Bat fauna of the Erlenbusch
Comparison to other forest areas in Germany

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1. Introduction

In Germany, the forest "Erlenbusch" (Frechen, North Rhine-Westphalia, see Fig. 1) is habitat of an exceptionally diverse bat fauna.

Beside its valuable habitat types of community interest, which, due to their conservation quality and different ecological niches, are the basis for the occurance of the large number of bat species, the abundance of bat species alone is decisive for the need to designate the Erlenbusch as an area of community importance (SCI, SAC) [1]. In addition to the Appendix II bat species – that is, the species for which the protected areas must be designated in accordance to Art. 4 of the Habitats Directive – the Appendix IV bat species are also essential …

- since it is the standardized aim of the Habitats Directive *"to contribute towards **ensuring biodiversity** through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies"* (Art. 2 para. 1 Habitats Directive)
- and Art. 1 lit. k Habitats Directive stipulates that an area of community importance in addition to habitat protection for the species listed in Annex II Habitats Directive also ***"contributes significantly to the maintenance of biological diversity within the biogeographic region or regions concerned"***, whereby *"being to promote the maintenance of biodiversity"* is the main aim of this Directive (recital 3 of the Habitats Directive)
- and Art. 1 lit. a Habitats Directive the term “conservation” defined as *„a series of measures required to maintain or restore the natural habitats and **the populations of species of wild fauna and flora at a favourable status** as defined in (e) and (i)"*, Art. 2 Para. 2 Habitats Directive requires the implementation of conservation measures and *"to ensure the restoration or maintenance of natural habitats and species of Community interest at a favourable conservation status, it is necessary to designate special areas of conservation in order to create a coherent European ecological network according to a specified timetable"*(recital 6 of the Habitats Directive).

In comparison to other valuable forests (SCI/SAC, natural forest reserves etc.) the Erlenbusch is one of the most valuable areas for the protection of bats in Germany (here in the Atlantic biogeographical region) – both for the protection of the species listed in Annex II of the Habitats Directive, as well as biodiversity-determining with regard to all bat species covered by the Directive (Annex IV).

The following study looks at the bat fauna of 48 valuable forest areas in Germany, this as a basis for comparison with the forest area "Erlenbusch", where 16 bat species are securely confirmed to occur and two further species are probable (Crețu et al., in prep.).

