streams.

OBSERVATIONAL METHODS

Due to the length of time spent at site 1 and 2 there was plenty of scope for observations at all times of day from sunrise to after dark. This enabled some quite interesting and detailed notes to be made on activity patterns in the case of certain species, notably *Vipera aspis*. In other cases as much walking was done as circumstances and weather conditions permitted. Weather conditions experienced on this trip were variable and since these are important in relation to reptile activity a section of this report is devoted to a summary of these.

WEATHER CONDITIONS

Considerable extremes of temperature were recorded. Very high daily maxima alternated with periods of more normal temperatures preceded by thundery outbreaks. Thunderstorm activity was general when it occurred causing local damage. This was especially bad just before our arrival in the area. Otherwise thundery conditions prevailed on July 9th. and 10., July 21st. to 24th., July 30th. and August 5th. The storms that occurred in the Pyrenees on July 30th. were more or less confined to the mountains. At Champeau maxima were in the range 25-30°C whereas at Site 2, Gîte Le Figat, maxima were mostly between 30° and 35° though exceeding 40°C on July 20th. and 21st. and on some other days were around 37°C. Lower temperatures were recorded on the 24th., 25th. and 27th., maxima 24°, 26° and 26° respectively. The 50 year mean maximum at Mounauban is 27.8° for July and 27.2° for August. In Andorra temperatures were also variable. A sunrise temperature of 12.5° rose to 34° maximum at Andorra la Vella (altitude 1024 metres) due to katabatic wind effect. At 12.30 hrs at Casa de la Pasa the temperature was only 12.5° under sunny conditions. The previous day's maximum had been 18° with a minimum of 6°.

SPECIES ACCOUNT

BUFONIDAE

Bufo bufo bufo (Linnaeus)

Site 4. One example was found after dark following rain alongside a path. It was a largish adult measuring 80 mm. Temperature 20°C.

RANIDAE

Rana dalmatina Bonaparte

Brown frogs referable to this species were found at Site 4. The small lake yielded several individuals which were found in the late evening and after sunset at the water's edge and in long grass.

Rana temporaria Linnaeus

Sites 6c. and 6d. Brown frogs observed at these sites are tentatively assigned to this species. At 6c several were found active in the early afternoon under sunny conditions by the edge of a stream. At 6d. a few were glimpsed sitting on rocks in a stream and dived into the water when disturbed. The reader is referred to Arnold, Burton & Ovenden (1978) concerning the problems surrounding the precise identification of Brown Frog populations.

Rana esculenta/Rana lessonae

The precise designation of Green Frog populations to one species or another, in both western and eastern Europe, is a major taxonomic problem: Arnold, Burton & Ovenden (1978). No attempt is made here to assign Green Frogs observed on this trip to a particular species. Within a population some frogs were bright green, olive-green or more brown in ground colour. Some had a light vertebral stripe while others lacked it. Whereas at times this range of colouring could be linked to the background at others it could not. Green coloured frogs basking on muddy banks were as common as darker coloured animals.

Green Frogs were found at sites 2a, 2b, and site 3. At Site 1 calling was heard in the evenings but no animals located. At 2a a small population was found in one of the artificial ponds, see site description. This population was comprised of a very few small individuals some 25-35 mm. in length. How this population originated is hard to see since the area is very dry and the nearest body of water lies two to three kilometres distant. Whether it represents a breeding colony is open to doubt since no adults were seen. At site 2b frogs were common in open stone watering troughs, in a drying pool and on the banks of a nearby stream feeding into the river. At site 3 newly metamorphosed juveniles and tadpoles on the point of change were abundant in the grass and lake shallows respectively. A colony of adults was discovered in a muddy pool amongst overhanging trees a short distance from the lake itself. No Green Frogs were found at sites 4, 5 and 6.

LACERTIDAE

Podarcis muralis muralis (Laurenti)

This lizard was found at all the localities visited with the exception of sites 6d and 6e occupying an altitude range of about 150 metres to 1600 metres. It was found in a wide range of biotopes and showed no particular preferences: buildings both occupied and deserted, the edge of roads and paths, light woodland, forest clearings, stone walls, hedgerows, leaf debris and the margin of streams wherever there were boulders and vegetative cover. At Sites 1 and 2a the same individuals could be identified day after day having prescribed territorial limits foraging defined distances from their hiding places in crumbly stone work and round houses. Where it was found around buildings it would climb high up to the eaves when alarmed. Males were rather more common than females and recently hatched juveniles were seen at 2a and 2b. Adult males at site 1 were rather less heavily built and less heavily patterned with flank reticulations than at the localities further south. A lot of photographs were taken of Wall Lizards at all the places visited and special note was taken of the populations in Andorra because of the possibility of confusion with *Podarcis monticola* and *P. hispanica* which might be expected in the region. These two latter named species were not found however.

