

Species on an excursion – Mammals and other faunistic records from 16 years of zoological field trips to the Šumava Mountains and South Bohemia (Czech Republic) under the direction of Hynek Burda

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Abstract. Between 2001 and 2016, 31 zoological excursions of the Department of General Zoology of the University of Duisburg-Essen (Germany) took place in South Bohemia (Czech Republic), mainly in the the Šumava Mountains south of Sušice. Under the leadership of Professor Hynek BURDA and his colleagues, more than 170 vertebrate species (including 37 mammals) were sighted, heard or confirmed in another way in the visited region during this time. In addition, we found about 60 arthropod species. This report lists all these species in a summary table. Particularly noteworthy finds include Eurasian lynx (*Lynx lynx*), Eurasian otter (*Lutra lutra*), Eurasian beaver (*Castor fiber*) and several microchiropterans like Bechstein's bat (*Myotis bechsteinii*), lesser horseshoe bat (*Rhinolophus hipposideros*) or Nathusius' pipistrelle (*Pipistrellus nathusii*). Other interesting records are hazel grouse (*Tetrastes bonasia*), Eurasian three-toed woodpecker (*Picoides tridactylus*) and common adder (*Vipera berus*).

Key words. Bohemian Forest, Šumava Mts., zoological excursions, mammals, vertebrate fauna, arthropods.

INTRODUCTION

The Bohemian Forest (Šumava, in Czech) is one of the largest continuous forest areas in Central Europe and is therefore sometimes called the “Green Roof of Europe” (e.g. ROTHFUSS & WINTERER 2008). It stretches for about 120 km in length and 50 km in width across three countries, the Czech Republic (largest part), Germany (where the Bavarian part of the range is officially called Bavarian Forest) and Austria. The core area along the Czech-German border is designated as a national park on both sides and covers a total of more than 900 km². With a size of 680 km², the Šumava NP is significantly larger than its German counterpart.

From 1996 to 2016, the Department of General Zoology at the University of Duisburg-Essen (formerly University of Essen, Germany) organized zoological excursions to the Bohemian Forest (not exclusively to the National Park there) and neighboring areas in the Czech Republic. Except for the last year 2016, there were always two excursions, one in late spring (May or early June) and one in autumn (late September/early October), each for six days and with 15–25 students. From 2001 to the last trip in 2016, the author of this report accompanied these excursions, a total of 31, in terms of organization and expertise. In this text, all species discov-

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ered in different habitats by the excursion leaders or the students and identified with certainty afterwards are listed.

Because the focus of the excursions has always been on (terrestrial) vertebrates, the ornithological and mammalogical observations predominate. In addition, there are herpetological and, to a certain extent, supplementary entomological and arachnological findings. Species that occurred exclusively in zoos, game reserves or breeding stations are not considered in the following.

AREA AND METHODS

Figure 1 shows the excursion area between Sušice in the north and Český Krumlov in the south, the German border in the west and a line from Strakonice to České Budějovice in the east. In addition to the Šumava Mts., large fishponds on the outskirts of České Budějovice were also visited during the spring excursions, mainly to observe water birds. The highest sites were in the Šumava National Park near Prášíly and Srní (approx. 1,100 m a. s. l.), the lowest at the fishponds of Budweis (380 m a. s. l.).

Most findings are based on visual observations (with or without binoculars or spotting scopes) and on the acoustic detection of vocalizations – (songs, calls etc.). Occasionally, birds and bats were caught with mist nets (by colleagues from Czech universities and/or the National Park administration) and, after some explanation, ringed and released (Fig. 2). In the first few years, live captures of terrestrial small mammals were also carried out, and photos from wildlife camera traps of the National Park Administration could be used from time to time. During each excursion, scientists from the University of Prague demonstrated the method and purpose of electrofishing.

Moreover, each excursion included a game census from high seats in the surroundings of Hartmanice to introduce the students to huntable game in particular and field observation in general. The students were also given the opportunity for anatomical dissection (filleting) of game species (roe, red and fallow deer, wild boar). Abandoned mine tunnels near Kašperské Hory were always visited to look for day-roosting bats.



Fig. 1. The excursion area Šumava (dark green). Highlighted in black circles are frequently visited places (meaning also the surrounding areas). The borderline of the Šumava National Park is marked in black; A = Austria.

