

## INTRODUCTION TO A STUDY OF THE HERPETOFAUNA OF ALBANIA

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*Ion E. Fuhn sapientiae doctor, hominum societatis atque rerum gestarum studiosus, animi humani investigator, animantium descriptor fuit, sed praecipue dilectissimus amicus. Haec verba dicata sunt recordationi et memoriae viri qui mecum egit pleraque tempora in disputando de "herpetofauna" Illyrica.*

The first specimens of Reptiles and Amphibians originating with certainty from Albania were collected between 1854 and 1882. There are occasional records collected by researchers coming back home from Greece or Turkey etc. Studies of the herpetological fauna of Albania were begun by the Vienna Natural History Museum: first A. Klaptoz (1910) carried out partial researches, later (1914-1918) E. Ebner, H. Karny, F. Kopstein, A. Penther, G. Veith etc. undertook a program with specific field campaigns. More or less in the same period (1916-1918) E. Csiki made researches in Albania for the Budapest Natural History Museum and in 1918 G. Veith and A. Winneguth undertook the same for the Bosnia and Herzegovina Land Museum of Sarajevo.

The researches of the Italians P. Parenzan (1929-1930) and L. Cardini (1936) follow this very active period. K. Müller made researches during 1938-1939 for the Berlin Natural History Museum. During 1959 E. Frommhold printed some results of his touristic-naturalistic trip in Albania. More information is given by E. Kattinger in 1972. The Museum and Institute of Zoology of the Tirane University organized two field campaigns for herpetological researches during 1967-1969 and 1976-1985 with P. Dani, I. Haxhiu, etc.

The territory around the borders of Albania has been the subject of many researches made by people from different countries and it would be too long to list them all. During the summer of 1980, 1982 and 1984 I had the chance to visit the following localities: Bojana (or Buenë, or Bunë) Valley, West, East and North slopes of the Albanian Alps, East side of Korab-Deshat, Jablanica Mountains, Drimkal Region, Ohrit and Prespa Lakes and Ilkseria-Kolonjë-Zagori Regions.

In the herpetological literature the data referring to Albania is frequently not cited or the information is incomplete or even not true. For example, even in the interesting work of Atatur and Yilmaz (1986) about the Balkan Amphibians, Albania is not considered.

What follows is a synthesis of a wider work about taxonomy and biogeography of the Albanian herpetofauna I have prepared as a contribution to a study of the herpetofauna of the Balkans that I. Fuhn from Bucharest (Romania) began to coordinate before his death.

For general information about Albania see, for example, the works of Mantegazza (1912), Almagià (1929), Baldacci (1917, 1931, 1933, 1937) and Kemal Vlora (1978-1979).

For the biogeographic (bioclimatic, phytosociological and vegetational) nomenclature see: Margraf (1927, 1932), Bagnous and Gaussen (1957), Matvejev (1961), Emerger et al (1970), Polunin (1980), Tomaselli (1980), Müller (1981), Saint Girons (1982a,b) and Walter (1985).

When not cited, the common names of species are not known.

### AMPHIBIA CAUDATA Salamandridae

#### *Salamandra atra atra<sup>1</sup>* Laurenti, 1768

Alpine Salamander (Pizrrak, Salamandra e zezë)

<sup>1</sup>after Trevisan, P. et al (Boll. Zool., 48: 77-82, 1981): but see also Joger, U. (*Salamandra*, 22(2/3): 218-220, 1986).

Seems to be exclusive to the Albanian Alps (Vermosh, Kelmend, Theth, Shalë, Dukagjin, Nikas and Krasniq Regions).

Cafa Drosks or Qafe Droshks (Dragobija) in the Valbonë Valley (Krasniq Region) is the best known locality in Albania where the Alpine Salamander occurs.

**Salamandra salamandra salamandra** (Linnaeus, 1758)

Fire Salamander (Salamandra, salamandra me njolla të verdha)

1940 *Salamandra salamandra albanica* Gayda, Atti Soc. ital. Sci. nat., Milano, 79: 265. – Terra typica: village of Spas along the Drin River (NE-Albania).

It is more or less widespread in all of Albania. Lower level (plains and hill vegetation: e.g. in the surroundings of Bukura, Myzeqe, and near Pogradec, Ohrit Lake) and Mountain level (area of sciophilous broad-leaved trees: e.g. Albanian Alps, Beshtiku, Gjalika Lumës, Mounts Korab, Mirditë, Mount Deja, Mount Runjë, Mount Kreshtës, Mount Nëmerçkë, etc.).

**Triturus alpestris alpestris** (Laurenti, 1768)

Alpine Newt (Tritoni i Alpeve)

North (Albanian Alps: Vermosh, Theth, Krasniq, Dukagjin, Trunit and Lumë Regions; Mounts Korab-Deshat and Central (Lurë, Mounts Kreshtës and Luçon; perhaps also on Mounts Polisit and Thatë) Albania. It lives in lakes and ponds in valleys and mountain grasslands from 1200m up to 2600m, but is more common between 1700m and 2200m.

Buresh & Zonkow (1941: 204-25; map 44, locality 26) incorrectly recorded the locality of "Cafa Malit, 1200 m" (Kopstein & Wettstein 1923: 411): instead it is not immediately east of Skodër, but between Vasiaj and Flet (between Mounts Trunit and Rrasës) in the upper Madh Valley.

**Triturus alpestris montenegrinus**<sup>1</sup> Radovanovic, 1951.

<sup>1</sup>See Gorham, S.W. (Checklist of World Amphibians. New Brunswick Museum, p.25, 1974).

It is a pedogenetic form (sensu A. Dubois, Alytes, Paris, 4: 122-130, 1987) endemic to Bokumirsko Lake, 1430 m, on Mount Maglic close to the border of Albania and Crna Gora (Yugoslavia). It is sympatric with ssp. *alpestris* (see for example, Pozzi 1966).

I agree with Breuil & Thuot (1983) who believe it is not a valid subspecies.

**Triturus alpestris veluchiensis**<sup>1</sup> Wolterstorff, 1935.

<sup>1</sup>Steward (1969, p. 99, map 7 partim), but see also Rocek, Z. (Acta Univ. Carol., Biol., 1972 (5/6) : 295-372).

South-East Albania: Mounts Nëmerçke and Grámmos but perhaps also on Mounts Ottovicë and Tomorrit (= Tomorricë).

**Triturus cristatus carnifex**<sup>1</sup> (Laurenti, 1768)

Warty Newt (*Tritoni me Kreshtë*)

<sup>1</sup>See Bucci-Innocenti, S. et al (Copeia, 1983: 862-872) and Mancino (1988: 216).

Werner (1912), Schreiber (1912), Fejervary (1923), Mertens and L. Müller (1928, 1940), Buresch and Zonkov (1941), Mertens and Wermuth (1960), Thorn (1969) ascribed the Warty Newts from Albania and all other parts of the Balkans to the ssp. *karelinii* (Strauch, 1870).

On the other hand Wolterstorff (1925) asserts that in Montenegro the ssp. *carnifex* is present.

Spurway (1953) believes the ssp. *karelinii* is present only in the biogeographical taurido-caucaso-pontic area. Strangely he considers the Warty Newt is absent from the central-South Balkans.

According to Frommhold (1959) the Warty Newts from Albania belong to the ssp. *cristatus* and according to Steward (1969) to the ssp. *carnifex*.

On the basis of my experience I agree with Steward but this matter might be better examined.

This Newt is recorded from the plains and the Albanian Alps but is certainly present elsewhere too. I know it is present in the Ikeseria District (Epirus).

**Triturus vulgaris graecus** (Wolterstorff, 1905)

Smooth Newt (Tritoni i vogël, triton i zakonshëm, triton me pikë)

According to the literature this is the commonest and most widespread newt of Albania.

It lives throughout Albania in the lower, mountain and alpine zones.

On the basis of my researches the range of this subspecies reaches, in the West, South Dalmatia (Trebisnjica Valley, between Croatia and Hercegovina). Also Schmidtler & Schmidtler (1983) found the ssp. *graecus* at Ravno (Popovo Polje). These authors consider the population living in the lower Neretva as *Triturus v. vulgaris x Triturus v. graecus*.

**SALIENTIA**  
Bufonidae

**Bufo bufo** (Linnaeus, 1758)

Common Toad (Thithlopa ose zhaba e madhe, Thithëlopa e zakonshme).

It is common all over Albania. It is more frequent than the previous species in the lower level (hills and submontane vegetation) and in the mountain level (lower mountain vegetation).

Populations of the Albanian Alps, of Mounts Korab-Deshat and of the Central Albanian mountains seem to be closest to the ssp. *bufo*.

Populations of West and South Albania (South to the Seman-Devoll Valley), instead, seem to be closest to ssp. *spinosis* Daudin, 1803.

**Bufo viridis viridis** Laurenti, 1768

Green Toad (Zhaba e gjelbër, thithëlopa)

It occurs all over Albania. It is even more thermophilous than the previous species and prefers plains at lower altitudes though it can reach 2400 m. (Mount Korab).

**Discoglossidae**

**Bombina variegata scabra** (Küster, 1843)

Yellow-bellied Toad (Bretkoca barkverdhë or Bretkoca)

1923 *Bombina salsa* var. *csikii* Fejérváry, Mag. tudom. Akad. Balkan-Kutat. tudom. Eredm., Budapest, 1 (1922): 24; pl. 2, figs. 2-4. – Terra typica: Ipek (nunc Pek, Kosovo, Yugoslavia), Mount Korab at 1800 m, and Kula Lums (North-East Albania).

All over Albania. From sea level (Dukati, Kanina, Kneta e Kakarriqit, Myzeqeja, etc.) to 1800 m (Mounts Korab-Deshat).

It lives in brooks, rivers, ponds, marshes, springs and pools, mostly where they are covered by vegetation.

