

LONGEVITY IN BATS

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Bat banding in the Netherlands has furnished many interesting data on displacements and longevity of these small Mammals. Though the migrations have proved to be of minor importance (only one species, *Myotis dasycneme*, is a true migrant, covering about 250 km (200 miles) from its summer haunts to its hibernating quarters), the study of longevity has revealed exceptional results.

Banding bats by means of a small metal strip with an inscription has been utilized in a number of countries. It is a more reliable method to determine maximum age, than evaluation of dental abrasion, which in most Mammals is the only practical one.

The results of E i s e n t r a u t (1947, 1949), the pioneer of bat banding in Europe, have been of considerable importance as he proved, that the Common Continental Bat (*Myotis myotis*) could reach an age of 12 years. He also gives the maximal longevity attained by the Barbastelle Bat (*Barbastella barbastellus*) to be 6 years, of the Long-eared Bat (*Plecotus auritus*) 5-6 years, and of Daubenton's Bat (*M. daubentonii*) 7 years.

In 1954 Jean D o r s t published a large number of records on duration of life in Chiropteres, based on bat banding results in France. The author mentions a maximum age in the Greater Horseshoe Bat (*Rhinolophus ferrum equinum*) of 15 years, in the Lesser Horseshoe Bat (*Rhinolophus hipposideros*) of nearly 14 years, in *Myotis myotis* of 9 years, in the Whiskered Bat (*M. mystacinus*) of 5½ years and *M. daubentonii* of nearly 6 years.

L. B e l s (1952) started banding *M. myotis* and *Rhin. ferrum equinum* in the limestone caverns of S. Limburg in 1938 after some small-scale experiments in 1936 and 1937. Only since 1942 smaller species were also banded by this author: the Rough-legged Bat (*M. dasycneme*), Natterer's Bat (*M. nattereri*), *M. daubentonii*, *M. mystacinus*, *M. emarginatus* and *Rhin. hipposideros*. Bat banding in the Netherlands has been continued through the years until now.

With exception of *Rhin. hipposideros* the dutch records are exceeding all previous results, as is shown in table I. It is to be expected, however, that continued research will yield still

higher maximum ages.

TABLE I. LONGEVITY IN BATS.

| Band no. | Sex | Banded | Recovered | Band born during | | |
|------------------------------------|-----|----------|-----------|------------------|--------|------|
| | | | | years | months | days |
| <i>Myotis dasycneme.</i> | | | | | | |
| 4162 | ♀ | 3. 1.42 | 5. 1.55 | 13 | — | 2 |
| 2595 | ♂ | 9. 3.41 | 6. 1.54 | 12 | 9 | 28 |
| 4364 | ♂ | 5. 1.42 | 5. 1.53 | 11 | — | — |
| 3516 | ♂ | 6. 1.41 | 2. 1.51 | 10 | — | — |
| <i>Myotis daubentonii.</i> | | | | | | |
| 10446 | ♂ | 28.12.42 | 27. 3.54 | 11 | 3 | — |
| 10804 | ♂ | 25.12.42 | 6. 3.53 | 10 | 2 | 12 |
| <i>Myotis emarginatus.</i> | | | | | | |
| 10744 | ♂ | 25.12.42 | 8. 2.53 | 10 | 1 | 14 |
| 10777 | ♂ | 25.12.42 | 2. 1.53 | 10 | — | 8 |
| 11886 | ♂ | 29.12.42 | 3. 1.53 | 10 | — | 5 |
| <i>Myotis myotis.</i> | | | | | | |
| 1177 | ♂ | 15.12.38 | 26. 7.51 | 12 | 7 | 10 |
| 311 | ♂ | 12.12.38 | 23. 2.51 | 12 | 2 | 11 |
| D 6467 | ♂ | 1. 3.38 | 18. 2.50 | 11 | 11 | 18 |
| 1512 | ♂ | 21. 7.39 | 2. 1.51 | 11 | 5 | 12 |
| 2510 | ♀ | 6. 4.40 | 29. 1.51 | 10 | 9 | 25 |
| 1549 | ♂ | 2. 8.39 | 9. 1.50 | 10 | 5 | 5 |
| <i>Myotis mystacinus.</i> | | | | | | |
| 10052 | ♂ | 8.12.42 | 7. 1.54 | 11 | — | 30 |
| 10641 | ♂ | 24.12.42 | 6. 1.54 | 11 | — | 13 |
| 10516 | ♂ | 27.12.43 | 3. 1.55 | 11 | — | 6 |
| 10544 | ♂ | 27.12.43 | 3. 1.55 | 11 | — | 6 |
| 10869 | ♂ | 26.12.42 | 29.11.53 | 10 | 11 | 3 |
| 10242 | ♂ | 23.12.42 | 7. 1.53 | 10 | — | 15 |
| 10169 | ♂ | 23.12.42 | 3. 1.53 | 10 | — | 11 |
| 10305 | ♂ | 27.12.42 | 7. 1.53 | 10 | — | 8 |
| <i>Myotis nattereri.</i> | | | | | | |
| 12488 | ♂ | 14.12.44 | 3. 1.55 | 10 | — | 20 |
| 11070 | ♂ | 27.12.43 | 4. 1.54 | 10 | — | 8 |
| <i>Plecotus auritus.</i> | | | | | | |
| 11033 | ♀ | 27.12.43 | 3. 1.55 | 11 | — | 7 |
| <i>Rhinolophus ferrum equinum.</i> | | | | | | |
| D 6498 | ♂ | 1. 3.38 | 3. 1.55 | 16 | 10 | 3 |
| D 6408 | ♂ | 5. 3.38 | 3. 1.52 | 13 | 10 | 2 |
| 3745 | ♂ | 20. 4.41 | 5. 1.55 | 13 | 8 | 15 |
| D 6445 | ♂ | 1. 5.38 | 5. 1.51 | 12 | 8 | 5 |
| 5566 | ♂ | 28.12.42 | 4. 1.55 | 12 | — | 7 |
| 4051 | ♂ | 2. 8.41 | 4. 1.52 | 10 | 5 | 3 |
| 3288 | ♀ | 17.11.40 | 6. 1.51 | 10 | 1 | 10 |
| <i>Rhinolophus hipposideros.</i> | | | | | | |
| 11295 | ♀ | 30.12.42 | 4. 1.53 | 10 | — | 5 |