1 SCI = Sites of Community Importance, SAC = Special area of conservation.

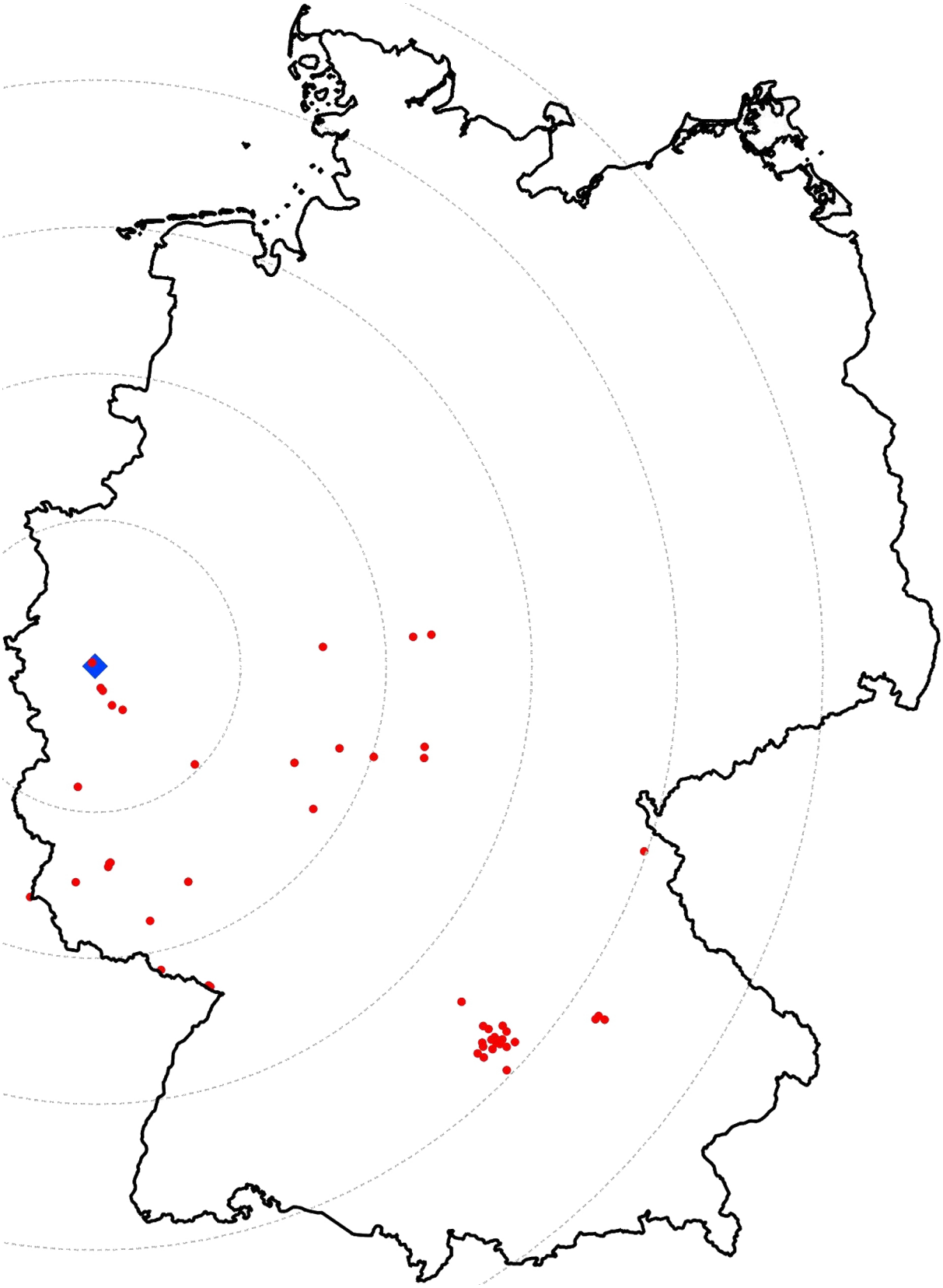

Fig. 1: Location of the Erlenbusch (◆) and the investigation areas (●) treated in chapter 2 on the results of researches on the bat fauna of forests in Germany, mainly in natural forest reserves, nature reserves and/or Special Areas of Conservation The dotted line (-----) indicates the distance to the Erlenbusch in 100 km steps.