**Hylidae**

**Hyla arborea arborea** (Linnaeus, 1758)

Common Tree Frog (Bretkosëza e gjethes, e drurëve, gjelbëra jeshile, or Bretkosëza)

It is more or less widespread all over Albania. Lower level (littoral, plains and hills vegetation) and Mountain level (orophile vegetation).

**Pelobatidae**

**Pelobates syriacus** Boettger, 1889

Eastern Spadefoot.

Frommhold (1959) recorded it from Albania but he didn't find it (confirmed in litteris to S. Bruno, 1962).

Karaman (1928) mentioned it as occurring in the Ohrit and Presbës Lakes (South-West Macedonia, Yugoslavia).

During summer 1980 I observed and collected the Eastern Spadefoot in some localities near Struga and Ohrid, but above all at Sv. Naum (South shore of Lake Ohrit and at Stenje and Konsko (Central-West shore of Lake Presbës at the border between Yugoslavia and Albania). It is highly possible it lives also in the sandy shores of the two cited lakes inside the boundary of Albania (e.g. between Sv. Naum and Pogradec, between Konsko and Zaroshkë, and in the surroundings of Zgradec).

### Ranidae

**Rana dalmatina** Bonaparte, 1840  
Agile Frog (Bretkosa këmbëgjatë).

All over Albania. Lower level (littoral, plains and hills vegetation) and Mountain level (orophile vegetation). It appears to be more common than the Stream Frog in the plains woods. Where they are sympatric, the Agile Frog prefers to lay eggs in lakes and ponds whereas the Stream Frog seems to prefer brooks.

**Rana graeca graeca**<sup>1</sup> Boulenger, 1891  
Stream Frog (Bretkosa e përrjenje)  
<sup>1</sup>See Dubois, A. (Alytes, 4(4) : 135-138, 1985).

It is the most common and widespread Brown Frog of Albania. It lives from sea level to 1850 m. (Djalica Lums or Galica or Gjalica Liumës Mountains, Lumë Region, North-East Albania). In many localities lower than 300 m. in the lower level, with littoral and plains vegetation, it is replaced by the Agile Frog.

**Rana epeirotica** Schneider et al, 1984  
Epirus Frog.

Schneider et al (1984) on the basis of the studies made by Hotz and Uzzel (1982) and by Tanner and Heppich (1982) described the Green Frogs from Epirus as a new species.

Certainly this Anura, which sometimes is sympatric with *Rana ridibunda*, is distributed in the island of Corfu or Kérkira and in Epirus (NW Greece), in the drainage area of the Akhérion and Thiamis Rivers, Ioánnina Lake and Asfáka Marsh.

In Albania it could be present in the Pavla and Butrintit Valleys (Chaonia or Vurg District), and perhaps also in some areas of the Albanian-Greek Epirus: Lunxhëri, Zagori, Ikseria, Kolonjë, Moravë and Tomorricaë Districts.

**Rana ridibunda** Pallas, 1771  
Marsh Frog (Bretkosa e pellgjeve, e zakonshme, or zhaba)  
It is the most common and widespread Anura of Albania; from sea level to 1500 m.

According to morphological, ecological and ethological researches, Haxhiu (1986 a,b) believes the phenotype "ridibunda" lives in almost all Albania and that along the coast (*Quercion ilicis* associations) is sympatric with phenotypes "esculenta" and "lessonae".

Frommhold (1959: 180, fig.) cited *Rana lessonae* as present at Durrës.

In reality the problems of the Albanian Green Frogs have to be studied on the basis of biochemical and molecular data (Hotz and Uzzell 1982, Hotz 1983, Hotz et al 1985, etc.)

*Rana ridibunda* could be sympatric with *Rana epeirotica* and *Rana shqiperica* in the alluvial plains of the coast between the Butrintit Plain (South) and the Kakariqt Plain (North).

The Green Frogs from Albania are exported in quantity as food to West European countries, mostly France.

In 1941 Mr. P. Lavezzoni released at Borgomaro (Province of Imperia, NW Italy) some *Rana ridibunda* (sensu Auct.; perhaps also *Rana epeirotica*?) collected in the Tomorricaës River (SE Albania). These specimens, although they were collected for gastronomic purposes, spread along nearly all the Impero River, reached the Prino Stream and in 1970 were introduced in the Caramagna Stream (see, for example, H. Hotz and S. Bruno, *Rend. Accad. N. Sci. of XL, Mem. Sci. fis. nat.*, Roma, 4 (6): 76, 1980). This species was also found between April



Truck for export trade of frogs and snails from Albania.

1984 and April 1985 in the Bevera Stream, in the Cervo Stream (West Province of Imperia) and at the confluence of the Neva and Arroscia Streams (Province of Savona) (V. Ferri and A. Dell'Acqua, *Natura*, Milano, 76 (1-4): 49-52, 1985).

**Rana shqiperica** Hotz et al, 1987  
Albanian Frog.

This species was described from specimens from the Lake Shkodrës drainage area and the adjacent coastal plains of Southwestern Yugoslavia (Hotz et al, 1987).

I agree with these authors that the species could be widely distributed in the coastal plains of Albania. It is possible the Albanian Frog could reach Vlorë Bay in the south.

It is sympatric with *Rana ridibunda*.

**Rana temporaria temporaria** Linnaeus, 1768  
Common Frog (Bretkosa e kuqërrremtë e malit)

North (Albanian Alps) and North-East (Lune Region and Mount Korab) Albania. Generally it lives in localities higher than 1000 m. On Mount Korab adults were observed up to 2200 m. and young to 2400 m. in the dolines of Fusa Pecinec or Fusha Petshinets. It is possible it lives also in the lower level (submontane vegetation), south to the Drin Valley and west to the Drin i Zi Valley.

**REPTILIA**  
**TESTUDINES**  
**Emydidae**

**Emys orbicularis** (Linnaeus, 1758)  
European Pond Tortoise (Breshkë uji or Breshkujcë).

North, West, Central-East and South Albania. Lower level (littoral, plains and hills vegetation: area of evergreen sclerophyllous and heliophilous broad-leaved trees).

Very common but localized in alluvial plains, in river valleys, in marshes and in lakes.

Variety *hellenica* (Valenciennes, 1833) or *hofmanni* Fitzinger, 1833 is present with an intermediate form between var. "typica" and var. *hellenica*.

**Mauremys caspica rivulata** (Valenciennes, 1833)  
Stripe-necked Terrapin (Breshkë uji or Brenshkujzë)

West Albania. Lower level (littoral, plains and hills vegetation: area of evergreen sclerophyllous).

Common but localized. In some localities it is sympatric with previous species.

#### Testudinidae

**Testudo graeca ibera** Pallas, 1814  
Spur-thighed Tortoise.

Berthold (Mitt. Zool. Mus. Göttingen, 1: 7, 1846) mentioned one specimen of this subspecies collected in Albania.

Graf Attems collected some specimens of this tortoise, sympatric with *Testudo hermanni*, near Usküb in the Treska Valley, Yugoslavian West Macedonia (Siebenrock 1906). This is the closest locality to the Albanian border where *Testudo graeca ibera* is surely present.

Haxhiu (1985) considered two females collected in Albania as belonging to this subspecies, but the locality is not recorded.

**Testudo hermanni hermanni** Gmelin, 1789  
Hermann's Tortoise (Breshka e zakonshme).

1932 *Testudo enriquesi* Parenzan, Atti R. Ist. ven. Sci. Lett. Art., Venezia, 91 (1931-1932): 1160; pls. 30-33 partim; pl. 34, figs. 3, 7. – Terra typica: Dell of Elbassan in the Skumbin Valley (Central Albania).

All over Albania, Island of Sverneci in Nartës Bay and Island of Sazan in Vlorë Bay. It is necessary to confirm the presence of this Tortoise on the two islands.

Lower level (littoral, plains and hills vegetation: maquis, garigues, Quercion ilicis associations, lentisk associations, mediterranean Pine forests, evergreens and deciduous oaks, Ostryo-Carpinion orientalis associations, european chestnut, schibljak associations) and Mountain level (lower mountain vegetation).

From sea level to about 1200 m (environs of Kishajt or Kishaj or Kisait: higher Drin i Bardhë Valley between Kukës and Mount Pastrik or Pushtrikut).

**Testudo marginata** Schoepff, 1792  
Marginated Tortoise (Breshka malore)

South Albania (Chaonia or Vurg District: lower Pavla Valley and Butrintit Valley, to north until the ancient ruins of Lekures). Sometimes it is sympatric with *Testudo hermanni*.

#### Cheloniidae

**Caretta caretta caretta**<sup>1</sup> (Linnaeus, 1758)  
Loggerhead Turtle (Breshka me pllaka)  
<sup>1</sup>sensu Capocaccia, L. (Ann. Mus. civ. St. nat. Genova, 76:1-22, 1966).

Adriatic Sea and their coasts (Drinjt Gulf: coast between Pulaj and Shëngjin; Lalzës Bay: coast of Pyll i Rrushkullit, betwen the Tarin and Erzen mouths; Vlore Bay; Sarandë Bay).

Rare.

**Eretmochelys imbricata** (Linnaeus, 1766)  
Hawksbill Turtle.

Frommhold (1959: 146) writes as follows: "Doch kommen zumindest Unechte Karette, *Caretta caretta caretta* (Linné), und Echte Karettschildkröte, *Eretmochelys imbricata imbricata* (Linné), vor. Ein großes Stopfpräparat einer metergroßen Seeschildkröte befindet sich in der Sammlung des Zoologischen Institutes der Universität Tirana, Über das später noch zu berichten inst".

I have no more information about it.



Adult male Albanian Wall Lizard *Podarcis muralis albanica* (Ada Island)



Albanian Frog, *Rana shqiperica*, adult male from Lake Shkrodes.