Table. List of vertebrates and some evertebrates documented during the field excursions led by Hynek BURDA in 2001—2016 to the Šumava Mountains and adjacent areas. Abbreviations: B = Budweis (ponds), S = Šumava Mts.

group, species	site	group, species	site
fish (11 species)		Common pochard (<i>Aythya ferina</i>)	B
European bullhead (<i>Cottus gobio</i>)	S	Tufted duck (<i>Aythya fuligula</i>)	B, S
Eurasian carp (<i>Cyprinus carpio</i>)	B	Eurasian eagle-owl (<i>Bubo bubo</i>)	S
Gudgeon (<i>Gobio gobio</i>)	S	Common buzzard (<i>Buteo buteo</i>)	S
Brook lamprey (<i>Lampetra planeri</i>)	S	European nightjar (<i>Caprimulgus europaeus</i>)	S
Burbot (<i>Lota lota</i>)	S	Common linnet (<i>Carduelis cannabina</i>)	S
Rainbow trout (<i>Oncorhynchus mykiss</i>)	S	European goldfinch (<i>Carduelis carduelis</i>)	S
European perch (<i>Perca fluviatilis</i>)	B	European greenfinch (<i>Carduelis chloris</i>)	S
Common minnow (<i>Phoxinus phoxinus</i>)	S	Common rosefinch (<i>Carpodacus erythrinus</i>)	S
River trout (<i>Salmo trutta fario</i>)	S	Eurasian treecreeper (<i>Certhia familiaris</i>)	S
Brook trout (<i>Salvelinus fontinalis</i>)	S	Black-headed gull	
European grayling (<i>Thymallus thymallus</i>)	S	(<i>Chroicocephalus ridibundus</i>)	B
amphibians and reptiles (11 species)		White stork (<i>Ciconia ciconia</i>)	B, S
Common toad (<i>Bufo bufo</i>)	S	Black stork (<i>Ciconia nigra</i>)	S
European tree frog (<i>Hyla arborea</i>)	S	European dipper (<i>Cinclus cinclus</i>)	S
Alpine newt (<i>Ichthyosaura alpestris</i>)	S	Western marsh harrier (<i>Circus aeruginosus</i>)	S
Smooth newt (<i>Lissotriton vulgaris</i>)	S	Western jackdaw (<i>Coloeus monedula</i>)	B
Water frog (<i>Pelophylax</i> spp.)	B, S	Domestic pigeon (<i>Columba livia</i> f. <i>domestica</i>)	S
Common frog (<i>Rana temporaria</i>)	S	Common wood pigeon (<i>Columba palumbus</i>)	S
Slow worm (<i>Anguis fragilis</i>)	B, S	Common raven (<i>Corvus corax</i>)	S
Sand lizard (<i>Lacerta agilis</i>)	B, S	Carrion crow (<i>Corvus corone</i>)	B
Grass snake (<i>Natrix natrix</i>)	B, S	Common quail (<i>Coturnix coturnix</i>)	S
Common European adder (<i>Vipera berus</i>)	S	Corn crane (<i>Crex crex</i>)	S
Viviparous lizard (<i>Zootoca vivipara</i>)	S	Common cuckoo (<i>Cuculus canorus</i>)	S
birds (115 species)		Mute swan (<i>Cygnus olor</i>)	B
Common redpoll (<i>Acanthis flammea</i>)	S	Common house martin (<i>Delichon urbicum</i>)	S
Northern goshawk (<i>Accipiter gentilis</i>)	S	Great spotted woodpecker	
Eurasian sparrowhawk (<i>Accipiter nisus</i>)	S	(<i>Dendrocopos major</i>)	S
Great reed warbler		Black woodpecker (<i>Dryocopus martius</i>)	S
(<i>Acrocephalus arundinaceus</i>)	B	Yellowhammer (<i>Emberiza citrinella</i>)	S
Eurasian reed warbler		European robin (<i>Erithacus rubecula</i>)	S
(<i>Acrocephalus scirpaceus</i>)	B	Peregrine falcon (<i>Falco peregrinus</i>)	S
Long-tailed tit (<i>Aegithalos caudatus</i>)	S	Common kestrel (<i>Falco tinnunculus</i>)	S
Eurasian skylark (<i>Alauda arvensis</i>)	S	Collared flycatcher (<i>Ficedula albicollis</i>)	B
Common kingfisher (<i>Alcedo atthis</i>)	S	Common chaffinch (<i>Fringilla coelebs</i>)	S
Northern shoveler (<i>Anas clypeata</i>)	B	Eurasian coot (<i>Fulica atra</i>)	B
Eurasian teal (<i>Anas crecca</i>)	B, S	Eurasian jay (<i>Garrulus glandarius</i>)	S
Mallard (<i>Anas platyrhynchos</i>)	B, S	Black-winged stilt (<i>Himantopus himantopus</i>)	B
Greyleg goose (<i>Anser anser</i>)	B, S	Icterine warbler (<i>Hippolais icterina</i>)	S
Meadow pipit (<i>Anthus pratensis</i>)	S	Barn swallow (<i>Hirundo rustica</i>)	S
Tree pipit (<i>Anthus trivialis</i>)	S	Red-backed shrike (<i>Lanius collurio</i>)	S
Common swift (<i>Apus apus</i>)	S	River warbler (<i>Locustella fluviatilis</i>)	S
Great egret (<i>Ardea alba</i>)	B	Common grasshopper warbler	
Grey heron (<i>Ardea cinerea</i>)	B, S	(<i>Locustella naevia</i>)	S
		European crested tit (<i>Lophophanes cristatus</i>)	S