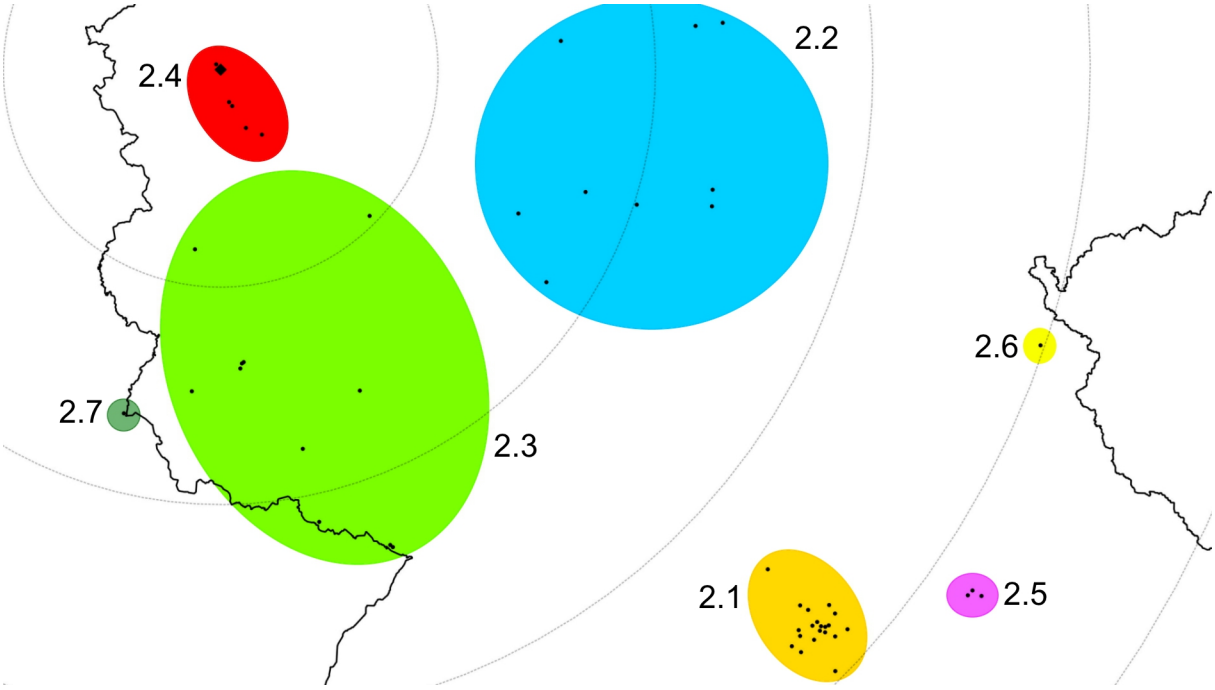

Fig. 2: Location of the Erlenbusch (◆) and the investigation areas (●) treated in chapter 2 on the results of researches on the bat fauna of forests in Germany, mainly in natural forest reserves, nature reserves and/or Special Areas of Conservation The dotted line (-----) indicates the distance to the Erlenbusch in 100 km steps. The colored highlights mark the research areas summarized in the following chapters:

2.1. Forest areas in the Donau-Ries district
2.2. Natural forest reserves in Hesse
2.3. Natural forest reserves in Rhineland-Palatinate
2.4. Special Areas of Conservation of the Ville
2.5. Special Areas of Conservation in the Hienheimer Forst
2.6. Natural forest reserve „Gitschger“
2.7. Natural forest reserve „Grouf“

2. Results of researches on the bat fauna of valuable forest areas in Germany

2.1. Forest areas in the Donau-Ries district

State and location	Bavaria. North of Augsburg (22 km), west of Ingolstadt (30 km), center point: 48°49'12"N 10°42'6"E, larger towns in the area are Nördlingen (20,700 inhabitants) and Donauwörth (19,600 inhabitants).
Biogeographical region	Continental (CON).
Research area	3,587 ha in 20 forest areas, including **6 forest areas with a total of 1,627 ha in 4 different Special Areas of Conservation (SAC)** [2]: SAC „Donauwörther Forst mit Standortübungsplatz und Harburger Karab“ (DE7230371), SAC „Donau mit Jura-Hängen zwischen Leitheim und Neuburg“ (DE7232301), SAC „Jurawälder nördlich Höchstädt“ (DE7329372) and SAC „Donauauen Blindheim-Donaumünster“ (DE7329301).
Research methode	Detector examinations, net catches and nesting and bat box controls in the period from June 19 to October 1, 2004.
Results	A total of ten bat species have been identified. The number of species in the 20 different study areas ranges from just **one species** (in a 60 hectare forest area west of Kaisheim) **to seven species** (in 100 hectares of so called „Herrschaftsholz“ near Wemding).
Study	LIEGL (2005).

2.2. Natural forest reserves in Hesse

State and location	Hesse. Distributed across the entire federal state (see Tab. 1). **All study areas are natural forest reserves and Special Areas of Conservation (SAC)**.
Biogeographical region	Continental (CON).
Research area	315.1 ha in 9 natural forest reserves and an additional 147 ha of buffer area.
Research methode	Detector examinations, net catches and telemetry in the period from 2002 to 2007.
Results	A total of 16 bat species were identified. The number of species in the nine different study areas ranges from **5 species** in wood-barley beech forests on basalt rock at 620-880 m above sea level **up to 13 species** in common oak hornbeam forest and oak elm floodplain forest at 115 m above sea level (see Tab. 1).
Study	DIETZ (2007).

2 Protected areas designated according to the Habitats Directive (92/43/EEC).

Tab. 1: Characteristic data for the 9 forest areas investigated by DIETZ (2007) with area name, location and mean altitude above sea level, research area, forest and soil type as well as the protection status as a natural forest reserve (NFR) and as a Special Area of Conservation (SAC) as well as the number of identified bat species in the study area.