## Dermochelyidae

**Dermochelys coriacea** (Vandelli, 1761)<sup>1</sup>

Leathery Turtle (Breshka lëkuore or me 7 kreshta or e zezë e detit).

<sup>1</sup>See Fretey, J. & Bour, R. (Boll. Zool., 47: 183-205, 1980).

Adriatic Sea (Drinjt Gulf: coast between Pulaj and Shëngjin). Very rare.

## SAURIA Gekkonidae

**Cyrtodactylus kotschyi bibroni** Beutler & Gruber, 1977

Kotschy's Gecko (Zhapiu me lara i shtëpisë).

South-West Albania and islands. Littoral and insular vegetation (*Quercion ilicis* associations).

It is considered rare and localized, but almost certainly because of the scarcity of observers and research.

**Hemidactylus turcicus turcicus** (Linnaeus, 1758)

Turkish Gecko (Zhapiu i zakonshëm i shtëpisë).

West Albania and islands. Littoral, plains and hills vegetation (*Quercion ilicis* and *Ostryo-Carpinion orientalis* associations).

Seems to be the most common and widespread Gecko of Albania.

**Tarentola mauritanica**<sup>1</sup> (Linnaeus, 1758).

Moorish Gecko.

<sup>1</sup>I consider this is a monotypic species because I believe *deserti* Boulenger, 1891 is a species and not a subspecies.

It is possible it exists along the coasts and on the islands of Albania. Erhard Frommhold sent to me in 1962 a specimen from Sazan Island.

In July 1980 one specimen was found in the campground of Ada Island (Bruno 1988). This species was not found again in following years and its presence has to be confirmed.

## Lacertidae

**Algyrodes nigropunctatus** (Duméril & Bibron, 1839)

Dalmatian Algyrodes (Hardhucka e shkëmbinje)

1919 *Algyrodes nigropunctatus* var. *concolor* Bolkay, Glasn. zemaljsk. Muz. Bosn. Hercegov., Sarajevo, 31: 18, 34. – Terra typica: Brustar and Mulani (Central Albania).

Nearly all over Albania, including Sazan Island, certainly up to 100 m. It is possible it lives to the North of the Drin Valley but I do not know of any records.

**Lacerta agilis** Linnaeus, 1758

Sand Lizard (Zhapiu i ngathët)

The Sand Lizard seems to be occasional and localized on the North Albania Alps and on the North-East Korab-Deshat Mountains, from about 1200 up to 1800 m.

In theory the Albanian specimens belong to the ssp. *bosnica* Shreiber, 1912 (see Buresch & Zonkow 1933, Karaman 1939, Radovanovic 1951, Dimovski 1959, 1964, Brelih & Dzukic 1975, Jablokow 1976) but an adult female from Mount Korab, captured July 26th 1918, at 1800m. (Mus. Hung., Rept. No. 2721/20) belongs to the ssp. *agilis* (Fejérváry 1923: 44-46; pl. 3, fig. 4).

**Lacerta oxycephala** Duméril & Bibron, 1839

Sharp-snouted Rock Lizard.

The locality closest to the Albanian border was Godinje, south to Virpazar, near Lake Shkodër

(Radovanovic 1951). Mr Giuseppe Sorisi, from Cernusco sul Naviglio (Milano), has taken a picture of an adult male on the Rumija Mountains during summer 1982.

Frommhold (1959) mentioned it generally from Albania. I asked him for more information about the exact locality and he told me that it occurred on the Tarabosh Hills or in the Anamali Region.

**Lacerta trilineata<sup>1</sup>** Bedriaga, 1886

Balkan Green Lizard (Zhapiu me tri vija).

<sup>1</sup>sensu Frör, E. (Biol. gallo-hellenica, 8: 331-334, 1979).

It is necessary to specify better the distribution of this species. According to the information I have obtained, I believe it is absent north-east of an imaginary line connecting Lake Shkodër, Orosi or Oroshti (upper Mat Valley) and Lake Ohrit.

The taxonomic position of Albanian populations is uncertain. It is not known if they are the ssp. *trilineata* or the ssp. *major* Boulenger, 1887 or if both are present. According with the biogeography it seems to be possible that the populations of the lower level (littoral, plains, hills and submediterranean vegetation) are the ssp. *major* and those of the Lower level (submontane vegetation) and Mountain level in SE Albania are the ssp. *trilineata*.

**Lacerta viridis** (Laurenti, 1768)

Green Lizard (Zhapiu i gjelbër).

It is more or less common all over Albania from sea level to more than 1000 m (Tropojës Valley in the Albanian Alps and Lumë Valley in the Lumë Region between the Koritnik and Korab Mountains).

It is necessary to study in a better way the taxonomic position of *Lacerta viridis* from Albania. In theory it could belong to the ssp. *viridis* but it is possible that in the region with Mediterranean vegetation (South-East to the Seman-Devoll Valley) the ssp. *meridionalis* Cyrén, 1933 or their hybrids are present.

**Lacerta vivipara** Jacquin, 1787

Viviparous Lizard (Zhapiu që lind këlyshë)

North (Albania Alps) and North-East (Korab Mountains) Albania.

This species seems to be typical of the alpine level (area of prostrate shrubs, alpine meadows and everlasting snows).

Even though it is not recorded at altitudes lower than 1800 m., it is possible it can live there (e.g. area of the sciophilous broad-leaved trees: Fagion moesiaca associations).

Var. "typica" and var. *montana* Mikan, 1805 are present.

**Pordarcis erhardii veithi** (Werner, 1918)

Erhard's Wall Lizard (Hardhucka e gurëve).

1918 *Lacerta muralis* subsp. *veithi* Werner, Archiv. naturg., 84: 142; fig. partim. – Terra typica: between Debar or Dibra (Mavrovo National Park, Macedonia, South Yugoslavia), Peshkopijë or Piskopeja or Peshkopi (Drin i Zi Valley, Korab Mountains, North-East Albania) and Babia or Babjë (Shkumbin Valley near Librazhd, Central Albania).

1919 *Lacerta erhardi* var. *veithi* Bolkay, Glasn. zemaljsk. Muz. Bosn. Hercegov., Sarajevo, 31: 2, 12, 32; pls. 3-4. – Terra typica: Visoka (Central Albania).

1920 *Lacerta veithi* Bolkay, Glasn. zemaljsk. Muz. Bosn. Hercegov., Sarajevo, 32: 215. – Terra typica: Visoka (Central Albania).

It is necessary to know better the distribution of this species. It is certain it lives in the east (e.g. Drin i Zi Valley) and Central (e.g. Mallakastër, Shkumbin-Devoll Valleys and Osum Valley) Albania.

Since it is present in the Kosovo Polje (f. e. Radovanovic 1964), in Yugoslavian West Macedonia

(e.g. Dimovski 1959, 1964) and Greek North-West Macedonia (coasts and hills of Lake Kastorias, Aliákmon Valley, Aós Valley and Zagori Region: S. Bruno pers. obs., summer 1980 and 1982) it is possible it lives also in North-East (Drin i Bardhë Valley) and South-East (Vijosë Valley) Albania.

**Podarcis melisellensis fiumana** (Werner, 1891)  
Dalmatian Wall Lizard (Hardhucka e vogël e gjelbër).

It is necessary to study better the distribution of this lizard. It certainly lives along the shores of Lake Shkodër (= Ligen i Shkodrës) Zogaj, Shirokë, Shkodër, Flakë. It also occurs in the Drin Valley as far as Spas (= Spasit, Spashit or Han Spashit).

According to Kopstein and Wettstein (1921) its potential distribution is Northern Albania north of the Mat Valley. I believe it is true only for the coastal region because for biogeographical reasons it cannot reach the Mirditë Table-land to the south.

In the work of F. Tiedemann and K. Heule (Böhme et al 1986: 116; fig. 16) a confusion between two localities exists: "18 Han Spasit/Drim" (but its name is Han Spasit/Drin) is in Albania and not in Yugoslavia, instead "20 Tuzi", named for Albania, is in Yugoslavia.

**Podarcis muralis** (Laurenti, 1768)  
Common Wall Lizard (Hardhucka e mureve).

1919 *Lacerta muralis* var. *albanica* Bolkay, Glasn. zemaljsk. Muz. Bosn. Hercegov., Sarajevo, 31: 12, 32. – Terra typica: Fjeri (Central-West Albania).

Of the genus *Podarcis* it is the most common and widespread species both in the plains and in the mountains.

The taxonomic position of the Albanian Common Wall Lizards is discussed. A modern study of this subject would be very interesting and useful. On the basis of pattern, colour and size it is possible to distinguish the following forms, some of which are considered as subspecies by some authors:

– ssp. *muralis* "typica": North and East-Central Albania.

(Albanian Alps, Koritnik, Korab-Deshat and Jablanica Mountains). It lives mostly in the Mountain level (orophile vegetation) and in the Alpine level (hypsophile and pioneer vegetation). Up to 2400 m. in the Korab and Gjalicës (or Galica) Mountains and up to 2300 m. in the Skelsen (Skülsen or Shkelsen) Mountains.

– var. *fusca* (Bedriaga, 1878). It is sympatric with *muralis* in almost all of North and East-Central Albania. Nevertheless it lives also in Central (Shkumbin Valley: Elbasan Mountains and South-West (Dukat Valley: Lungara, Keraunë and Himarë Mountains) Albania. In North and North-East Albania it lives up to 600-700 m. and in Central and South Albania it lives also at higher altitudes.

– ssp. *maculiventris* (Werner, 1891). West Albanian Alps (for example Postribë Region of Kir Valley) up to about 1100 m. Forms intermediate with *muralis* can be found in the Drin and Dukat Valleys (South-West Albania).

– ssp. *albanica* (Bolkay, 1919). It is the typical form present on the plains and on the hills all over South Albania to the Drin Valley, west of the Drin i Zi Valley and north-west to the Tomor, Ostrovi, Nemerçke and Gribë Mountains.