Table. (continued)

group, species	site	group, species	site
Red crossbill (<i>Loxia curvirostra</i>)	S	Little grebe (<i>Tachybaptus ruficollis</i>)	B, S
Black grouse (<i>Lyrurus tetrix</i>)	S	Hazel grouse (<i>Tetrastes bonasia</i>)	S
Gadwall (<i>Mareca strepera</i>)	B	Eurasian wren (<i>Troglodytes troglodytes</i>)	B
White wagtail (<i>Motacilla alba</i>)	B, S	Common blackbird (<i>Turdus merula</i>)	S
Grey wagtail (<i>Motacilla cinerea</i>)	S	Song thrush (<i>Turdus philomelos</i>)	S
Red-crested pochard (<i>Netta rufina</i>)	B	Fieldfare (<i>Turdus pilaris</i>)	B, S
Spotted nutcracker (<i>Nucifraga caryocatactes</i>)	S	Ring ouzel (<i>Turdus torquatus</i>)	S
Black-crowned night heron (<i>Nycticorax nycticorax</i>)	B	Mistle thrush (<i>Turdus viscivorus</i>)	S
Eurasian golden oriole (<i>Oriolus oriolus</i>)	B	Northern lapwing (<i>Vanellus vanellus</i>)	B
Eurasian blue tit (<i>Parus caeruleus</i>)	S	mammals (37 species)	
Great tit (<i>Parus major</i>)	S	Elk (<i>Alces alces</i>)	S
House sparrow (<i>Passer domesticus</i>)	S	Yellow-necked mouse (<i>Apodemus flavicollis</i>)	S
Eurasian tree sparrow (<i>Passer montanus</i>)	S	Wood mouse (<i>Apodemus sylvaticus</i>)	S
Coal tit (<i>Periparus ater</i>)	S	Western barbastelle (<i>Barbastella barbastellus</i>)	S
European honey buzzard (<i>Pernis apivorus</i>)	S	Roe deer (<i>Capreolus capreolus</i>)	B, S
Great cormorant (<i>Phalacrocorax carbo</i>)	S	European beaver (<i>Castor fiber</i>)	S
Black redstart (<i>Phoenicurus ochruros</i>)	S	Red deer (<i>Cervus elaphus</i>)	S
Common redstart (<i>Phoenicurus phoenicurus</i>)	S	Bank vole (<i>Clethrionomys glareolus</i>)	S
Chiffchaff (<i>Phylloscopus collybita</i>)	S	European hedgehog (<i>Erinaceus europaeus</i>)	S
Wood warbler (<i>Phylloscopus sibilatrix</i>)	S	European hare (<i>Lepus europaeus</i>)	S
Willow warbler (<i>Phylloscopus trochilus</i>)	S	Eurasian otter (<i>Lutra lutra</i>)	S
Eurasian magpie (<i>Pica pica</i>)	B	Eurasian lynx (<i>Lynx lynx</i>)	S
Three-toed woodpecker (<i>Picoides tridactylus</i>)	S	Beech marten (<i>Martes foina</i>)	S
European green woodpecker (<i>Picus viridis</i>)	S	Pine marten (<i>Martes martes</i>)	S
Eurasian spoonbill (<i>Platalea leucorodia</i>)	B	European badger (<i>Meles meles</i>)	S
Great crested grebe (<i>Podiceps cristatus</i>)	B	Field vole (<i>Microtus agrestis</i>)	S
Black-necked grebe (<i>Podiceps nigricollis</i>)	B	Stoat (<i>Mustela erminea</i>)	S
Willow tit (<i>Poecile montanus</i>)	S	Nutria (<i>Myocastor coypus</i>)	S
Marsh tit (<i>Poecile palustris</i>)	S	Bechstein's bat (<i>Myotis bechsteinii</i>)	S
Dunnock (<i>Prunella modularis</i>)	S	Daubenton's bat (<i>Myotis daubentonii</i>)	S
Eurasian bullfinch (<i>Pyrrhula pyrrhula</i>)	S	Greater mouse-eared bat (<i>Myotis myotis</i>)	S
Common firecrest (<i>Regulus ignicapillus</i>)	S	Whiskered bat (<i>Myotis mystacinus</i>)	S
Goldcrest (<i>Regulus regulus</i>)	S	Natterer's bat (<i>Myotis nattereri</i>)	S
Whinchat (<i>Saxicola rubetra</i>)	S	American mink (<i>Neogale vison</i>)	S
Eurasian woodcock (<i>Scolopax rusticola</i>)	S	Common noctule (<i>Nyctalus noctula</i>)	S
European serin (<i>Serinus serinus</i>)	S	Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)	S
Eurasian nuthatch (<i>Sitta europaea</i>)	B, S	Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	S
Garganey (<i>Spatula querquedula</i>)	B	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	S
Eurasian siskin (<i>Spinus spinus</i>)	S	Brown long-eared bat (<i>Plecotus auritus</i>)	S
Common tern (<i>Sterna hirundo</i>)	B	Brown rat (<i>Rattus norvegicus</i>)	S
Eurasian collared dove (<i>Streptopelia decaocto</i>)	S	Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>)	S
Tawny owl (<i>Strix aluco</i>)	S	Red squirrel (<i>Sciurus vulgaris</i>)	S
Common starling (<i>Sturnus vulgaris</i>)	S	Common shrew (<i>Sorex araneus</i>)	S
Eurasian blackcap (<i>Sylvia atricapilla</i>)	B, S	Wild boar (<i>Sus scrofa</i>)	S
Garden warbler (<i>Sylvia borin</i>)	S	European mole (<i>Talpa europaea</i>)	S
Common whitethroat (<i>Sylvia communis</i>)	S	Parti-coloured bat (<i>Vespertilio murinus</i>)	S
Lesser whitethroat (<i>Sylvia curruca</i>)	S		

