The Brazilian Atlantic Forest presents only ca. 12% of the remaining original vegetation, mostly distributed in forest fragments. Small fragments (<200 ha) play an essential role in sustaining important populations of the remarkable mammal diversity of this biome. The aim of this study was to survey the species of large and medium-sized mammals occurring in a semideciduous seasonal forest fragment in southeastern Brazil. This study was conducted in the Area of Relevant Ecological Interest ‘Floresta da Cicuta’ (ARIE FC), a federal protected area of 131 ha located in the municipalities of Barra Mansa and Volta Redonda, state of Rio de Janeiro. We used nine camera-traps (Tigrinus® 6.0C) that remained active 24 hours/day from January to June 2017, totaling a sampling effort of 714 camera-trap days. We placed the camera-traps with no bait in 27 single-camera stations distributed in the study area, mainly in shelter sites, along natural/artificial trails and riverbanks. We obtained 176 photographic records of 8 species of mammals using camera-traps, but with the inclusion of records from direct observations, species richness reached 12 species: Cerdocyon thous, Chrysocyon brachyurus, Eira barbara, Nasua nasua, Procyon cancrivorus, Leopardus sp., Dasypus novemcinctus, Didelphis aurita, Alouatta clamitans, Callithrix jacchus (introduced), Cuniculus paca, and Hydrochoerus hydrochaeris. We also obtained camera-trap records of domestic dogs (Canis familiaris), Chrysocyon brachyurus and H. hydrochaeris were recorded only in adjacent areas. Two of the recorded species (C. brachyurus and A. clamitans) are on the Brazilian list of endangered species, and one species (C. paca) is on the Rio de Janeiro state list, all listed as ‘Vulnerable’. This is the first inventory of medium to large-sized mammals using camera-traps in the ARIE FC, and the results demonstrate the importance of this protected area for the conservation of the regional mammal diversity and their habitats in this Atlantic Forest region.

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