Phenotypes similar to both *muralis* and *maculiventris* live in the mountains of South and South-East Albania. The phenotype like *maculiventris* lives at the lower altitudes, instead specimens like *muralis* are present at the higher altitudes.

**Podarcis taurica** (Pallas, 1814)  
Balkan Wall Lizard (Hardhucka e barit)

Potentially it could live almost all over Albania but, according to my information, its presence in the West Albanian Alps and in the regions of Mirditë, Kthellë, Mat and Cermenikë is not documented. In the East Albanian Alps it is known from the Drin i Bardhë Valley. This

species lives also in South and Central Albania (including Karakonisi Island in Nartë, or Arta, Bay). The presence of the species at Cetinje (Crna Gora or Montenegro, SE Yugoslavia) (Radovanovic 1951: 118) is in doubt. The record was not confirmed by Radovanovic (1964) or by Pozzi (1966) and was considered with reserve by Brelih & Dzukic (1974). It is also in contrast with the Yugoslavian distribution of this lizard made by Radovanovic (1951: 117) who says the species is absent west of an imaginary line Beograd-Usce-Prizren (Serbia, Vojvodina, Kosovo).

Two subspecies are present in Albania. The ssp. *taurica* lives in the South-East Albanian Alps (Kopstein & Wettstein 1921) and east of the Drin i Zi Valley. Those authors cite this species at Kjuks (today Qukës) but in the species distribution map they mark in this locality the ssp. *ionica*. They assign the ssp. *taurica* to an unnamed locality in the central-west coast of Lake Ohrit which could be where (see page 455) they collected reptiles and amphibians. The ssp. *ionica* is typical of Central-West and South Albania. I do not know any record north of the Erzen Valley, but it could occur between the Erzen and the Mat Valleys.

In Albania the presence of the var. *olivicolor* has been recorded (Schreiber, 1912).

Many specimens of this species were collected in July 1980 near the landing-stage of Ada Island. No more specimens were found on the island in the following years. Those specimens were studied by Ion. E. Fuhn who considered them as ssp. *ionica*. As reported in Bruno (1988), this locality is quite strange for this subspecies, both from the bioclimatic and the geographic point of view, and it could be supposed those specimens were imported there. Its presence on the island has to be confirmed.

#### Scincidae

##### **Ablepharus kitaibelii** Bibron & Bory, 1833

Snake-eyed Skink (Zhapiu me këmbë të vogla).

It is possible it occurs in the Drin i Bardhë Valley considering that it exists in the Beli Drim Valley (West Kosovo). Nevertheless we know with certainty that it lives south to the Seman-Devoll Valley.

It lives at the lower level (littoral, plains and hills vegetation).

The Snake-eyed Skinks from Albania are considered to be the ssp. *stepaneki* Fuhn, 1970 but the author writes as follows (pag. 12): "Die jugoslawischen und albanischen Populationen, Über die es nur spärliche Literaturangaben gibt und von denen uns auch kein Material vorlag, dürfen wahrscheinlich in der Nähe von *stepaneki* stehen. In den Zonen wo sie in Berührung mit *kitaibelii* kommen, sind intergradierende Populationen zu erwarten".

#### Anguidae

##### **Anguis fragilis<sup>1</sup>** Linnaeus, 1758

Slow Worm (Kakzogëza)

<sup>1</sup> see Wermuth, H. (Deutsch. zool. Zschr., 1 81-121, 1950), Voipio, P. (Ann. zool. Soc. Vanamo, 23(2): 1-20, 1962) and Petzold, H. --G. (Blindschleiche und Scheltopusik, Ziemsen, Wittenberg Lutherstadt, 1-57, 98-102 pp., 1971).

All over Albania from sea level up to 1700 m. (Mount Pashtrik or Pëschtrich in the South-East Albanian Alps).

The contact between the ssp. *fragilis* and the ssp. *colchicus* (Nordmann, 1840) is in Albania.

The specimens which seem to belong to the ssp. *colchicus* are considered to live generally in the Mediterranean region (upper Shkumbin, Devoll, Osum, Vjosë and Dhrin Valleys), but specimens were collected also at Pasa liman, Vlorë, Fjeri, Durrës, Kula Lums or Kula Ljumës and Mount Pastrik (or Pastriku, Pashtrik, Pështrih).

The varieties *eryx* Bielz, 1888, *graeca* Bedriaga, 1881 and *incerta* Krynicki, 1837 are present.

##### **Ophisaurus apodus** (Pallas, 1775)

European Glass Lizard (Bullari).

West Albania in the Lower level (littoral, plains and hills vegetation) up to about 600 m.

(surroundings of Krujë) but it is possible that in the Skanderbent Mountains it lives also at higher altitudes.

SERPENTES  
Typhlopidae

**Typhlops vermicularis** Merrem, 1820  
Worm Snake (Gjarpri i verbër krimbor).

West Albania. Lower level (plains and hills vegetation). Common but localized.

Boidae

**Eryx jaculus turcicus** (Olivier, 1801)  
Sand Boa.

South-West Albania. Lower level (littoral and plains vegetation). Very localized. It is the rarest of Albania's snakes.

Colubridae

**Coluber caspius<sup>1</sup>** Gmelin, 1789  
Large Whip Snake (Shigjeta e gjatë).  
<sup>1</sup> see Baran, I. (1976: 26-30; figs. 8-9; tab. 2).

All over Albania. Lower level (littoral, plains and hills vegetation) and Mountain level (areas of the sciophilous broad-leaved trees and area of coniferous trees). It is the commonest terrestrial snake of Albania after *Malpolon monspessulanus*.

**Coluber gemonensis gemonensis<sup>1,2</sup>** (Laurenti, 1768)  
Balkan Whip Snake (Shigjeta e shkurtër).

<sup>1</sup>sensu Mertens, R. (Senckenb. biol., Frankfurt am Main, 49: 181-188, 1968).

<sup>2</sup>nomen dubium sed conservandum (but see Schatti, B. & Vanni, S.: Rev. suisse Zool., Genève, 93 (1): 219-232, 1986).

All over Albania. Lower level (littoral, plains and hills vegetation) and Mountain level (orophile vegetation). It is the commonest terrestrial snake of Albania after *Malpolon monspessulanus* and *Coluber caspius*.

**Coluber najadum<sup>1</sup>** (Eichwald, 1831)  
Dahl's Whip Snake (Shigjeta e hollë)  
<sup>1</sup> sensu Baran, I. (1976: 34-43; figs. 10-12; tabl. 4-5)

All over Albania. Lower level (plains and hills vegetation) and Mountain level (orophile vegetation). Localized.

**Coronella austriaca austriaca<sup>1</sup>** Laurenti, 1768  
Smooth Snakes (Gjarpri i zi)  
<sup>1</sup> sensu Mertens & Wermuth (1960: 175-176)

North, East and South Albania. Lower level (hills vegetation) and Mountain level (orophile vegetation). Localized.

Snake with variable ornamentation; the following varieties are present: *fasciata* Dürigen, 1897, *quadritaeniata* Werner, 1897 and "typica" Auct.

In July 1980 one specimen of this species (Bruno 1988) was found in the rubbish dump of a tourist settlement on Ada Island. It was not found again in following years. According with bioclimatic and geographic considerations it could be possible this species was imported to Ada Island. Its presence on this island has to be confirmed.

**Elaphe longissima<sup>1</sup>** (Laurenti, 1768)  
Aesculapian Snake (Bolla e shtëpisë)  
<sup>1</sup> sensu Capoccacia, L. (Ann. Mus. civ. St. nat. Genova, 74: 353-387, 1964)

All over Albania. Lower level (littoral, plains and hills vegetation): mostly in the area of the

evergreen sclerophilles or mediterranean vegetation) and Mountain level (orophile vegetation). It is the commonest species of the *Elaphe* genus.

The North and North-East (Albania Alps and Korab-Desat Mountains) populations seem to be ssp. *longissima*. The Central-West and South populations seem to be ssp. *romana* (Suckow, 1798) (mean V 230 and Sc 83/83+1). Variety *deubeli* (Méhely, 1897) is present.

***Elaphe quatuorlineata quatuorlineata* (Lacépède, 1789)**

Four-lined Snake (Bolla me katér vija).

West, South and Central Albania (littoral, plains and hills vegetation: mostly in the eliophilous broad-leaved trees area or submediterranean and submontane vegetation). Common but localized.

***Elaphe situla* (Linnaeus, 1758)**

Leopard Snake (Bolla laramane)

West and South Albania. Lower level (littoral, plains, and hills vegetation) and Mountain level (area of coniferous trees: Silver Fir woods. Mostly south to the Seman-Devoll Valley). Localized.

Varieties *leopardina* (Bonaparte, 1834) and *quadrilineata* (Pallas, 1814) (= "typica" Auct.) are present.

***Malpolon monspessulanus insignitus* (Geoffroy, 1827)**

Montpellier Snake (Birója).

West and South Albania. Lower level (littoral, plains and hills vegetation: maquis, garigues, Quercion ilicis associations, lentisk associations, mediterranean pine forests, schibljak associations, deciduous oak, Ostryo-Carpinion orientalis associations, European chestnut) and Mountain level (orophile vegetation: Beechwoods and Silver Fir woods).

It is the commonest terrestrial snake of Albania.

Varieties *fusca* (Fleischmann, 1831) and *neumayeri* (Fitzinger, 1826) nomen nudum [= *insignita* (Geoffroy, 1827)] are present.

***Natrix natrix natrix*<sup>1</sup> (Linnaeus, 1758)**

Grass Snake (Gjarpri i madh i vjet).