group, species	site	insects (28 species)	
spiders (31 species)		Blue hawker (<i>Aeshna cyanea</i>)	S
Wolf spider <i>Acantholycosa lignaria</i>	S	Small tortoiseshell (<i>Aglais urticae</i>)	S
Wolf spider <i>Acantholycosa norvegica sudetica</i>	S	Eyed ladybug (<i>Anatis ocellata</i>)	S
Jumping spider <i>Aelurillus v-insignitus</i>	S	European map butterfly (<i>Araschnia levana</i>)	S
Wolf spider <i>Alopecosa taeniata</i>	S	Pale tussock (<i>Calliteara pudibunda</i>)	S
Angular Orbweaver (<i>Araneus angulatus</i>)	S	Carpenter ant (<i>Camponotus</i> sp.)	S
European garden spider (<i>Araneus diadematus</i>)	S	Ground beetle <i>Carabus auronitens</i>	S
Marbled orbweaver (<i>Araneus marmoreus</i>)	S	Golden-ringed dragonfly (<i>Cordulegaster boltoni</i>)	S
Four-spot orb-weaver (<i>Araneus quadratus</i>)	S	Downy emerald (<i>Cordulia aenea</i>)	S
Wasp spider (<i>Argiope bruennichi</i>)	S	Great diving beetle (<i>Dytiscus marginalis</i>)	S
Jumping spider <i>Attulus pubescens</i>	S	Wood ant (<i>Formica</i> sp.)	S
Tangled nest spider <i>Callobius claustrarius</i>	S	European peacock (<i>Inachis io</i>)	S
Lacweb spider (<i>Coelotes terrestris</i>)	S	European spruce bark beetle (<i>Ips typographus</i>)	S
Green crab spider (<i>Diaea dorsata</i>)	S	Poplar hawk-moth (<i>Laothoe populi</i>)	S
Raft spider (<i>Dolomedes fimbriatus</i>)	S	Broad-bodied chaser (<i>Libellula depressa</i>)	S
Pirate spider <i>Ero furcata</i>	S	Four-spotted chaser (<i>Libellula quadrimaculata</i>)	S
Jumping spider <i>Evarcha arcuata</i>	S	Hummingbird hawk-moth (<i>Macroglossum stellatarum</i>)	S
Jumping spider <i>Evarcha falcata</i>	S	Camberwell beauty (<i>Nymphalis antiopa</i>)	S
Charcoal spider (<i>Malthonica ferruginea</i>)	S	Red-breasted carrion beetle (<i>Oiceoptoma thoracicum</i>)	S
European cave spider (<i>Meta menardi</i>)	S	Montane Blue Stag Beetle (<i>Platycerus caprea</i>)	S
Green huntsman spider (<i>Micrommata virescens</i>)	S	Sabre wasp (<i>Rhyssa persuasoria</i>)	S
Filmy dome spider (<i>Neriere radiata</i>)	S	Eyed hawk-moth (<i>Smerinthus ocellata</i>)	S
Cobweb spider <i>Parasteatoda lunata</i>	S	Pine hawk-moth (<i>Sphinx pinastri</i>)	S
Spotted wolf spider (<i>Pardosa amentata</i>)	S	Vagrant darter (<i>Sympetrum vulgatum</i>)	S
Running crab spider <i>Philodromus aureolus</i>	S	Crane fly <i>Tanyptera atrata</i>	S
Running crab spider <i>Philodromus margaritatus</i>	S	Upland Green Bush-cricket (<i>Tettigonia cantans</i>)	S
Nursery web spider (<i>Pisaura mirabilis</i>)	S	Crane Fly <i>Tipula vernalis</i>	S
Jumping spider <i>Pseudeuophrys erratica</i>	S	Red admiral (<i>Vanessa atalanta</i>)	S
Zebra spider (<i>Salticus scenicus</i>)	S		
Jumping spider <i>Sittisax saxicola</i>	S	crustaceans (1 species)	
Rabbit Hutch Spider (<i>Steatoda bipunctata</i>)	S	European crayfish (<i>Astacus astacus</i>)	S
Prowling spider <i>Zora spinimana</i>	S		

