

Impact of Power Lines on Bird Mortality in Southern Bulgaria

Dimitar A. Demerdzhiev^{1*}, *Stoycho A. Stoychev*², *Tzeno H. Petrov*³, *Ivaylo D. Angelov*⁴,
*Nedko P. Nedyalkov*²

¹ BSPB/BirdLife Bulgaria, 31 Bulgaria Blvd., 4230 Asenovgrad, Bulgaria;
E-mail: demerdjiev@yahoo.com, d_demerdzhiev@abv.com, www.bspb.org

² BSPB/BirdLife Bulgaria; Haskovo 6300, P.O.Box 130, Bulgaria;
E-mail: stoychev.s@gmail.com, nnedko@gmail.com, www.bspb.org

³ BSPB/BirdLife Bulgaria; Natural Science Museum 34 Khristo G. Danov 4000 Plovdiv, Bulgaria;
E-mail: plovdiv@bspb.org, www.bspb.org

⁴ BSPB/BirdLife Bulgaria; Sliven 8800, Balgarka, 29 –A- 18. Bulgaria; E-mail: ivailoangeliv@abv.bg, www.bspb.org

Abstract: Bird mortality on 20 kV power lines was reported in four IBAs in Southern Bulgaria. In the period between September-December 2004, 139.3 km of power lines and a total of 1418 electric poles of different designs were monitored. As a result, 105 bird carcasses representing 22 species were detected. Electrocutation was suspected for 77.1% (n=81) of the detected carcasses, while 22.9% (n=24) were suspected power line collisions. Most of the suspected bird collisions (59%) were small Passeriformes. Crows, storks, and raptors were some of the most common victims to electrocution. The number of suspected electrocutions per lethal pole ranged from 1 to 9. Thirteen percent of these lethal pylons accumulated approximately 30% of the victims. Mortality differed with poles of different design and habitat types. Five types of pole configurations and a switch tower were recorded during the study. Metal towers with jumper wires underneath the crossarms proved to be the most dangerous configuration; accounting for 54.3% of total detected electrocution mortality. Detected mortality caused by suspected electrocution was significantly higher in cultivated lands, providing less suitable perch sites compared to natural areas. A significant part of the power line network consisted of dangerous poles. Insulating protective devices should be applied on risky poles.

Key words: electrocution, collision, birds, raptors, power lines