P.muralis had a broad activity range even tolerating the very high temperatures on some days though keeping to the shade at the hottest times of day. At Champeau activity continued

up to 21.00, the lizards either basking in the evening sun or moving around on shady stonework still warm to the touch. Morning activity began one to two hours after sunrise and rather later on some days at site 1 which began chilly and foggy.

Lacerta viridis viridis (Laurenti)

The Green Lizard was found in all the areas visited except sites 6d and 6e. It was common, especially amongst undergrowth, woodland paths and the margins of fields. At site 1 it was plentiful in the water meadows near the Nizonne river. At site 4 the lizard was found under partly sunny conditions between thundery showers and the lower temperatures caused by these conditions and the altitude resulted in the lizard displaying itself more prominently and basking more openly than at site 2a where it occupied shady woodland and thickets often being detected only by the rustling of undergrowth. At site 1 it was also fairly easily seen sunning itself on the edge of cover and along paths. *L.viridis* was sympatric with *P.muralis* though it avoided stone walls and the more rocky biotopes. No juveniles were seen. Colouring and patterning was most variable. Some brilliant green males with minute black speckling were found at sites 1, 4 and 6b. Females ranged from dull olive green to bright moss-green with variable dark dorsal blotches. Others were more uniform or nearly so. The more brilliantly coloured specimens seemed, perhaps coincidentally, to be less shy than the duller specimens and could often be approached quite closely and photographed. At site 4 a pair were seen chasing each other along a dry ditch near some undergrowth and seemed undisturbed by being observed.

Lacerta vivipara Jacquin

Although sites 6d and 6e were but briefly visited very careful searching was done for small lacertids. A single specimen was found at 6e (no *P.muralis* was found at these locations – see above) which was identified as *L.vivipara*. It was found at 13.00 under sunny conditions in tussocky grass near a small stream. The specimen measured 82 mm in total length of which 47 mm was tail (undamaged) and was a female. Ground colour bronze-brown with a narrow vertebral stripe. There were a few dark dots along the dorso-lateral aspect and the venter was whitish with a metallic sheen. Although no hand lens was available some scale counts were possible:

Rostral not in contact with fronto-nasal.

Supralabial series had 3 shields anterior to the subocular.

Dorsals fewer than 45

Infralabials 6 + 6

Temporals 10/12 on each side

Masseteric small

Preanal single.

COLUBRIDAE

Coluber viridiflavus viridiflavus Lacépède

This striking snake was found at sites 1, 2a and 5a & 5b. At the latter two localities a single example was found at each place as road casualties. 5a at 1400 metres would appear to be near the altitudinal limit for this species.

Site 1. Four adult specimens seen. One was taken at 17.30 amongst shrubbery at the base of a cottage wall and another nearby lying in grass at the edge of a field at 12.30 under partly cloudy conditions, air temperature 28°C. Both these were subsequently released. The next day the second snake was again found at the same spot. Diagnostic data on these two snakes is given below. The third example was briefly seen at 10.30 air temperature 25°C moving fast at the edge of a small wood and the fourth specimen on open dry scrubby terrain at the top of the escarpment under sunny conditions at 10.00, temperature 26°C.

Site 2a. 4 adults were identified but were very alert and cautious and disappeared swiftly when alarmed. Two were found between 08.00 and 09.00 at the border of a field, temperature 23°C and the next morning a further example under similar conditions. Not all activity was confined to the early morning. At 13.00 with an air temperature of 30°C one was briefly glimpsed as it disappeared into thickets bordering one of the artificial ponds. One subadult was observed on August 3rd. close to the Gîte lying about one metre from ground level on the rough trunk of an oak tree. This had the typical juvenile livery of the species being

a uniform grey/fawn with a bold neck marking. Although observed for a few minutes it made off into tumbled stone work at the base of the tree when approached more closely and could not be found. Total length was estimated at about 60cms. Time 11.00, temperature 21°C.

From the observations made it would seem that *C. viridiflavus* is a reasonably common species in the areas visited. It can also be concluded that this species has a broad range of diurnal activity during the summer, specimens being found through most of the daylight hours although admittedly under differing circumstances. Habitat tolerances are also wide ranging from cultivated areas, woodland and more open, wild and rocky terrain.

When caught *C. viridiflavus* bit with great ferocity and determination and it was difficult to prise the jaws loose. A mildly infected finger was experienced from a tooth that had become detached. One of the road casualties found at site 5a was slimmer in build than the two caught at site 1. This had a length of 95cms.