RESULTS AND DISCUSSION

Across all years, a total of 37 mammal species, 115 bird species, 11 species of amphibians and reptiles (herpetofauna) and 11 fish species (including the brook lamprey) were identified and discussed in the field (see Table). In addition, 31 species of spiders, 28 of insects (with two ant species only identified to genus level) and one crayfish were observed or trapped and presented to the excursion participants.

Of course, there are a number of publications (with at least English abstracts) on the fauna of the Czech part of the Bohemian Forest (Šumava Mountains). For information on mammals, see for example ANDĚRA & ČERVENÝ (1994), BUFKA et al. (2001), HARTOVÁ-NETVICOVÁ et al.



(2009), MIKEŠ et al (2010), and MINÁRIKOVÁ et al. (2015). Information on birds is available, for example, from BUFKA & KLOUBEC (1998), KLOUBEC (2007), and RIEGERT (2022); on amphibians and reptiles from MUSILOVÁ & MELICHAR (2019); on fishes, for instance, from HUMPL & PIVNIČKA (2006). Data on spiders are provided by KŮRKA (1995), RŮŽIČKA (1996) or HRADSKÁ et al. (2021) and on insects by SOLDÁN et al. (1996) or LOZAN et al. (2012), among others.

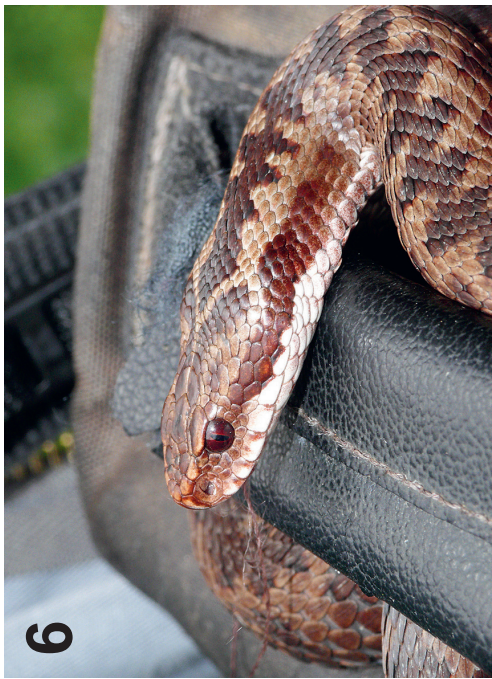
In the following, some remarkable observations on our excursions are presented in a little more detail. Among the mammals, the first to be mentioned is the lynx. It can be considered perhaps the most charismatic wild animal of the region. Extinct for decades, the lynx was (illegally) reintroduced to the Bavarian Forest in the early 1970s and then – with scientific support – to the Bohemian Forest in the 1980s (WÖFL et al. 2001, BULL et al. 2016). During our excursions, we never managed a (credible!) direct sighting, but with the help of local experts we found tracks of these shy wild cats, were able to confirm them once with a camera trap and another time on the basis of a fresh kill (roe deer). By means of telemetry, we were also able to get within a few hundred meters of an individual fitted with a radio transmitter near Hartmanice in 2011. Another iconic species of the region is undoubtedly the Eurasian otter (*Lutra lutra*), of which we also found only traces (pawprints and feces, mainly on the banks of the Křemelná river). The elk (*Alces alces*) is (still) rare in large parts of the Šumava Mts., except for the area around the Lipno Reservoir (ROMPORTL et al. 2013, ANDĚRA 2022). During our visits in June 2014, a female specimen of this largest terrestrial mammal in Europe after the European