<sup>1</sup> after Thorpe, R.S. (e.g. Experientia, Basel, 31: 180-181, 1975)

All over Albania. Lower level (littoral, plains and hills vegetation), Mountain level (orophile vegetation) and Alpine level (area of prostrate shrubs). Common everywhere except in the Alpine level where it is localized and lives rather near lakes and springs.

The varieties present in Albania are: *concolor* (F. Müller, 1886), *moreoticus* (Bedriaga, 1881), *persa* (Pallas, 1814) [= *bilineata* (Jan, 1864)] and "typica" Auct.

***Natrix tessellata tessellata*<sup>1</sup> (Laurenti, 1768)**

Dice Snake (Gjarpri i vogël i vjet)

<sup>1</sup> sensu Hecht, G. (Mitt. zool. Mus. Berlin, 16(2): 313-320, 1930) and Mertens. R. (Senckenb. biol., Frankfur am Main, 50(3/4): 125-131, 1969).

All over Albania. It is sympatric with *Natrix natrix*. It appears more common than the Grass Snake both in the area of prostrate shrubs and in the alpine meadows of the Alpine level lakes.

In the highest zones of South Albania it is more common than *Natrix natrix*.

The following varieties are present: *albolineolata* Bonaparte, 1834, *concolor* (Jan, 1864), *flavescens* (Werner, 1891) and "typica" Auct.

***Telescopus fallax fallax* (Fleischmann, 1831)**

Cat Snake (Gjarpri me lara).

West Albania. Lower level (littoral, plains and hills vegetation). Not very common, and localized.

**Telescopus fallax**

In July 1980 one specimen (Bruno 1988) was found in the campground of Ada Island. This species was not found again in following years and its presence has to be confirmed.

**Viperidae**

**Vipera ammodytes** (Linnaeus, 1758)

Nose-horned Viper (Nepërkë e zakonshme).

1919 *Vipera ammodytes* var. *connectens* Bolkay, Glasn. zemaljsk. Muz. Bosn. Hercegov., Sarajevo, 31 (1): 21, 36. – Terra typica: Pojani, Levan, Brustar and Gradica (Albania).

1920 *Vipera meridionalis* var. *connectens* Bolkay, Glasn. zemaljsk. Muz. Bsn. Hercegov., Sarajevo, 32 (1): 7-8, 12; fig. 1-2 – Terra typica: Pojani, Levan, Brustar, Gradiča and Mali Glodit (Albania).

All over Albania. Lower (littoral, plains and hill vegetation) and Mountain levels (area of the sciophilous broad-leaved trees and coniferous trees). Potentially it could live also in the

Alpine level (area of prostrate shrubs and Alpine meadows).

It is the commonest Viperidae of Albania.

Populations of North and Central Albania, north of the Shkumbin Valley, belong to the ssp. *ammodytes* (Linnaeus, 1758), whereas populations south of the Shkumbin Valley belong to ssp. *meridionalis* Boulenger, 1903. In the Plain of Mallakastër intermediate forms (var. *connectens* Bolkay, 1919) are present.

The record of ssp. *meridionalis* at Vorë (= Vorra), between Durrës and Tiranë (Schwarz 1936) has to be confirmed.

**Vipera berus** (Linnaeus, 1758)

Adder (Nepërkë e malit me lara të nderprera).

North and North-East Albania: Albanian Alps and Korab Mountains. Mountain level (Beechwoods, Silver Fir woods, mountain meadows) and Alpine level (subalpine and alpine vegetation).

It seems to be rare and localized.

The taxonomic status of *Vipera berus* in the Balkan Peninsula has to be better studied. I believe that some specimens considered in the literature as ssp. *bosniensis* Boettger, 1889 are instead ssp. *berus* (Linnaeus, 1758).

**Vipera ursinii ursinii<sup>1</sup>** (Bonaparte, 1835)

Orsini's Viper (Nepërkë e malit me lara të pandërprera).

<sup>1</sup> after Kramer (1961: 842-848, 689-697, 714).

North and North-East Albania: Albanian Alps and Korab-Desat Mountains. Mountain level (Orophile vegetation) and Alpine level (Hypsophile vegetation: area of prostrate shrubs and pastures, *Curvuleta*, *Firmeta*, alpine tundra).

Common but localized.

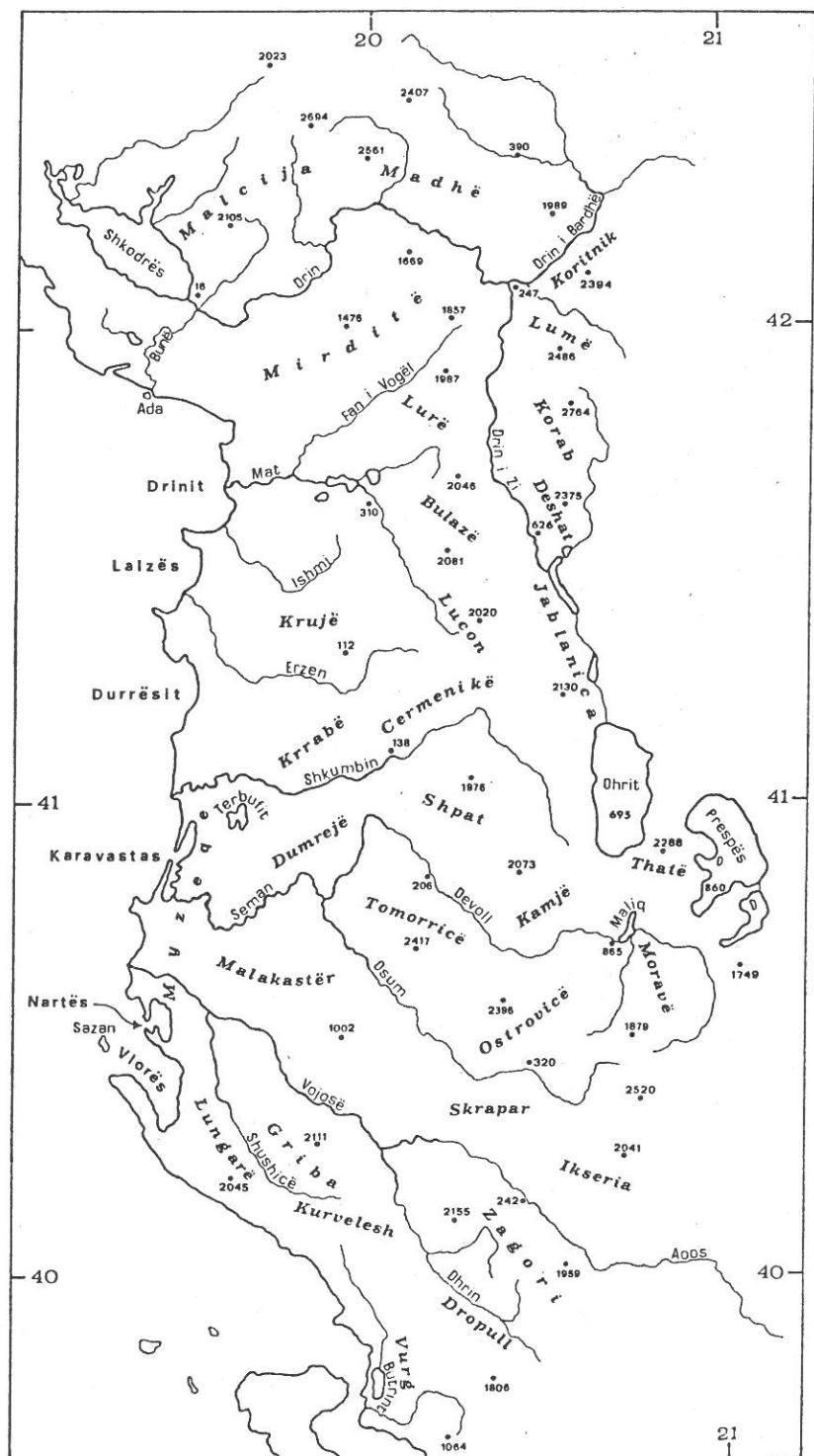


Fig. 1  
Map of Albania

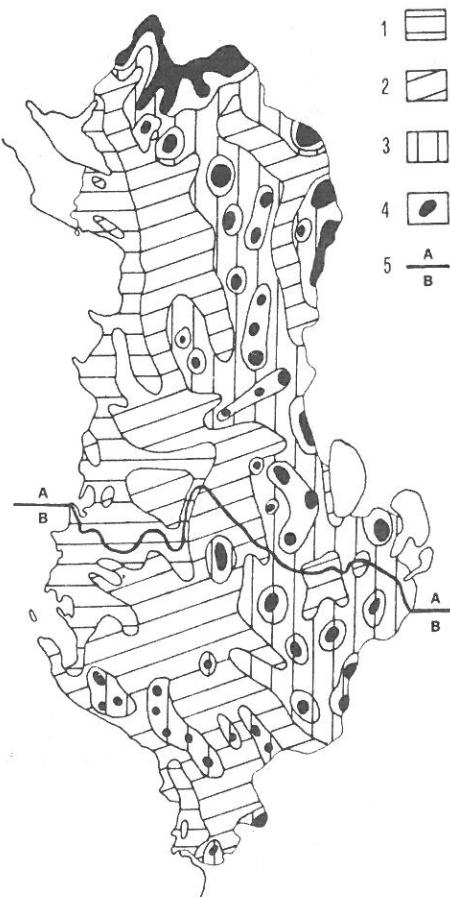


Fig. 2.

