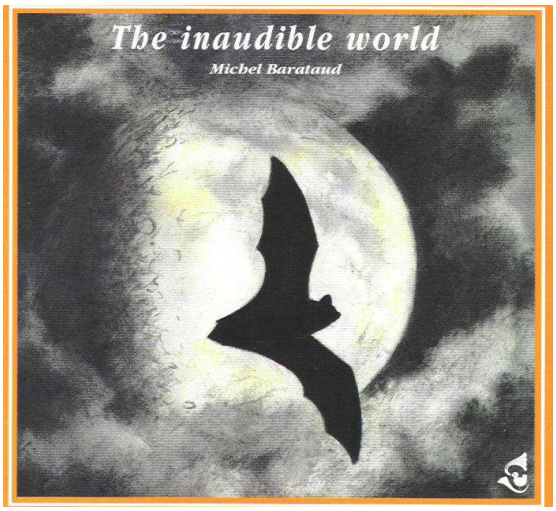
# THE INAUDIBLE WORLD

## Acoustic Identification of European Bats ; 2 CD + booklet 47 pages

**Michel Barataud**

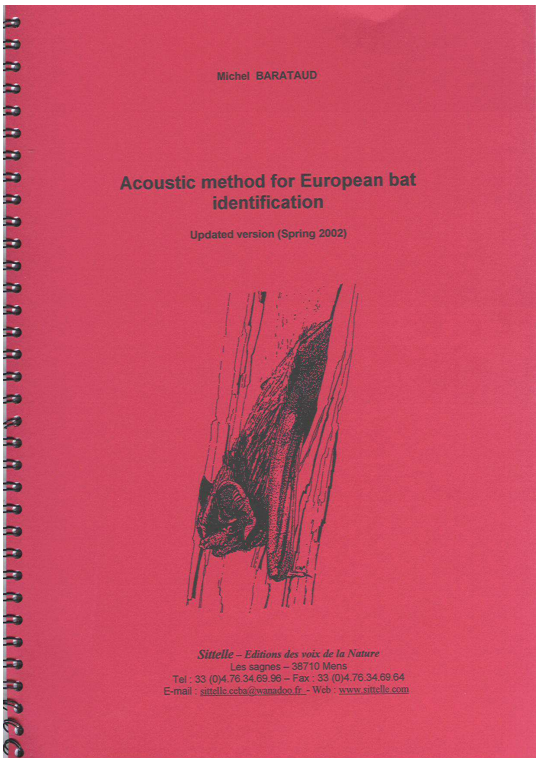



27 species of bats studied with aid of chemiluminescent tags, and recorded in heterodyne (68 tracks) and time expansion (99 tracks), are presented here.
The booklet present the method of acoustic identification of bats in the field.
Specific identification, in good listening conditions, is possible for 11 species with heterodyne, and 17 species with time expansion.
Risks of confusion, according to the great acoustic variability among bats signals, are presented minutely.

# Acoustic method for European bat identification

## Updated version (Spring 2002) ; 1 CD + booklet 14 pages

**Michel Barataud**




Since the publication of "The Inaudible World" by Barataud (1996), new data has enhanced our knowledge of acoustic identification in the field.
This updated document complements the previous publication, without replacing it.
Here, details are presented about three recently studied species (*Nyctalus lasiopterus*, *Pipistrellus pygmaeus*, *Myotis alcathoe*).
It also defines and uses identification criteria for the *Myotis* species.
Firstly, audible diagnostic criteria are defined that lay the foundations of a "common language" in order to describe bat calls and allow bat detectives to exchange information. (**Tables 2 and 4**)
Those species emitting frequency modulation with a near constant frequency tail (FM with CF tail) that can change their signals from near constant frequency (CF) to steep frequency modulation (SFM), are given with in **Table 3**.
**The most difficult remain the steep frequency modulation used by the genera *Myotis*, *Plecotus* and *Barbastella*.**
The method presented follows a logical progression. It suggests a classification based on pulse types (**Table 4**) leading to lists of possible species.
This exercise aims to improve listening skills by recognition of different signal types according to the diagnostic criteria.
**Table 5** is a type of identification key. It only concerns "cruising flight" sequences without any variation in rhythm and structure.
**Table 6** is concerned with the interpretation of rhythm and structure variations that are key elements in behaviour recognition and reliable identification.
Comments on acoustic sequences bring together all the necessary details for direct recognition of bat echolocation, related to the environment.
Last but not least, identification examples illustrate the process to follow when analysing sound sequences in the field.

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