bison was in the Prášily area, which we were able to identify by its hoof prints. Presence signs of beavers were quite numerous. We did not succeed in spotting a beaver itself, but we did see beaver-gnawed trees, e.g. on the Křemelná river, or beaver castles, e.g. near Železná Ruda (Řežná river) or in the south of Sušice. In the latter town, more precisely in the floodplain between the rivers Roušarka and Otava, beavers live together with the easily observed nutria (*Myocastor coypus*), which originates from South America.

With around 20 species, bats are a large mammal group in the Šumava Mts. (ČERVENÝ et al. 2006, HANÁK et al. 2010, ČERVENÝ 2017). With the help of local chiropterologists we were able to detect and/or catch 12 bat species. Among them were some that are common in the region or throughout the Czech Republic (HANÁK & ANDĚRA 2005, 2006, ANDĚRA & HANÁK 2007), such as the greater mouse-eared bat (*Myotis myotis*, Fig. 3) or Daubenton's bat (*Myotis daubentonii*), but also rarer ones such as Nathusius' pipistrelle (*Pipistrellus nathusii*) or the lesser horseshoe bat (*Rhinolophus hipposideros*, Fig. 4). The latter was repeatedly found day-roosting in mine tunnels of the Amáline údolí valley near Kašperské Hory (in the entrance area of these same tunnels, the large European cave spider *Meta menardi* was also frequently found).

The list of birds contains some rare and interesting species, among the large ones especially the black stork (*Ciconia nigra*), which we saw flying in and outside the National Park several times, and the black grouse (*Lyrurus tetrix*). Of this species, the author managed a single brief sighting of a landing male at the edge of the Jezerní slat' upland moor near Kvilda, which is known as

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Figs. 2–5. An important item on the programme and very popular with students was the catching of bats and birds, carried out by colleagues from Charles University in Prague. All photos by the author. 2 – Crested tit (*Lophophanes cristatus*) from Kvilda freshly ringed by R. LUČAN (9 June 2016). 3 – Two greater mouse-eared bats (*Myotis myotis*) in the attic of Žihobce Castle in the village of the same name near Sušice (1 October 2014). 4 – Lesser horseshoe bats (*Rhinolophus hipposideros*) in an old mine of the Amáline údolí valley near Kašperské Hory (5 October 2012). 5 – European nightjar (*Caprimulgus europaeus*) at Chalupská slat', an upland moor (peat bog) near Borová Lada (3 October 2013).