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DESCRIPTION OF SOME NEW ORTHOPTERA II

bij C. WILLEMSE

SUPERFAMILY: TETTIGONIOIDEA

FAM. MECOPODIDAE

Segestes grandis nov. spec.

Body robust, large. Fastigium of vertex triangularly produced in advance, sulcated above; not reaching beyond the first antennal joint.

Pronotum longer than the head as seen from above, rugulose; anterior margin regularly rounded, posterior margin rounded truncate; transverse sulci distinct on the disc and on the lateral lobes, posterior transverse sulcus far behind the middle, in its middle with a round and deep impression with on both sides shallow impressions anteriorly between the anterior and posterior sulcus.

Posterior margin of metazona on the disc, along the posterior margin more finely rugose. There is an indication of a low median keel near the anterior and posterior margin, less so in the middle and also less indicated in the female. Lateral lobes of pronotum somewhat higher as broad; lower margin rounded obtuse-angulate.

Elytra and wings long, reaching the middle of hind tibia.

♂ : Elytra slightly narrowing apically, apex

rounded; costa low, only distinct in the basal third, not reaching the anterior margin, subcosta substraight, slightly curved, reaching the anterior margin before the apex, radius parallel to the subcosta and only separated by a narrow interspace, first radial sector arising in the apical third, simple, second radial sector simple, both reaching the apex of elytron; media slightly curved. Tymapanal field of right elytron divided by only one, oblique strong vein, a little before the middle; the anterior part subhyalinous with some irregular veins, the posterior part hyalinous; of left elytron densely and irregularly reticulated. Wings hyalinous.

♀ : Elytra slightly narrowing towards the apex, apex rounded. Costa low, only distinct in the basal third, not terminating into the anterior margin; subcosta nearly straight, slightly curved apically, reaching the anterior margin before the apex, radius parallel and connected to the costa only separated by a narrow interspace in the apical third, first radial sector arising in the apical third, simple, terminating into the apical margin, second and third sector simple, also terminating into the apical margin; media slightly curved at the base, simple, terminating into the apical margin. Wings hyalinous.

Anterior femora with all the margins smooth, except the inner lower margin which bears only one spine near the apex; inner and outer kneelobe with only spine. Median femora with all the margins smooth; inner and outer kneelobe with only one, small spine.

Hind femora without spines from above, in the basal third from above with low transverse convexities as are also present on the area externa of the femur in the thickened portion; lower inner margin with 9—11, lower outer margin with 8—11 spines; inner kneelobe with two spines, outer kneelobe with only one spine.

Anterior tibia with the auditory foramen conchate, upper inner margin without spines, upper outer margin with only an apical spine, lower margin both with a row of spines. Median tibia with the upper inner margin with 4—6 spines, including an apical one, upper outer margin without spines; lower margins both with a row of spines. Hind tibia with all the margins strongly spined.

♂ : Supra analplate transverse, much broader as long, posterior margin substraight. Cercus