Echolocation, or biosonar, is an active sensory system that consists of the emission of sound and the determination of environmental characteristics from received echoes. Because of the wide array of echolocators, this review will focus on microchiropterans, odontocetes and birds (both oilbirds and swiftlets).

**Function**

**Signal production**
- Production in the larynx. Emission possibly modulated by noseleaves.

**Signal reception**
- Highly developed pinnae, amplify sound and provide cues for sound source location. Stiff middle ear isolated by ligaments. Long, stiff cochlea, with acoustic fovea improving resolution in the echolocation frequency.
- No pinnae. Acoustic foci transmit sound to the middle ear, which is stiff and isolated. Long, stiff cochlea, echolocation frequency area densely innervated.

**Signal processing & integration**
- Auditory nuclei seem to be enlarged.

**Selected references**