Figs. 6–8. 6 – the common adder (*Vipera berus*) was found quite frequently during our excursions. Pictured is a specimen from Borova Lada caught and presented by Milan KAFTAN (7 June 2010). 7 – a young raft spider (*Dolomedes fimbriatus*) found in a bog near the mountain brook Slatinný potok at an altitude of almost 900 m a. s. l. (14 June 2011). 8 – the wolf spider *Acantholycosa norvegica sudetica* is a specialised rock dweller and glacial relic. It occurs in the Bohemian Forest on boulder dumps (here near Kašperské Hory-Červená, 9 June 2013).

a black grouse mating area (however, the sighting took place outside the mating season). The hazel grouse (*Tetrastes bonasia*), the smallest of the grouse species, was occasionally tracked with the help of local ornithologists. On one occasion, from a high seat, it was observed very briefly in flight (September 2009 near Hartmanice-Štěpanice). In the last 100 years, *T. bonasia* has declined sharply in large parts of Central Europe. The Bohemian Forest is considered an important refuge because the population here has been fairly stable since the early 1970s (KLAUS & LUDWIG 2018). A rare sight was the three-toed woodpecker (*Picoides tridactylus*). Like the two grouse mentioned, it is a characteristic species of boreal coniferous forests with a disjunctive distribution in Central Europe where it lives in high-altitude spruce forests. There it is considered a keystone species that provides nesting sites for many other cavity-nesting birds (ZIELEWSKA-BÜTTNER et al. 2018). One location was near Prášily at about 950 m a. s. l. (June 2015), the other surprisingly low near Velký Radkov (Rejštejn) outside the National Park at only 700 m a. s. l. (October 2006). A very special and unexpected find, both in terms of location and time of year, was a European nightjar (*Caprimulgus europaeus*, Fig. 5) at the Chalupská slaf peat bog (900 m a. s. l.) on 3 October 2013. Because it was well camouflaged on a dry piece of dead wood, the bird was overlooked by the whole excursion group (>20 people). Yet it was sitting barely 20 m from the wooden plank path of the moor. But fortunately, one female student had been attentive.

Among Šumava's reptiles, the common European adder (*Vipera berus*, Fig. 6) stands out as a cold-resistant species that occurs mainly in boggy areas and on forest edges, preferably between 600 and 1,200 m a. s. l. (MORAVEC 2015). It has been a regular find on our excursions throughout the years. Some specimens, some found dead, could be spotted by excursion participants (or excursion leaders), including some directly at



Fig. 9. A true excursion leader is not afraid of anything, he only adjusts his camera: Hynek BURDA at the Ohrada Castle, Hluboká nad Vltavou (2 October 2013).

our long-term accommodation in Ůbislav (near Stachy) outside the national park boundaries. Most of the specimens, however, were caught by Milan KAFTAN (Department of Zoology, Charles University, Prague) near Borová Lada in the Šumava National Park. The adder is the only venomous snake in the Czech Republic; between 1999 and 2013, there were an average of almost 13 human-medically relevant bite accidents per year (VALENTA et al. 2014), none of which were fatal.

One of the largest Central European spiders is the raft spider (*Dolomedes fimbriatus*, Fig. 7), a species up to 22 mm long, which is widespread in the Czech Republic from the lowlands to the mountains. However, it is rarely found and is considered endangered (CAS 2022a). We found the species in several years at relatively high altitudes (around 800–900 m a. s. l.) on the banks of the Křemelná river or its tributary brook Slatinný potok near Prášily. A rare spider, also endangered and so far apparently not known from the Šumava Mts. region (CAS 2022b), is the small salticid *Sittisax saxicola*. The author found a female of this species, barely 6 mm long, on 10 June 2014 in a spruce forest along the river Vydra near Srní-Rokyta. Like the aforementioned jumping spider, the two wolf spiders *Acantholycosa lignaria* and *A. norvegica sudetica* (Fig. 8) are typical highland species. They are twin species that differ slightly, among other things, in their leg spines, but also in their preferred habitats: *Acantholycosa lignaria* is linked to deadwood (including wooden plank paths, e.g. in Chalupská slat' near Borová Lada), whereas *A. norvegica sudetica* is a glacial relict and a specialist of stony debris (blockfields; Růžicka 2011, Kastner et al. 2018). We found this species e.g. in 2006 and 2013 on rocks of the blockfield (felsenmeer) below the Celtic settlement complex “Obří hrad” (Giants’ Castle) near Nicov-Popelná.

Without a doubt, as numerous discussions with the students revealed, the excursions to the Bohemian Forest with its striking landscapes and its amazingly diverse fauna were among the most impressive courses of the entire, otherwise often overly theoretical study program. The success and popularity of these excursions remain closely linked to the knowledgeable and humorous guidance provided by excursion leader Hynek BURDA (Fig. 9).

A c k n o w l e d g e m e n t s

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