Name of the area	Coordinates and altitude	Area	Forest type	Type of soil	NFR	SAC	Species
Waldgebiet östlich Oppershofen	50°25'11"N 8°46'35"E 233 m	41,7 ha	*Asperulo-Fagetum* beech forest	Loess	■	■ [A]	**9** [A]
Niddahänge östlich Rudingshain	50°31'26"N 9°12'13"E 610 m	73,7 ha	Wood-barley forest and *Asperulo-Fagetum* beech forest	Basalt	■	■ [B]	**6** [B]
Meißner	51°13'53"N 9°52'8"E 665 m	86,1 ha	*Asperulo-Fagetum* beech forest and *Tilio-Acerion* forest of slopes, screes and ravines	Basalt	■	■ [C]	**8** [C]
Locheiche	51°8'29"N 8°59'19"E 518 m	34,8 ha	*Luzulo-Fagetum* beech forest	Carboni-ferous	■	■ [D]	**7** [D]
Langenstütting	50°33'30"N 10°1'37"E 620 m	30,3 ha	Wood-barley beech forest	Basalt	■	■ [E]	**5** [E]
Stirnberg	50°29'23"N 10°1'38"E 780 m	71,1 ha	Wood-barley beech forest	Basalt	■	■ [F]	**5** [F]
Schönbuche	50°28'56"N 9°32'23"E 443 m	54,8 ha	*Luzulo-Fagetum* beech forest	Red sandstone	■	■ [G]	**7** [G]
Hohestein	51°14'56"N 10°2'48"E 510 m	51,1 ha	wood-barley forest and Orchid beech forest	Shell limestone	■	■ [H]	**7** [H]
Kinzigaue	50°8'34"N 8°58'57"E 115 m	18,1 ha	Oak-hornbeam forest and Riparian forest of *Quercus* spp. and *Ulmus* spp.	„Holo-cene“	■	■ [I]	**13** [I]

[A] SAC „Wald östlich Oppershofen“ (DE5518306). *Myotis bechsteinii*, *Myotis brandtii*/*mystacinus*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Plecotus auritus*, *Plecotus austriacus*.

[B] SAC „Hoher Vogelsberg“ (DE5421302). *Myotis daubentonii*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*.

[C] SAC „Meißner und Meißner Vorland“ (DE4725306). *Eptesicus nilssonii*, *Myotis bechsteinii*, *Myotis brandtii*, *Myotis mystacinus*, *Myotis myotis*, *Myotis nattereri*, *Pipistrellus pipistrellus*, *Plecotus auritus*.

[D] SAC „Kellerwald“ (DE4819301). *Myotis bechsteinii*, *Myotis brandtii*/*mystacinus*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Pipistrellus pipistrellus*, *Plecotus auritus*.

[E] SAC „Hochröhn“ (DE5525351). *Barbastella barbastellus*, *Myotis bechsteinii*, *Myotis myotis*, *Myotis nattereri*, *Pipistrellus pipistrellus*.

[F] SAC „Hochröhn“ (DE5525351). *Eptesicus nilssonii*, *Myotis bechsteinii*, *Myotis myotis*, *Myotis nattereri*, *Pipistrellus pipistrellus*.

[G] SAC „Schönbuche“ (DE5523301). *Myotis bechsteinii*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Plecotus auritus*.

[H] SAC „Kalkklippen der Gobert“ (DE4726350). *Eptesicus nilssonii*, *Myotis bechsteinii*, *Myotis mystacinus*, *Myotis daubentonii*, *Myotis myotis*, *Myotis nattereri*, *Pipistrellus pipistrellus*.

[I] SAC „Erlensee bei Erlensee und Bulau bei Hanau“ (DE5819308). *Eptesicus serotinus*, *Myotis bechsteinii*, *Myotis brandtii*/*mystacinus*, *Myotis daubentonii*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Pipistrellus pygmaeus*, *Plecotus* spec.

2.3. Natural forest reserves in Rhineland-Palatinate

State and location Rhineland-Palatinate. Distributed across the entire federal state (see Tab. 2). **All 11 study areas are natural forest reserves and 9 of them are within Special Areas of Conservation (SAC)**.

Biogeographical region Continental (CON).

Research area 456 ha in 11 natural forest reserves (the surroundings of the natural forest reserve were also examined in several areas. These areas are not taken into account here in order to evaluate only the best forest habitats).

Research methode Detector examinations in the period from 2000 to 2016, additional net catches in the areas „Katzenbacherhang“ „Gottlob“, „Ruppelstein“ and „Springenkopf“.

Results The number of species in the 11 different study areas ranges from **5 species up to 13 species** (see Tab. 2).

Studies SCHORR (2001, 2002, 2007), FAWF 2005, BALCAR (2013), ADORF (2018).