Diagnostic data on the two specimens caught at Site 1

Total length:	122 cms.	120 cms.
Tail length:	33 cms.	31 cms.
Ventrals:	205	199
Subcaudals:	113 paired	99 paired
Sex:	Male	Female

VIPERIDAE

Vipera aspis aspis (Linnaeus)

This viper was only found at Site 1. Although much searching was done at sites 2 and 4 no evidence of vipers was found and no road casualties were noted or cast skins.

A total of 6 specimens were found. One in an open clearing in woodland at 09.30, temperature 22°C and another on the dry escarpment coiled in a low juniper bush at 10.15, temperature 26°C. The remainder were found in a small area close to the edge of a field bordered by bramble thickets, hedgerows and woods. Of these four two were observed on two occasions and the third on no less than four separate visits to the site. The snakes seemed to have favourite basking places and were always found in precisely the same spot. Detailed notes were taken and are here reproduced in brief. The snakes are referred to by number, 1-4.

July 10th. 1, 2 & 3 found between 17.30 and 18.30. The weather during the day had been cloudy with thundery showers. In the late afternoon the cloud cleared and the snakes were found basking in the late afternoon sunshine. Snake 2 was found lying stretched out, motionless in long grass, the others were coiled up.

July 11th. 1, 3 & 4 in the late morning after a damp and foggy start. Sunny spells, air temperature 24°C.

July 12th. No. 4 found at 12.30 lying in partial shade. The weather was partly cloudy and humid. Air temperature 28°C.

July 13th. Viper No. 4 basking at 11.30. Weather sunny, temperature 28°C. No snakes were found in the evening, weather hot and still.

July 14th. The last observation on viper No. 4 which was spotted at 18.30.

V. aspis was found to be exclusively diurnal with an activity range from midmorning to early afternoon with a secondary period of activity in the early evening. No snakes were found abroad at the hottest time of day although searching was carried out. The snakes varied in size from 55-70 cms. though the one found in the juniper scrub was considerably smaller, about 40 cms. In no cases were the vipers aggressive. They could be approached closely for the taking of pictures and those that were caught and handled were reluctant to bite. In one case the snake's head was gently raised with a stick as it lay basking with no reaction at all.

The colouring and markings showed two distinct forms.

1. Ground colour brown with completely black dorsal markings which varied in appearance

on the same specimen being a mixture of zig-zags and black transverse bars and lozenge-shaped markings either separate from each other or joined by a narrow vertebral line. This form does not agree with the illustrations in Arnold, Burton & Oviden (1978) plate 39 3a and is closer to 3b except that the ground is brown rather than grey and the markings inconsistent in continuity and form. General impression: a snake with vivid clear cut colour and pattern.

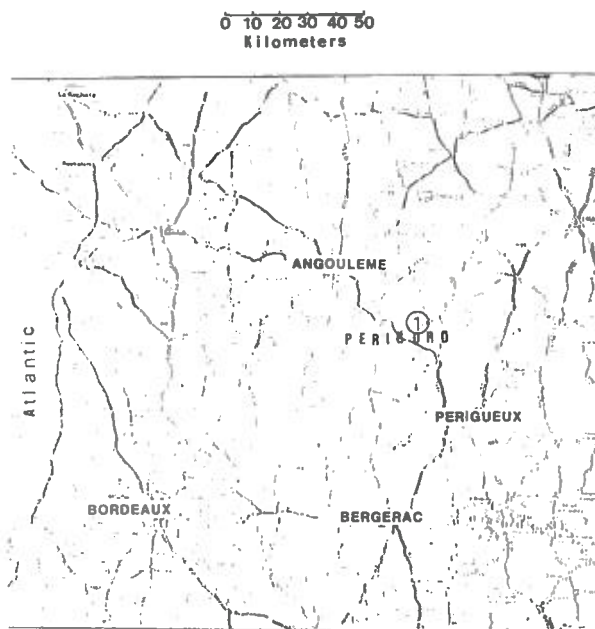
2. Ground grey-brown with the dorsal markings much narrower and dark-grey with some black edging in the form of off-set bars joined with a wavy vertebral line. General impression: a snake of diffuse colouring and markings.

DISCUSSION

A total of 4 amphibian, 3 lizard and 2 snake species were found, not a great number but considerable abundance of some of these was observed. In addition *Alytes obstrecticans obstrecticans* was heard calling at Site 4 but could not be located and a very badly damaged juvenile *Natrix natrix* was found dead on a road near the same site. These have not been included in the species account because of the unsatisfactory nature of the finds. Certain species that were anticipated but not found include *Lacerta lepida*, *Lacerta agilis* and *Natrix maura*. The apparent absence of these lizards cannot be explained since the regions visited fall within their ranges. In the case of *N.maura* many places provided suitable habitats, both still and flowing bodies of water and lush vegetation in the surroundings but no trace of this snake was found. Snakes in the summertime are always more difficult to locate and other species that could be anticipated include *Coronella girondica* and *Elaphe longissima*. With regard to Site 1 this region north of the Dordogne probably had little unexpected to offer the herpetologist with regard to species content.

