

Table S1. Numbers of bats of each species caught between 2016-2020 during particular years in the forest of the Polish Tatra Mountains.

No	Species	Years					Total [sex ratio]
		2016	2017	2018	2019	2020	
1	<i>Myotis myotis</i>		2	14	31	4	51 [0.51]
2	<i>M. bechsteinii</i>		1	2	5		8 [0.88]
3	<i>M. nattereri</i>		1	1	1	1	4 [1]
4	<i>M. emarginatus</i>					2	2 [1]
5	<i>M. brandtii</i>	11	35	58	41	15	161 [0.71]
6	<i>M. mystacinus</i>	53	91	116	93	42	351 [0.77]
7	<i>M. alcathoe</i>		1	1			2 [1]
8	<i>M. daubentonii</i>	2	1			1	4 [1]
9	<i>Eptesicus nilssonii</i>	1	3	3	2	3	12 [0.67]
10	<i>Vespertilio murinus</i>	2	1	1	1	1	6 [1]
11	<i>Nyctalus noctula</i>			6	3	1	10 [0.4]
12	<i>Pipistrellus pipistrellus</i>				6		6 [0.5]
13	<i>Pipistrellus nathusii</i>				1		1 [0]
14	<i>Plecotus auritus</i>	4	8	41	21	9	83 [0.83]
15	<i>Barbastella barbastellus</i>	1					1 [1]
Total		74	144	243	205	79	745
Number of sample sites							
900-1000 m a.s.l.		4	7	9	2	4	14
1000-1100 m a.s.l.		5	10	13	10	8	24
1100-1200 m a.s.l.		2	3	3	5	3	7
1200-1300 m a.s.l.		2	5	2	5	5	9
1300-1400 m a.s.l.		1	5	7	6	2	10
1400-1500 m a.s.l.		-	5	4	5	1	9
Total number of sites		14	35	38	33	23	73

In one individual of *P. auritus*, the sex was not determined

Table S2. Numbers of bats of each species caught on every 100 m vertical band in the forest of the Polish Tatra Mountains.

No	Species	Altitude range [m a.s.l.]						Total
		Up to 1000	1000-1100	1100-1200	1200-1300	1300-1400	1400-1500	
1	<i>Myotis myotis</i>	6	45					51
2	<i>M. bechsteinii</i>		6	1	1			8
3	<i>M. nattereri</i>	1	2		1			4
4	<i>M. emarginatus</i>		2					2
5	<i>M. brandtii</i>	26	40	8	22	45	19	161
6	<i>M. mystacinus</i>	97	122	20	44	87	25	351
7	<i>M. alcathoe</i>	1	1					2
8	<i>M. daubentonii</i>	2	1		1			4
9	<i>Eptesicus nilssonii</i>	3	3		2	3	1	12
10	<i>Vespertilio murinus</i>	5	1					6
11	<i>Nyctalus noctula</i>	1	8		1			10
12	<i>Pipistrellus pipistrellus</i>		6					6
13	<i>Pipistrellus nathusii</i>		1					1
14	<i>Plecotus auritus</i>	6	37	8	6	23	3	83
15	<i>Barbastella barbastellus</i>					1		1
Total		148	275	37	78	159	48	745

Table S3. Summary of generalized additive models (GAM) explaining the number of bat species in the forests of the Polish Tatra Mountains between 2016 and 2020 on the basis of elevation.

Dependent variable: species richness (number of species)

	Estimate (SE)	t-value	p-value
Intercept	3.45	71.85	<0.001
Smooth term	Estimate df	F-value	p-value
Elevation	8.109	68.95	<0.001

Table. S4. Comparison of frequency of sex in *Myotis mystacinus* and *M. brandtii* between different types of forests in the Polish Tatra Mountain. Use symbols: n females/n males; χ^2 = value of chi-square statistic (or chi-square statistic with Yates correction); p= value of probability; Not significant at $p < 0.05$.

