



Researching Forest Raptors on Armenia's Highest Peak

By *Haik Harutunyan, Maro Kochinyan, and Karen Agababyan*

At 4,090 meters above sea level, Mt. Aragats is Armenia's tallest mountain massif. It is located in the central part of the republic, in Aragatsotn Region, where it is isolated from the rest of the country's mountain ranges. For this reason, the small forest massif that covers the mountain's southern macro-slope is isolated from the rest of Armenia's forests; the nearest forest on Mt. Ara is located ten kilometers away. The forest on Mt. Aragats, like other forests in central Armenia, is residual. It is located at an elevation of 2,000-2,200 meters above sea level and occupies an area of about five square kilometers. Although the forest is predominantly comprised of small Caucasian oak trees (*Quercus macranthera*), other deciduous trees such as wild plum, wild pear, maple, ash, and artificially planted pine trees are occasionally encountered. Sub-alpine steppe with elements of alpine meadows are situated above the forest, while agricultural areas – primarily grain fields – occupy the land below it.

Despite the relatively small size and isolation of the Aragats forest, as well as the diminutive height of its trees, all diurnal raptor species inhabiting Armenia's forests can be found here. During the spring and summer of 2005, a group of staff from the American University of Armenia's Birds of Armenia Project, which included the authors of this article, conducted a series of six expeditions to research

the population and species structure of raptors inhabiting the forests of Mt. Aragats.

In their work, the researchers employed two methods. They conducted observations from fixed points to identify raptors' nesting territories and then also searched for the nests. As a result of their work, the researchers fixed the inhabitation of the following species: honey buzzard (*Pernis apivorus*); black kite (*Milvus migrans*); short-toed eagle (*Circaetus gallicus*), which is listed in the Red Book of the Armenian Soviet Socialist Republic of 1987; buzzard (*Buteo buteo*); lesser spotted eagle (*Aquila pomarina*); booted eagle (*Hieraaetus pennatus*); sparrow hawk (*Accipiter nisus*); and northern goshawk (*Accipiter gentiles*).

The researchers found nests belonging to the short-toed eagle, lesser spotted eagle, and buzzard. Based on observations of the birds' behavior during the nesting period, the researchers also surmise that nesting and general



Mt. Aragats. Map by M. Dubinin.

ranges for the remaining raptor species occur here. Various types of mating flights, food displays, directed flights with food during the nestling period, and territorial defense reactions suggested nest presence. Researchers did not observe the Eurasian hobby (*Falco subbuteo*) and it is possible that the species is absent from nesting-sites in this forest.

The researchers conducted their observations from three points along the road, from where they could survey the Aragats forest massif in its entirety. From these observation points, the agricultural areas below

Spotlight on the Birds of Armenia Project

The Birds of Armenia Project works to research and protect birds and their biotopes in Armenia. The project was established under the auspices of the American University of Armenia in 1993, upon the initiative of Sarkis Akopian, an American industrialist. The project's first major products were: "A Field Guide to Birds of Armenia," available in both English (M. S. Adamian and D. Klem, Jr., 1997.) and Armenian (M. S. Adamian and D. Klem, Jr., 2000) languages; and the "Handbook of the Birds of Armenia (M. S. Adamian and D. Klem, Jr., 1999). Beginning in 2001, the Birds of Armenia Project expanded its environmental education activities. Starting in 2004, the project began a two-year-long trial course to identify birds in nature. Fifteen students with various specialties and backgrounds participated in the course the first year and in 2005, the course expanded by 70 people. In addition, project specialists are beginning research on the influence of pesticides and heavy metals on indicator species of wetland birds and birds of prey. Working together with nature conservation NGOs and state institutions, the project hopes to preserve Armenia's unique avifauna.



Buzzard (*Buteo buteo*) nestling.
Photo by H. Harutunyan.

could also be surveyed. Hunting of most of the raptor species – with the exception of sparrow hawk, northern goshawk, and honey buzzard – was observed in these areas numerous times.

Researchers noted several factors of disturbance affecting the raptors inhabiting Mt. Aragats. Their habitat's close proximity to Yerevan, as well as its proximity to road systems, makes this territory an attractive destination for Sunday picnickers. As many as seven to ten groups, each with five to twenty people, may come here on any given Sunday. They leave their litter behind. No one cleans up the territory, so the garbage—plastic bags, bottles, tin cans, foil—just accumulates. The resultant contamination of soil and water is particularly detrimental to

birds of prey. They are end links in the food chain and harmful substances accumulate in their bodies and adversely affect their reproductive potential.

In addition, some of the people who visit Mt. Aragats bring with them firearms. Although these people primarily shoot at empty bottles (which is also unpleasant, given the amount of broken glass that remains afterwards) who can guarantee that they are able to resist the temptation of shooting a raptor flying overhead?

Based on their investigation, the researchers see the primary importance of the Mt. Aragats forest to be the high concentration of raptors it supports on a relatively small territory. The raptors here are also often and easily observed. Finally, the forest is regularly visited by people from outlying villages and cities, who are the primary factors of disturbance affecting the raptors. These conditions make the area an ideal point for observing nesting raptors and for carrying out ecological education among the local population. Using raptors as a focal point of ecological education, it would be possible to educate people visiting the Mt. Aragats forest about principles of conduct in nature. In the future, it might also be possible to implement joint activities with the public to clean the territory and protect the birds.

In conclusion, the authors would like to express their gratitude to the Birds of Armenia Project for providing



The nest of a lesser spotted eagle (*Aquila pomarina*), found by researchers in the Mt. Aragats forest. Photo by K. Agababyan.

financial support for research work; to A. Asatryan, from the Institute of Botany, National Academy of Sciences of the Republic of Armenia, for consultation; as well as a group of dedicated project volunteers, who actively participated in the investigations. Among them, the authors would like to note: Anna and Arpine Yeghyan, Siranush Tumanyan, Vilena Bejanyana, Gor Rustamyan, Grigor Janoyan, Levona Rukhkyan, and Ruben Maliyan.

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The small forest massif covering the southern macro-slope of Mt. Aragats provides habitat to representatives of all diurnal raptor species found in Armenia. Photo by H. Harutunyan.