

## **Habitat Requirements of the Pale Rock Sparrow *Carpospiza brachydactyla*** **(Based on preliminary results from an ongoing study by A Rocha Lebanon)**

### **Introduction**

The Pale Rock Sparrow breeds only in the Middle East. Large population are found in Lebanon and Iran, with smaller number known to breed in a number of other countries including Turkey, Syria and Armenia. The species is a summer visitor to the region, arriving in late April and remaining into early September, wintering around the Arabian Gulf and southern Red Sea. Although not currently globally threatened and still abundant in the Lebanon, a significant proportion of the world population breeds on the hillsides of Lebanon. This lays special responsibility on the conservationists in the Lebanon to ensure the population's well being in this region. The species is found on hillsides with low scrubby vegetation often of a degraded nature, and as such often falls in areas of only limited interest to conservationists apart from being the breeding grounds of this species. In Lebanon, small numbers are founded in the Arz al Shouf protected area, but the vast bulk of the specie's population falls outside protected areas. The same pattern is found in the other countries where this species breeds, so it would clearly be a wise precaution to protect some of the most important areas for this species in the Lebanon. Suitable concentrations have been found breeding on the hillsides above Ammiq. Thus attempts should be made to protect and wisely manage certain parts of these areas for the species as part of many conservation project at this site. This paper summarises the preliminary findings of research carried out by Colin Beale and Andy Sprenger of A Rocha Lebanon investigating the detailed habitats requirements of this species in this area. Although results presented here are expected to be broadly correct, it should be noted that these results are only preliminary, and continued research is expected to expend to increase their accuracy. Further research is planned for the 2001 breeding season, and it is hoped that modest funding will be granted for this project.

### **Breeding season**

Like many birds the Pale Rock Sparrow raises two broods (families) in the Lebanon. Remarkably, and unlike any other species known to the team of A Rocha Lebanon, these two broods are raised in two different habitats. The first brood is raised immediately on arrival in late April on the lowest slopes of the hillside above the Bekaa Valley. This brood is completed, and the young are independent of their parents within six weeks, when the birds appear to move from the lower slopes to structurally similar habitats above the tree line on tops of the Barouk Ridge.

### **Preferred structure at both heights**

Tree cover (over 2m): Preferred 0%, maximum 10%

Bare earth: Preferred 50%, 20% minimum, 80% maximum

Herb cover: Preferred 50%, 10% minimum, 75% maximum

Stoecanthus cover: Preferred 20%, 0% minimum, 50% maximum

Shrub cover (1to2m): Preferred 0%, maximum 20%

Although preferred habitats on both the lower slopes where the first brood is raised and the higher slopes, where the second brood is raised are structurally similar, the habitats are formed by different communities of plant species. Thus it appears that

species makeup is of lower importance to the structural form of habitats. Clearly, therefore any management of the area that will change the structure of the habitats is likely to affect the suitability of such habitats for Pale Rock Sparrow.

### **Conclusions**

Several patches of habitats on the Jebal Barouk above the Aammiq marches already hold high breeding densities of Pale Rock Sparrow. In light of the importance of the Lebanon as a breeding area for this species, it is recommended that these slopes be managed in a way sensitive to the needs of this species. The species has a strong aversion of trees, implying that complete reforestation of this area would cause the local extinction of the species. Furthermore, the type of habitats preferred by this species is maintained by grazing at a certain pressure (see below figures). Clearly too much grazing by goats or sheep will completely denude the cover of the hillside, and in such areas where herb cover is minimal and bare earth highest the species cannot breed. However, complete removal of grazing would allow gradual regeneration of woodland, a process that is equally unacceptable to the Pale Rock Sparrow's habitats requirements. A balance between over and under grazing is therefore necessary to achieve and maintain the habitat structure preferred by this species. Indeed, complete removal of goats by the Arz al Shouf protected area at the top of the Jebal Barouk has already resulted in an increase in ground cover in this area - if this process continues unabated before long the region where the birds breed for a second time in the season will become unsuitable and the birds will be lost as a breeding species in the Protected Area.

### **Recommendation**

For the lower slopes of the Jebal Barouk; where active management changes are imminent; it is recommended that space is left for breeding Pale Rock Sparrows, in order to maintain the highest diversity of wildlife in the Aammiq area. It is recommended that when reforestation takes place the area currently with the highest populations of Pale Rock Sparrows be left as they are. Instead of becoming forest or orchards, it is recommended that these areas be managed for the benefit of the Pale Rock Sparrow. Such management will include the use of goats and sheep to graze the area in a controlled and managed way to prevent encroachment of trees and to avoid overgrazing of the site aside areas. The precise requirements of such grazing are one subject of a study due to be completed in summer 2001. Further research is also to be carried out to determine whether there are detailed habitats requirements, including the possibility of a need for certain species of plant within the herb layer that is hidden in the present preliminary results.