Bioclimatic map of Albania

1. Bioclimatic area: Mesomediterranean subregion. Phytosociologys taxa: *Quercion ilicis*. Tree guide species: *Quercus ilex*, *Fraxinus ornus*, *Arbutus andrachne*. Herpetofauna guide species: *Bufo bufo spinosus*, *Rana dalmatina*, *Mauremys caspica*, *Testudo marginata*, *Cyrtodactylus kotschy*, *Ablepharus kitaibelii*, *Ophisaurus apodus*, *Typhlops vermicularis*, *Eryx jaculus*.
2. Bioclimatic area: Transitional subregion of the Meso- and the Uponmediterranean subregions. Phytosociologys taxa: *Ostryo-Carpinion orientalis*. Tree guide species: *Ostrya carpinifolia*, *Carpinus orientalis*, *Quercus pubescens*, *Acer campestris*, *Acer obtusatum*, *Acer pseudoplatanus*, *Sorbus aria*, *Abies cephalonica* (= *Acer borisiiregis*). Herpetofauna guide species: *Rana graeca*, *Podarcis erhardii*, *Elaphe quatuorlineata*, *Telescopus fallax*.
3. Bioclimatic area: Uponmediterranean subregion. Phytosociologys taxa: *Quercion frainetto*. Tree guide species: *Quercus frainetto*, *Quercus cerris*, *Quercus petraea*, *Quercus pubescens*, *Quercus macedonica* (= *Quercus trojana*), *Abies cephalonica* (= *Abies borisiiregis*), *Castanea sativa*, *Carpinus orientalis*, *Ostrya carpinifolia*, *Crataegus monogyna*, *Acer monspessulanus*, *Acer obtusatum*. Herpetofauna guide species: *Salamandra salamandra* (South Albania partim), *Coronella austriaca*, *Elaphe situla*.
4. Bioclimatic area: Oromediterranean subregion. Phytosociologys taxa: *Fagion moesiaceae*. Tree guide species: *Fagion moesiaceae*, *Carpinus betulus*, *Quercus petraea*, *Acer obtusatum*, *Corylus avellana*, *Fraxinus ornus*, *Ostrya carpinifolia*, *Abies cephalonica* (= *Abies borisiiregis*), *Pinus peuce*, *Pinus leucodermis* (= *Pinus heldreichii*). Herpetofauna guide species: *Salamandra atra*, *Salamandra salamandra*, *Triturus alpestris*, *Bufo bufo bufo*, *Rana temporaria*, *Lacerta agilis*, *Vipera berus*.
5. Division line between the middle-european vegetation zone (A) and the mediterranean vegetation zone (B). It lies more or less along the Seman-Devoll Valley but, crossing the Mallakastér Plain, the limit between the two zones is variable with the northern limit at the Skumbin Valley and the southern one at Vlorë Bay.

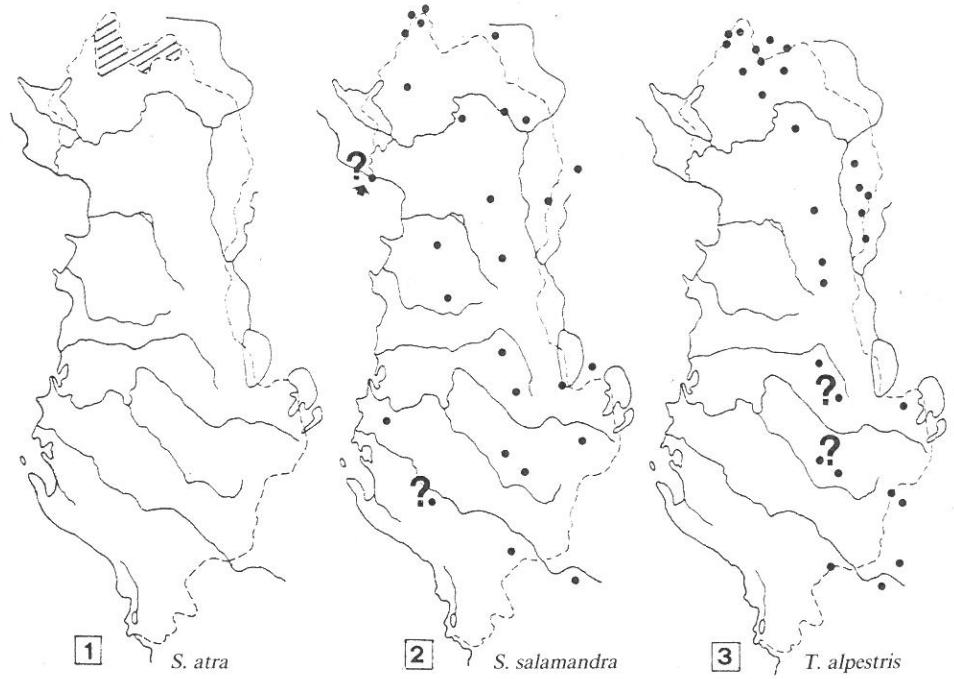


Fig. 3

Approximate distribution of *Salamandra atra* (1), *Salamandra salamandra* (2) and *Triturus alpestris* (3). Question mark (?) = potential presence. The presence of *Salamandra salamandra* on Ada Island (arrow) is surely due to passive introduction (possible with wood carried by the Bojana River). On the same island, for example, some species of Cerambycidae (Beetles) were found which surely cannot be autochthonous.

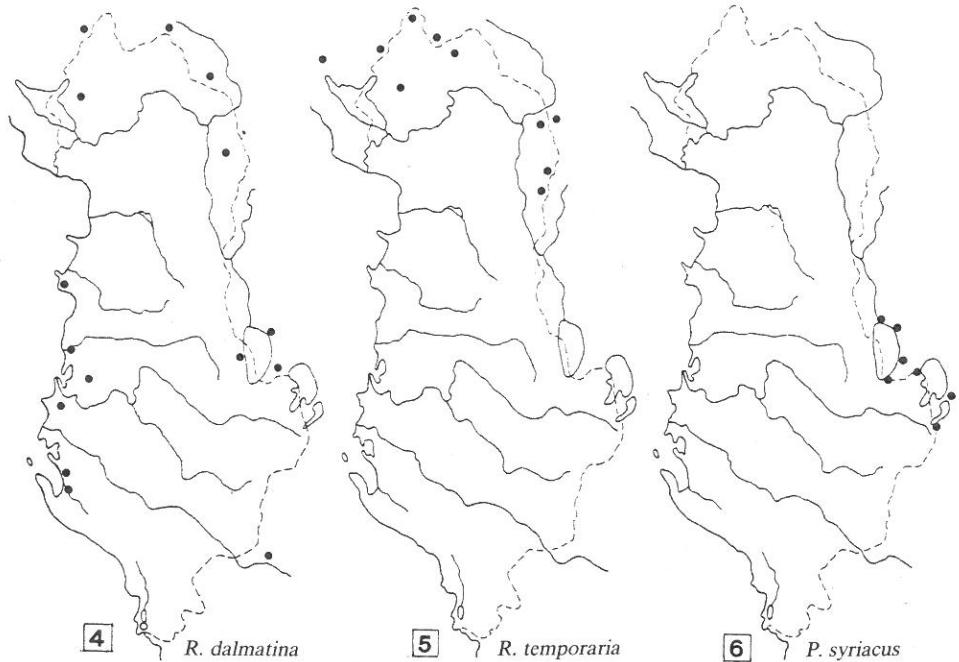


Fig. 4

Approximate distribution of *Rana dalmatina*, more significant localities (4), *Rana temporaria* (5) and *Pelobates syriacus* (6).

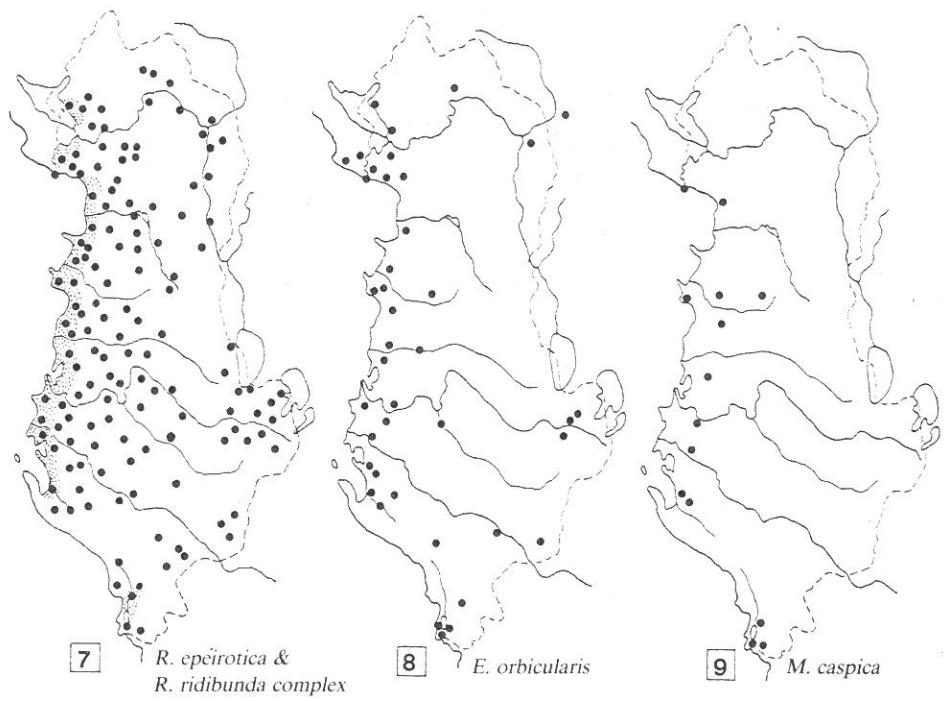


Fig. 5

Approximate distribution of Green Frogs, dotted area = sympatry zone of phenotypes "esculenta", "lessonae" and "ridibunda" sensu Haxhiu (1986b: 81) (7), *Emys orbicularis* (8) and *Mauremys caspica* (9).

