

Distribution of the Striped Hyaena (*Hyaena hyaena syriaca* Matius, 1882) (Carnivora: Hyaenidae) in urban and rural areas of Lebanon

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Abstract. Striped Hyaenas (*Hyaena hyaena syriaca*) remain widely distributed across Lebanon, as revealed from a compilation of sources ranging from newspapers, to oral and official ministerial reports. They were observed in both urban and rural sites, and across non-protected and protected areas in all governorates, except in the densely populated capital Beirut. Interactions between Striped Hyaenas and people were studied in six identified sites representing a range of ecological, socio-economic and conservation-related conditions. Indirect signs determined by transect surveys of Striped Hyaenas, including footprints, hairs and scats, which were conducted from September 2002 to August 2003, indicate differences in the relative abundance of Striped Hyaenas between the different study sites. Very few indirect signs of Striped Hyaenas were noted in the two nature reserves studied, with more signs outside of these reserves in both urban and rural settings.

Key words. Striped Hyaena, *Hyaena hyaena syriaca*, distribution, Lebanon, urban, rural, nature reserves

Introduction

Successful management of wildlife depends on information on its status, including its abundance, distribution and population trends. Two main approaches have been used to estimate animal abundance: direct methods that involve counts of animals, or indirect methods that involve counting their signs (WILSON & DELAHAY 2001, SADLIER et al. 2004).

Among direct methods, a wide range of approaches has been developed for counting animals (SEBER 1982, BROUCHERS et al. 2002), including individual recognition, capture recapture methods, radio tracking, and camera trapping and spotlight surveys. However, gaining suitable data on abundance through direct methods can prove highly problematic for many species of wildlife. For example many species of large carnivores are difficult to detect, because they are nocturnal, and they live at relative low densities, over large areas and in closed habitats (LINKIE et al. 2006). Therefore, applying many of these direct and labour-intensive methods to large mammalian carnivores raises considerable logistical, manpower and cost issues (WILSON et al. 2003, SADLIER et al. 2004), especially when such surveys need to be carried out over large landscapes, say regionally or nationally (WEBBON et al. 2004).

By contrast, indirect methods involve collating information on field signs, such as droppings or scats, footprints, hair, burrows or dens, to gain measurements of relative abundance (MOWAT & STROBECK 2000, WILSON et al. 2003, SADLIER et al. 2004, WEBBON et al. 2004). Indirect methods are potentially more practical for large-scale surveys, less expensive, do not