Tab. 2: Characteristic data for the nine forest areas (BLE 2018-2020) investigated by SCHORR (2001, 2002 and 2007), BALCAR (2013) and ADORF (2018) with area name, location and mean altitude above sea level, research area, forest and soil type as well as the protection status as a natural forest reserve (NFR) and as a Special Area of Conservation (SAC) as well as the number of identified bat species in the study area.

Name of the area	Coordinates and altitude	Area	Forest type	Type of soil	NFR	SAC	Species
Eischeid	50°10'33"N 6°42'31.05"E 603 m	35,0 ha	*Luzulo-Fagetum* beech forest (81 % Beech)	Brown earth pseudogleye	■	■ [A]	**5** [A]
Gottlob	49°43'39"N 7°4'48"E 768 m	17,0 ha	*Luzulo-Fagetum* beech rubble forest (91 % Beech)	Brown earth	■	[B]	**12** [B]
Himbeerberg	49°35'22"N 6°45'56"E 552 m	42,0 ha	*Luzulo-Fagetum* and *Betulo-Fagetum* beech forest (91 % Beech)	Pseudogley brown earth	■	■ [C]	**6** [C]
Katzenbacherhang	49°38'46"N 7°49'59"E 271 m	50,0 ha	*Galio-Fagetum* and *Galio-Carpinetum* (46 % Oak, 26 % Hornbeam, 16 % Beech)	Brown earth	■	■ [D]	**9** [D]
Mörderhäufel	49°0'36"N 8°6'37"E 132 m	110,0 ha	*Luzulo-Querco-Fagetum* and *Stellario-Carpinetum* (71 % Oak, 21 % Hornbeam)	Gleye, Podsolgleye	■	■ [E]	**11** [E]
Mummelsköpfe	49°5'33"N 7°38'9"E 320 m	52,6 ha	*Luzulo-Fagetum* beech forest (54 % Beech, 24 % Oak)	Red sandstone, loamy sands	■	■ [F]	**10** [F]
Rotenberghang	49°23'20"N 7°29'54"E 390 m	22,0 ha	*Luzulo-Fagetum* beech forest (56 % Beech, 26 % Oak, 5 % European larch)	Red sandstone	■	[G]	**8** [G]
Ruppelstein	49°42'0"N 7°3'42"E 728 m	5,5 ha	*Luzulo-Fagetum* beech forest (96 % Beech)	Brown earth	■	■ [H]	**13** [H]
Springenkopf	49°43'17"N 7°4'10"E 772 m	18,0 ha	*Luzulo-Fagetum* beech forest (96 % Beech)	Brown earth	■	[I]	**12** [I]

Name of the area	Coordinates and altitude	Area	Forest type	Type of soil	NFR	SAC	Species
Stelzenbach	50°22'11"N 7°48'58"E 375 m	77,0 ha	*Luzulo-Fagetum* beech forest (76 % Beech, 16 % Oak)	Brown earth	■	■ [J]	**10** [J]
Suttpferch	49°1'5"N 8°5'34"E 134 m	27,0 ha	*Stellario-Carpinetum* (66 % Oak, 16 % Scots pine, 5 % Beech)	Sand to sandy loam	■	■ [K]	**10** [K]

[A] SAC „Gerolsteiner Kalkeifel“ (DE5706303). *Pipistrellus pipistrellus*, *Myotis bechsteinii*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*.

[B] Not within a SAC but in the national park „Hunsrück-Hochwald“. *Barbastella barbastellus*, *Myotis nattereri*, *Myotis bechsteinii*, *Myotis daubentonii*, *Myotis myotis*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis brandtii*/*mystacinus*, *Plecotus auritus*/*austriacus*.

[C] SAC „Ruwer und Seitentäler“ (DE6306301). Only the number of bat species was published, not the species concerned.

[D] SAC „Donnersberg“ (DE6313301). *Myotis bechsteinii*, Myotis brandti, *Myotis daubentonii*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Plecotus auritus*.

[E] SAC „Bienwaldschwemmfächer“ (DE6914301). 11 bat species confirmed, one additional species possible: *Myotis bechsteinii*, *Myotis brandtii*/*mystacinus*, *Myotis daubentonii*, *Myotis emarginatus*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus nathusii*, *Pipistrellus pipistrellus*, *Plecotus auritus*.

[F] SAC „Biosphärenreservat Pfälzerwald“ (DE6812301). *Myotis bechsteinii*, *Myotis brandtii*, *Myotis daubentonii*, *Myotis emarginatus*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Pipistrellus pygmaeus*.