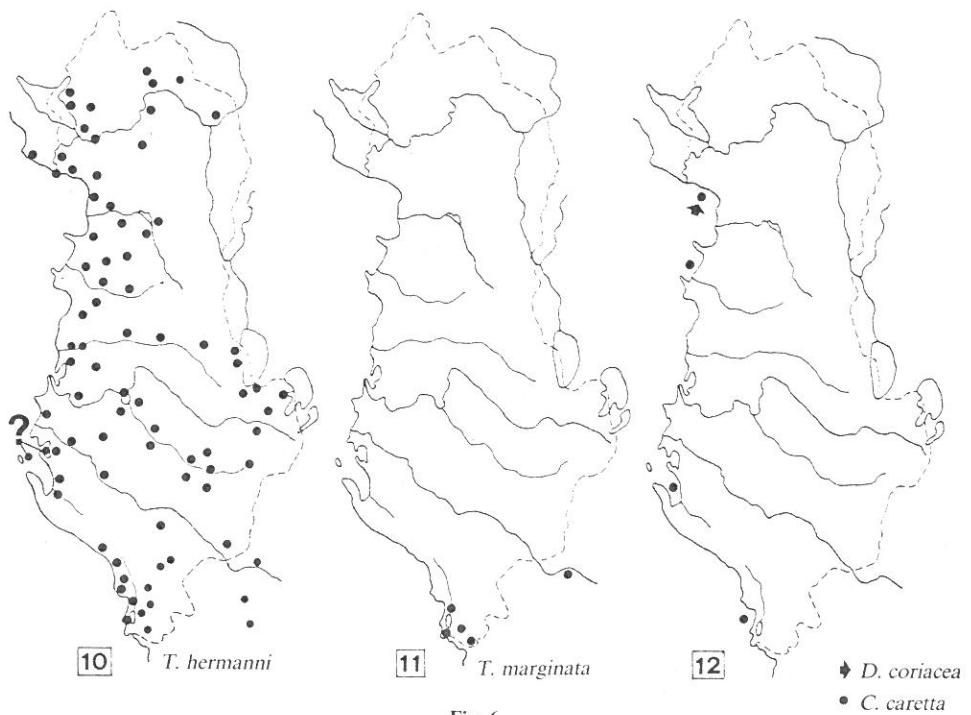


Fig. 6

Approximate distribution of *Testudo hermanni*, question mark (?) = perhaps introduced (10), *Testudo marginata* (11), *Caretta caretta*, spots and *Dermochelys coriacea*, arrow (12).

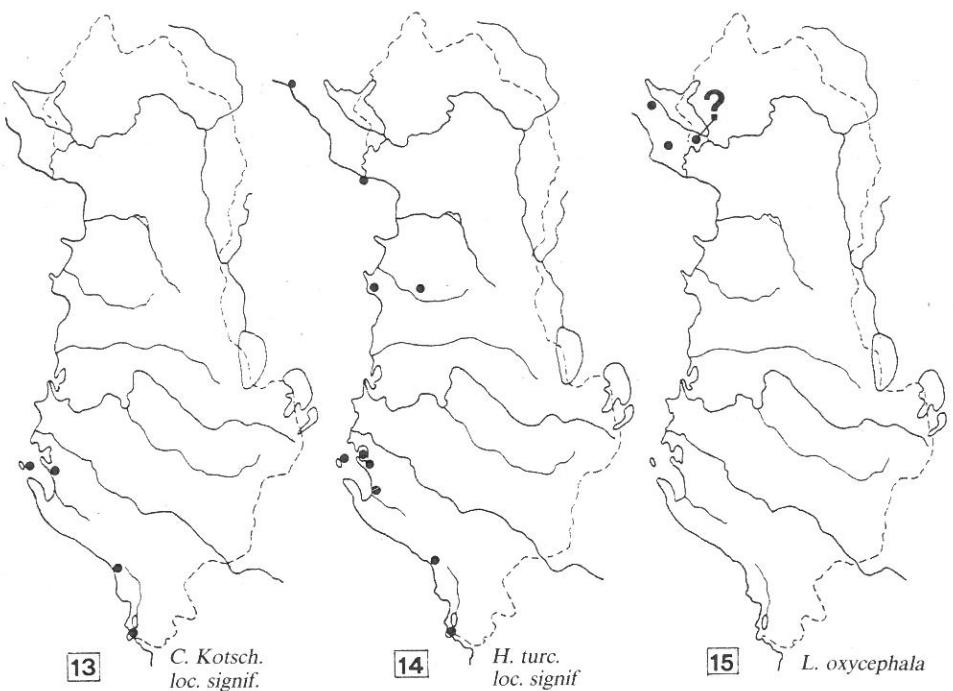


Fig. 7

Approximate distribution of *Cyrtodactylus kotschy* (13), *Hemidactylus turcicus* (14) and *Lacerta oxycephala*, question mark (?) = presence to be confirmed (15).

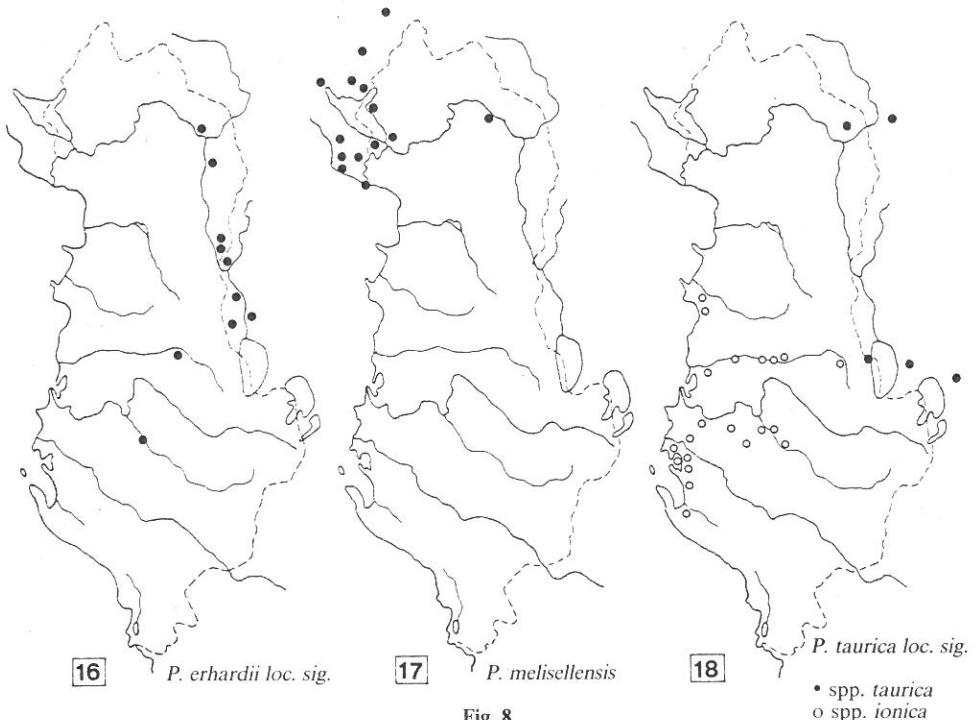
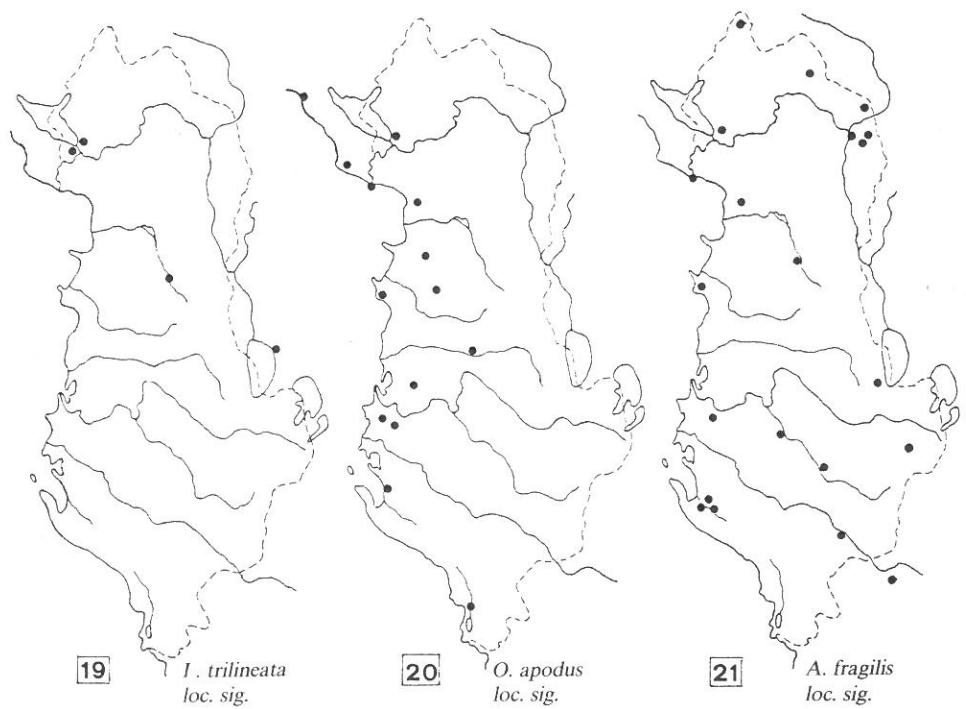
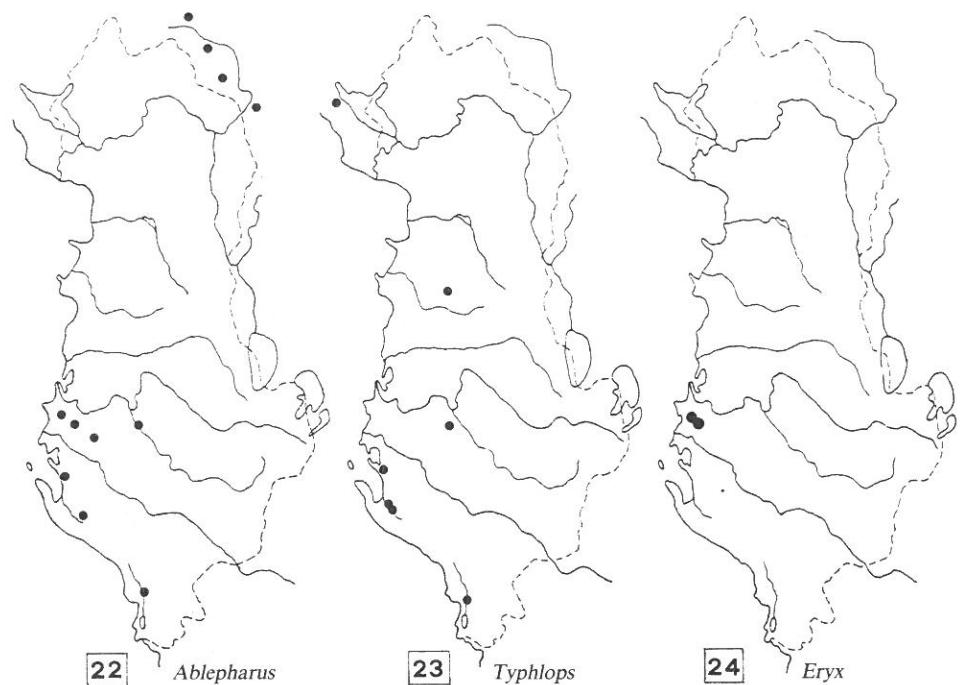