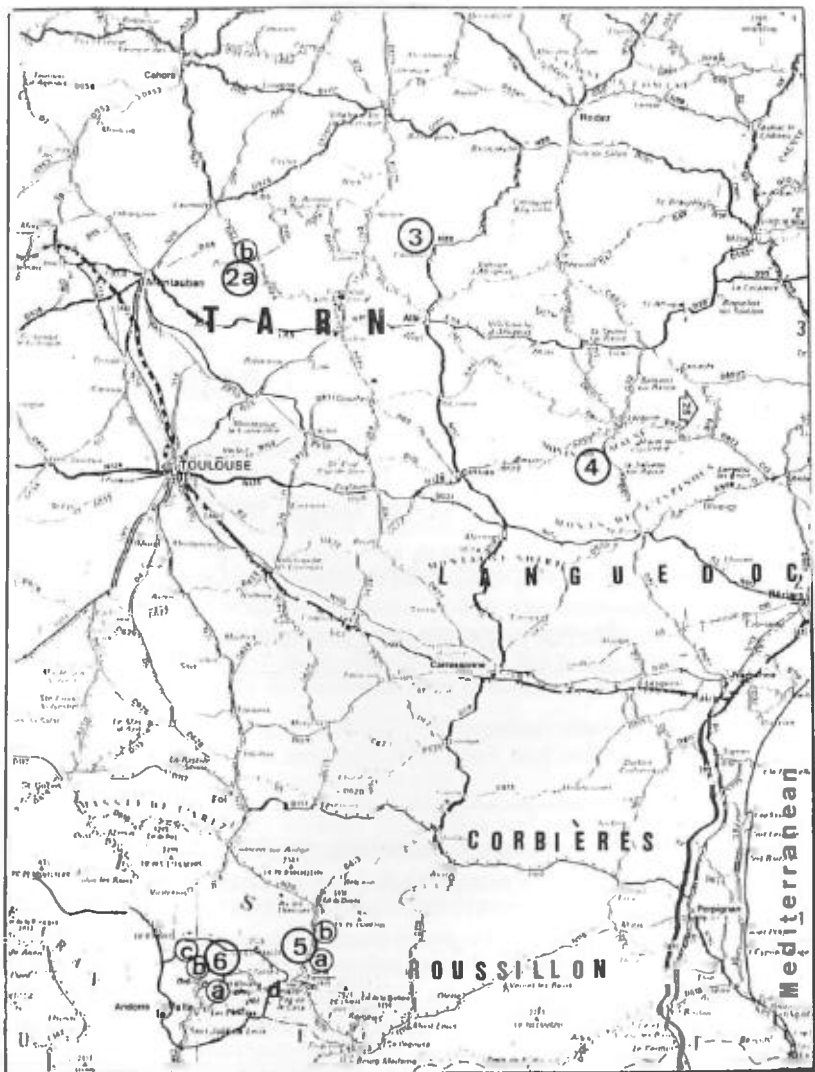
By contrast the Tarn region lies very much on a "grey" area – see Arnold, Burton & Oviden (1978) who provide distribution maps. The low ground running from Montpellier through Caucassone to Toulouse could be expected to act as a corridor for the penetration of some Mediterranean species, possibly *Psammotromus algerus* and *P.hispanicus*, *Podarcis hispanica* and *Malpolon monspessulanus*. This does not appear to be the case and the area is of great interest as much for those species that are apparently absent as for those that can be found. Nevertheless I would venture to suggest that more careful searching of this region at a more propitious season would be worthwhile.

MAP 1 - SHOWING SITE 1



MAP 2 - SHOWING SITES 2 TO 6

0 10 20 30 40 50
Kilometers



MAPS

Because of the large area covered with the close proximity of some sites and the considerable distances between others it has not been possible to include all the localities on one map. The reader is therefore recommended to refer to any standard map of France in order to put the localities visited in perspective to the country as a whole. Map 1 includes Site 1 and Map 2 sites 2, 3, 4, 5 & 6.

REFERENCES

- Arnold, E.N., Burton, J.A. & Ovenden, D.W. (1978) A field guide to the Reptiles and Amphibians of Britain and Europe. Collins, London.
 Boulenger, G.A. (1920) Monograph of the Lacertidae I. London, Johnson reprint Company.
 Boulenger, G.A. (1913) The Snakes of Europe. Methuen, London.
 Steward J.W. (1971) The Snakes of Europe. David & Charles, England.