Most primates live within complex social systems. Primates mainly use the visual (gestural and facial) and vocal communication channel in their communication system. Cercopithecinae uses vocalizations more widely since most of them live in dense forest habitats that often limit the transmission of visual signals (Altmann 1967). The calls are given by monkeys in social contexts such as advertising individual identity, alerting conspecific about predators, maintaining cohesion during group movement, signalling the presence of food and facilitating social interaction (Cheney and Seyfarth 2010). It can thus be noted that vocal communication played a key role in the evolution of primate social behaviour (McComb and Semple 2005).

The crested macaque (Macaca nigra) is one of seven endemic macaque species that inhabit the island of Sulawesi (Fooden 1969). Similarly to the other Sulawesi macaques, crested macaques are a socially tolerant species where interactions among group members are weakly constrained by kinship and dominance hierarchy (Thierry et al. 2004, Duboscq et al. 2013). This social tolerance is thought to have led to the evolution of a larger communicative repertoire than more despotic species. In a meta-analysis carried out on several macaque species, Dobson (2012) showed that increased social tolerance correlates with a large repertoire of facial expressions. A similar study carried out by Mastroiieri (2005) additionally suggests that species with increased social tolerance also have a larger repertoire of communicative gestures. Freeberg et al. (2012) proposed a hypothesis that social communication complexity increases alongside social complexity. The social complexity (group size and time spent grooming) is likely to increase vocal complexity (McComb and Semple 2005). Since the social tolerance might play role in social complexity, the study therefore suggests that in a species as highly tolerant as the crested macaques individuals will also display a high degree of vocal repertoire.

Research on vocalization has been carried out in many species of macaques such as M. fuscata (Green 1975), M. silenus (Hohmann and Herzog 1985), M. radiata (Hohmann 1989), M. fascicularis (Palombit 1992), M. sylvanus (Fischer and Hammerschmidt 2002) and M. cyclopis (Hsu et al. 2005). However, most available data are from less tolerant species, and those carried out on Sulawesi macaques (M. nigra: Lewis 1985; M. tonkeana: Masataka and Thierry 1993) were conducted in captivity where the full extent of a species repertoire might not be expressed. The only reports on the vocalisation repertoire of wild Sulawesi macaques are only descriptive and anecdotal (Thierry et al. 2000). No quantitative descriptions on the vocal patterns of any of the highly tolerant Sulawesi macaques are so far available. Such a study is therefore urgently needed in order to get a more comprehensive picture of the relationship between social tolerance and the complexity of communication in macaques.

Since 2008, IUCN red-list listed crested macaques as Critically Endangered (Supriatna and Andayani 2008), which means that the species is currently facing an extremely high risk of extinction. The decline of the population is mainly caused by human disturbance such as land clearing and hunting for bush meat and pets (Sugardjito et al. 1989; Rosenbaum et al. 1998; Palacios et al. 2011).