Fig. 8

Approximate distribution of *Podarcis erhardii*, more significant localities (16), *Podarcis melisellensis* (17) and *Podarcis taurica*, more significant localities (18).



**Fig. 9**  
Approximate distribution, more significant localities, of *Lacerta trilineata* (19), *Ophisaurus apodus* (20) and *Anguis fragilis* (21).



**Fig. 10**  
Approximate distribution of *Ablepharus kitaibelii* (22), *Typhlops vermicularis* (23) and *Eryx jaculus* (24).

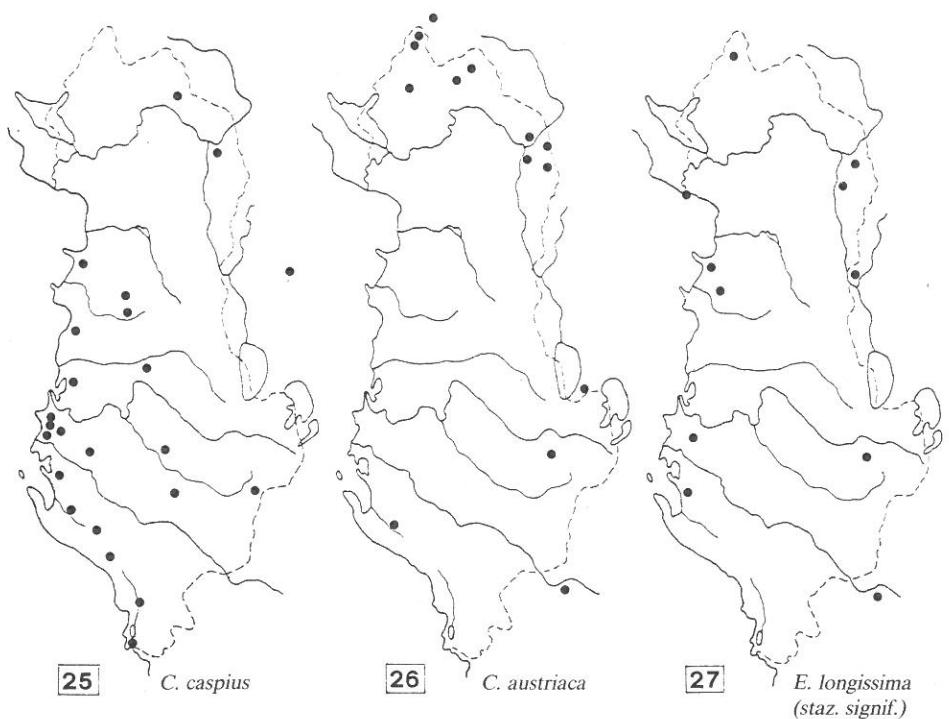


Fig. 11

Approximate distribution of *Coluber caspius* (25), *Coronella austriaca* (26) and *Elaphe longissima*, more significant localities (27).

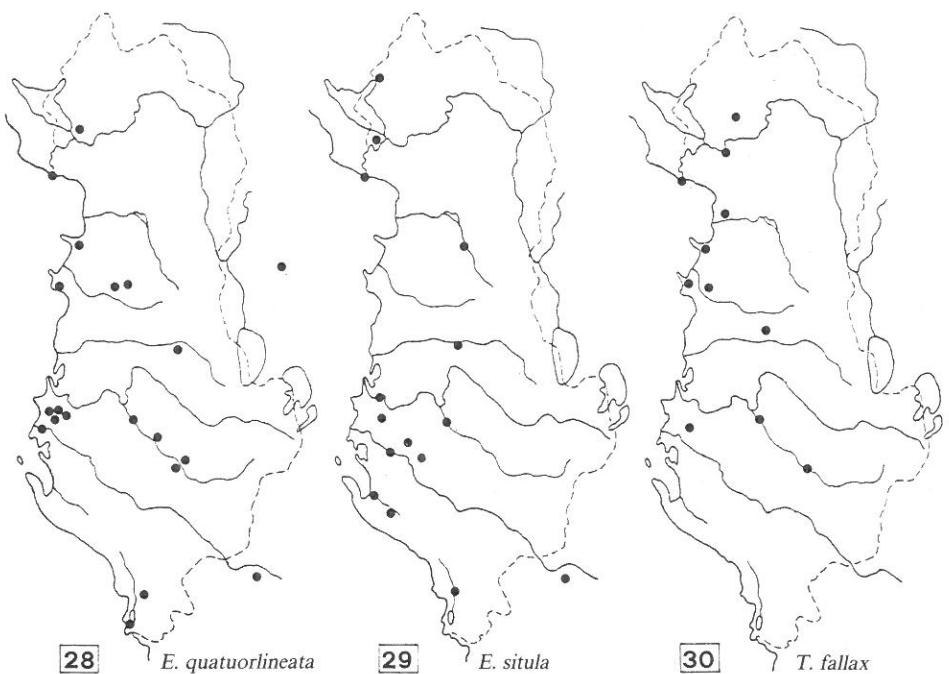


Fig. 12

Approximate distribution of *Elaphe quatuorlineata* (28), *Elaphe situla* (29) and *Telescopus fallax* (30).

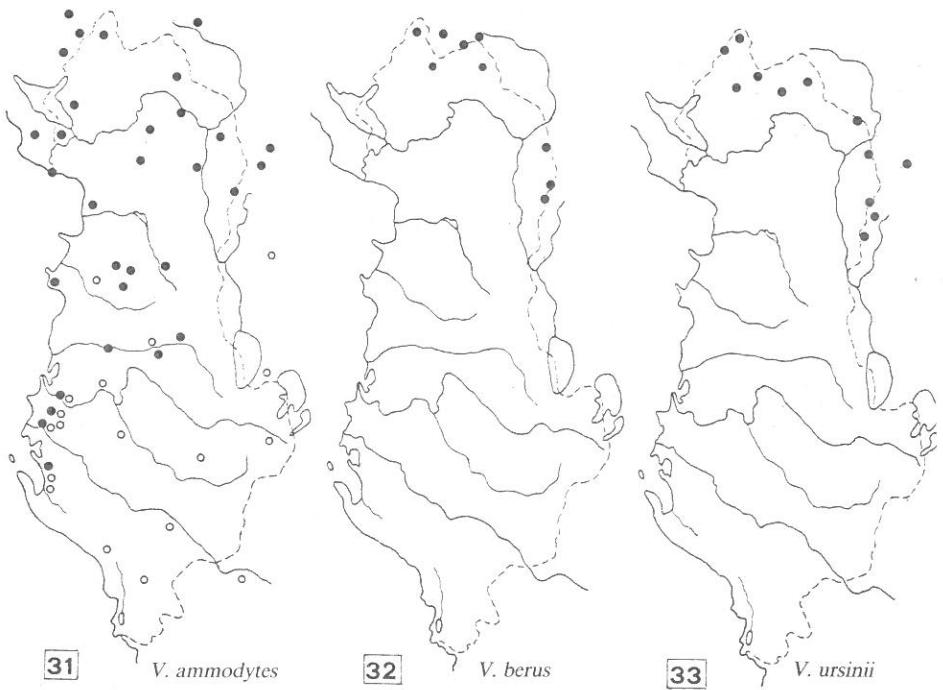


Fig. 13

Approximate distribution of *Vipera ammodytes* (31), *Vipera berus* (32) and *Vipera ursinii* (33).

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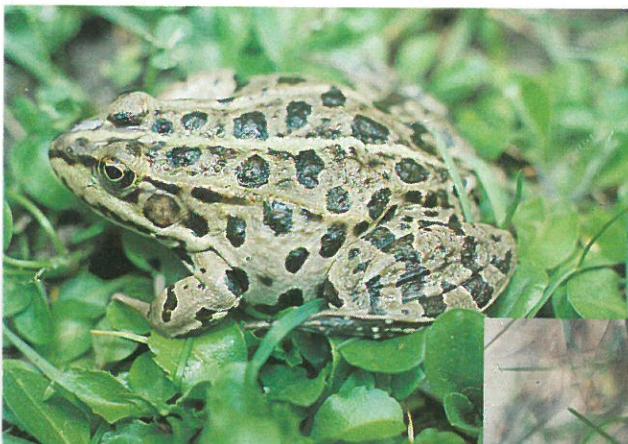
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