Type of forests	<i>Myotis brandtii</i>	<i>Myotis mystacinus</i>
Coniferous vs. beech forest	33/88 vs. 12/27; $\chi^2 = 0.1784$; p=0.67	90/199 vs. 36/70; $\chi^2 = 0.284$; p=0.59
Disturbed vs. undisturbed coniferous forests	13/63 vs. 20/25; $\chi^2 = 10.6509$; p=0.002	47/109 vs. 43/90; $\chi^2 = 0.1624$; p=0.69
Undisturbed vs. disturbed coniferous forests - lower zone	12/11 vs. 9/11; $\chi^2 = 0.2203$; p=0.64	36/67 vs. 32/32; $\chi^2 = 3.7032$; p=0.054
Undisturbed vs. disturbed coniferous forests - upper zone	8/14 vs. 4/52; $\chi^2 = 8.237$; p=0.004	7/23 vs. 15/77; $\chi^2 = 0.3554$; p=0.55
Coniferous - lower zone vs. coniferous forests upper zone	21/22 vs. 12/66; $\chi^2 = 15.6391$; p=0.000	68/99 vs. 22/100; $\chi^2 = 19.3155$; p=0.000
Forests of lower zone vs. forests of upper zone	33/49 vs. 12/66; $\chi^2 = 12.2207$; p=0.000	104/169 vs. 22/100; $\chi^2 = 15.623$; p=0.000
Undisturbed lower zone vs. undisturbed upper zone	12/11 vs. 8/14; $\chi^2 = 0.5881$; p=0.44	36/67 vs. 7/23; $\chi^2 = 0.9516$; p=0.33
Disturbed lower zone vs. disturbed upper zone	9/11 vs. 4/52; $\chi^2 = 12.3449$; p=0.000	32/32 vs. 15/77; $\chi^2 = 20.3571$; p=0.000

*The chi-square statistic with Yates correction

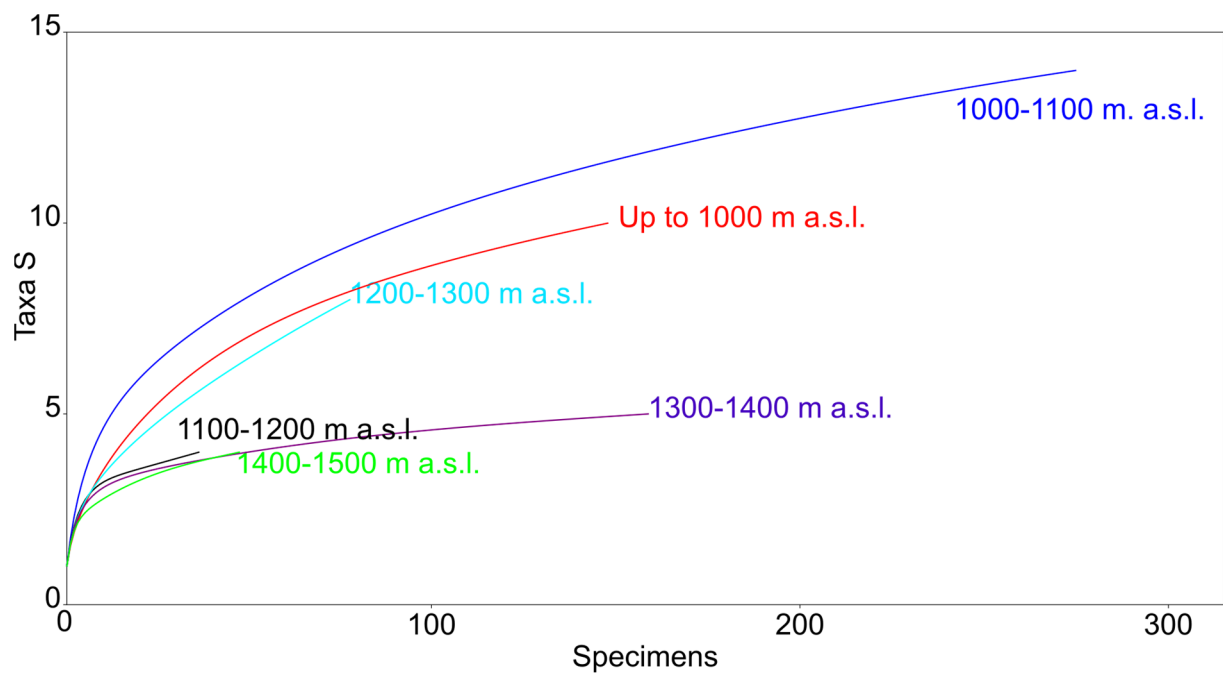


Figure S1. Rarefaction curves for species richness of bats recorded in the forests of the Tatra Mountains on every 100 m vertical band.