[G] Not within a SAC. Only the number of bat species was published, not the species concerned.

[H] SAC „Hochwald“ (DE6208302) and national park „Hunsrück-Hochwald“. *Barbastella barbastellus*, *Myotis nattereri*, *Myotis bechsteinii*, *Myotis daubentonii*, *Myotis myotis*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Pipistrellus pygmaeus*, *Eptesicus serotinus*, *Nyctalus leisleri*, *Myotis brandtii*/*mystacinus*, *Plecotus auritus*/*austriacus*.

[I] Not within a SAC but in the national park „Hunsrück-Hochwald“. *Barbastella barbastellus*, *Myotis nattereri*, *Myotis bechsteinii*, *Myotis daubentonii*, *Myotis myotis*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Pipistrellus pygmaeus*, *Nyctalus leisleri*, *Myotis brandtii*/*mystacinus*, *Plecotus auritus*/*austriacus*.

[J] SAC „Staatsforst Stelzenbach“ (DE5612301). Ten bat species confirmed, one additional species possible (Balcar 2013); Schorr (2001) was able to verify 11 bat species and one further possible species: *Barbastella barbastellus*, *Myotis brandtii*/*mystacinus*, *Myotis bechsteinii*, *Myotis daubentonii*, *Myotis emarginatus*, *Myotis myotis*, *Myotis nattereri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Plecotus auritus*, *Plecotus austriacus*.

[K] SAC „Bienwaldschwemmfächer“ (DE6914301). Ten bat species confirmed, one additional species possible: *Myotis bechsteinii*, *Myotis brandtii*/*mystacinus*, *Myotis daubentonii*, *Myotis emarginatus*, *Myotis myotis*, *Myotis nattereri*, *Pipistrellus pipistrellus*, *Plecotus auritus*, *Nyctalus leisleri*, *Nyctalus noctula*.

2.4. Special Areas of Conservation of the Ville

State and location North Rhine-Westphalia. Forest areas scattered across the "Ville" (see Tab. 3) – a north-south ridge between 97 m and 180 m above sea level in the south of the state, which forms the main natural unit NR-552 (LANUV 2018). **All study areas are in Special Areas of Conservation (SAC) and nature reserves**.

Biogeographical region Atlantic (ATL).

Research area Unknown, the examined SAC and nature protection areas together cover an area of 4,706 ha.

Research methode Bat surveys, mainly as part of a Life+ project (project duration from 2014 to 2020).

Results A total of 13 bat species were identified. The range is between **9 and 13 species** per forest area (see Tab. 3).

Studies Biologische Station Bonn/Rhein-Erft e.V. (2017), Striepen et al. (2021) and Fehr (2021).

Tab. 3: Characteristic data on the Special Areas of Conservation (SAC) from north to south with area name and code, location and mean altitude above sea level, total area of the SAC, forest and soil type as well as the number of identified bat species in the SAC.

Name of the SAC	Coordinates and altitude	Area	Forest type	Type of soil	Species
Königsdorfer Forst (DE5308303)	50°56'40"N 6°44'34"E 133 m	329,34 ha	*Asperulo-Fagetum* beech forest, oak-hornbeam forest	Lime-free loess clay, partly eroded	**9** [A]
Altwald Ville (DE5207303)	50°47'38"N 6°50'55"E 152 m	66,20 ha	Oak-beech forest with natural forest cell		**12** [B]
Villewälder bei Bornheim (DE5207304)	50°46'43"N 6°52'16"E 154 m	724,62 ha	Oak-hornbeam forest, *Asperulo-Fagetum* beech forest, Pine and spruce stands, numerous still waters		**12** [B]
Waldville (DE5207301)	50°41'36"N 6°58'20"E 173 m	1.129,12 ha			**12** [C]
Waldreservat Kottenforst (DE5308303)	50°40'15"N 7°4'45"E 174 m	2.456,98 ha	Oak-hornbeam forest with common beech and small-leaved lime, still waters, natural forest cells		**13** [D]

[A] *Plecotus auritus*, *Myotis nattereri*, *Nyctalus noctula*, *Nyctalus leisleri*, *Myotis brandtii*, *Myotis mystacinus*, *Myotis myotis*, *Pipistrellus nathusii* and *Pipistrellus pipistrellus*, possibly additionally *Plecotus austriacus*.

[B] *Eptesicus serotinus*, *Myotis bechsteinii*, *Myotis brandtii*, *Myotis daubentonii*, *Myotis myotis*, *Myotis mystacinus*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii* and *Plecotus auritus*.

[C] *Eptesicus serotinus*, *Myotis bechsteinii*, *Myotis brandtii*, *Myotis daubentonii*, *Myotis myotis*, *Myotis mystacinus*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Pipistrellus pygmaeus* and *Plecotus auritus*.

[D] *Eptesicus serotinus*, *Myotis bechsteinii*, *Myotis brandtii*, *Myotis daubentonii*, *Myotis myotis*, *Myotis mystacinus*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Pipistrellus pygmaeus* and *Plecotus auritus*.

2.5. Special Areas of Conservation in the Hienheimer Forst

State and location	Bavaria. Forest area between the rivers Altmühl and Danube, west of Kehlheim (coordinates: 48°54'49"N 11°46'46"E, mean height of 440 m above sea level). The Hienheim Forest is a large mixed deciduous forest with a total area of 3,100 ha.
Biogeographical region	Continental (CON).
Research area	3,100 ha, including 2,400 ha in 3 SACs: „Hienheimer Forst östlich und westlich Schwaben“ (DE7036372), „Weltenburger Enge und Hirschberg und Altmühlleiten“ (DE7136301) and parts of „Trockenhänge im unteren Altmühltal mit Laaberleiten und Galgental“ (DE7036371).
Research methode	Annual controls of bird nesting boxes (2017: 251 boxes) and bat boxes (2017: 415 boxes) over a period of 13 years (2005-2017), the number of boxes was increased annually.
Results	A total of **13 bat species** were found in the 3,100 hectare survey area in 2017: *Barbastella barbastellus*, *Eptesicus serotinus*, *Myotis bechsteinii*, *Myotis brandtii*, *Myotis myotis*, *Myotis mystacinus*, *Myotis nattereri*, *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus nathusii*, *Pipistrellus pipistrellus*, *Pipistrellus pygmaeus*, *Plecotus auritus*. Until 2012, there was also *Myotis daubentonii* in the study area.
Studies	HIRSCHFELDER (2019).

2.6. Natural forest reserve „Gitschger“

State and location	Bavaria. 40 km east of Bayreuth. The natural forest reserve “Gitschger” (coordinates: 49°57'16"N 12°10'19"E) is located within the nature reserve “Großer Teichelberg” and in the SAC „Basaltkuppen in der Nördlichen Oberpfalz“ (DE6039301).
Biogeographical region	Continental (CON).
Research area	69 ha. The mean height of the study area is 650 m above sea level. The nutrient-rich soils that result from basalt weathering stand out clearly from the otherwise nutrient-poor, acidic soils in the area. This leads to a characteristic flora and fauna with particularly vigorous hardwood-rich block rubble forests. Beech (*Fagus sylvatica*, 80%) is dominant, followed by ash (*Fraxinus excelsior*, 8%) and sycamore (*Acer pseudoplatanus*, 7%).
Research methode	Detector examinations (between March and June 2017, batcorders were used on 4 nights at 11 sites) and Controls of over 100 bat boxes (July 2017).
Results	At least **5 bat species**: *Barbastella barbastellus*, one or a few *Myotis* sp(p)., *Nyctalus leisleri*, *Pipistrellus pipistrellus*, *Plecotus auritus*.
Studies	HÜBNER et al. (2018).

2.7. Natural forest reserve „Grouf“

Country and location	Luxembourg, the **natural forest reserve „Grouf“** is only 1 km away from the border with Germany. The natural forest reserve is located in the **SAC "Région de la Moselle supérieure"** (LU0001029) at a height of 240 m above sea level, coordinates: 49°28'27"N 6°20'49"E.
Biogeographical region	Continental (CON).
Research area	143 ha.
Research methode	Detector examinations (5 surveys on transects) and net catches in two places on two dates.
Results	A total of **9 bat species** and a pair of species were identified: *Myotis bechsteinii*, *Myotis myotis*, *Myotis mystacinus*, *Myotis nattereri*, *Nyctalus noctula*, *Nyctalus leisleri*, *Pipistrellus pipistrellus*, *Pipistrellus nathusii*, *Plecotus auritus*, *Myotis brandtii*/*mystacinus*.
Studies	DIETZ & PIR (2013).

3. Sources

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