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Traditional Arabic Palestinian ethnoveterinary practices in animal health care: A field survey in the West Bank (Palestine)



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ABSTRACT

Background: In Palestine, medicinal plants have continued to play a vital role in fulfilling animal healthcare needs of rural communities. However, these valuable resources are being depleted mainly due to over-harvesting, inappropriate agricultural practices (e.g., over use of herbicides), agricultural expansion, and over-grazing. Therefore, immediate action is required to conserve these resources and document the associated knowledge. The purpose of this study was, thus, to document and analyze information associated with medicinal plants that are used in managing animal health problems in the West Bank, Palestine.

Materials and methods: Ethnobotanical data were collected from Apr 2012 to Feb 2014 mainly using semi-structured interviews with informants sampled using purposive sampling technique and through field observations.

Results: The study revealed the use of 138 medicinal plant species in the West Bank for the treatment of several livestock diseases, of these 75 species representing 70 genera and 33 families were reported by 3 independent informants or above. Classification of the ethnoveterinary plant species cited by three informants or above used in a rank-order priority (ROP) based on their claimed relative healing potential has demonstrated that the following are the plants with the highest efficacy: *Camellia sinenses*, *Teucrium capitatum*, and *Salvia fruticosa* with ROPs of 97.1, 93.2, and 91.4, respectively, are used primarily to relieve gastric disorders. Gastrointestinal disorders is the disease group in the study area that scored the highest Informant consensus factor (ICF) value (0.90), followed by urinary, and reproductive disorders (0.89).

Conclusion: Our study provided evidence that medicinal plants are still playing important role in the management of livestock diseases, and showed that ethnoveterinary plants used in animal health care in Palestine have been also recorded in human Traditional Arabic Palestinian Herbal Medicine (TAPHM), and demonstrated a strong link between human and veterinary medical practices. This survey has identified a number of important medicinal plants used by the Palestinian farmers of the West Bank area for the treatment of various animal ailments. It provides a baseline for future phytochemical and pharmacological investigations into the beneficial medicinal properties of such plants.

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1. Introduction

Traditional ethnoveterinary therapeutics prepared by humans, for the purposes of maintaining or restoring animal health, play a significant role in several regions of the world especially in areas where livestock is a main source of income for rural peoples (Bartha et al., 2015). In contemporary rural Middle East and North Africa Region (MENA), ethnoveterinary medicine (EVM) was practiced as early as 1800 BCE at the time of King Hamurabi of Babylon, who enacted laws on veterinary fees and charged for

treating cattle and donkeys (Scillhorn van Veen, 1996). Ethnoveterinary therapeutics often contains ingredients originated from various locations within the environment, including plants, animals and minerals. However, there is a greater interest in ethnoveterinary uses of local plants due to several reasons including (a) EVM often provides cheaper options to allopathic medicine; (b) chemical treatments on animals are suspected of leaving residues in animal products; (c) a number of drugs once thought indispensable to breed animals, such as antibiotics used as growth promoters or used to prevent ailments such as respiratory problems are being phased out; and (d) parasites develop resistance to chemicals worldwide and treatment become inefficacious. These constraints have triggered recent surveys of ethnoveterinary practices around the Mediterranean (e.g., Morocco, Algeria, Spain,

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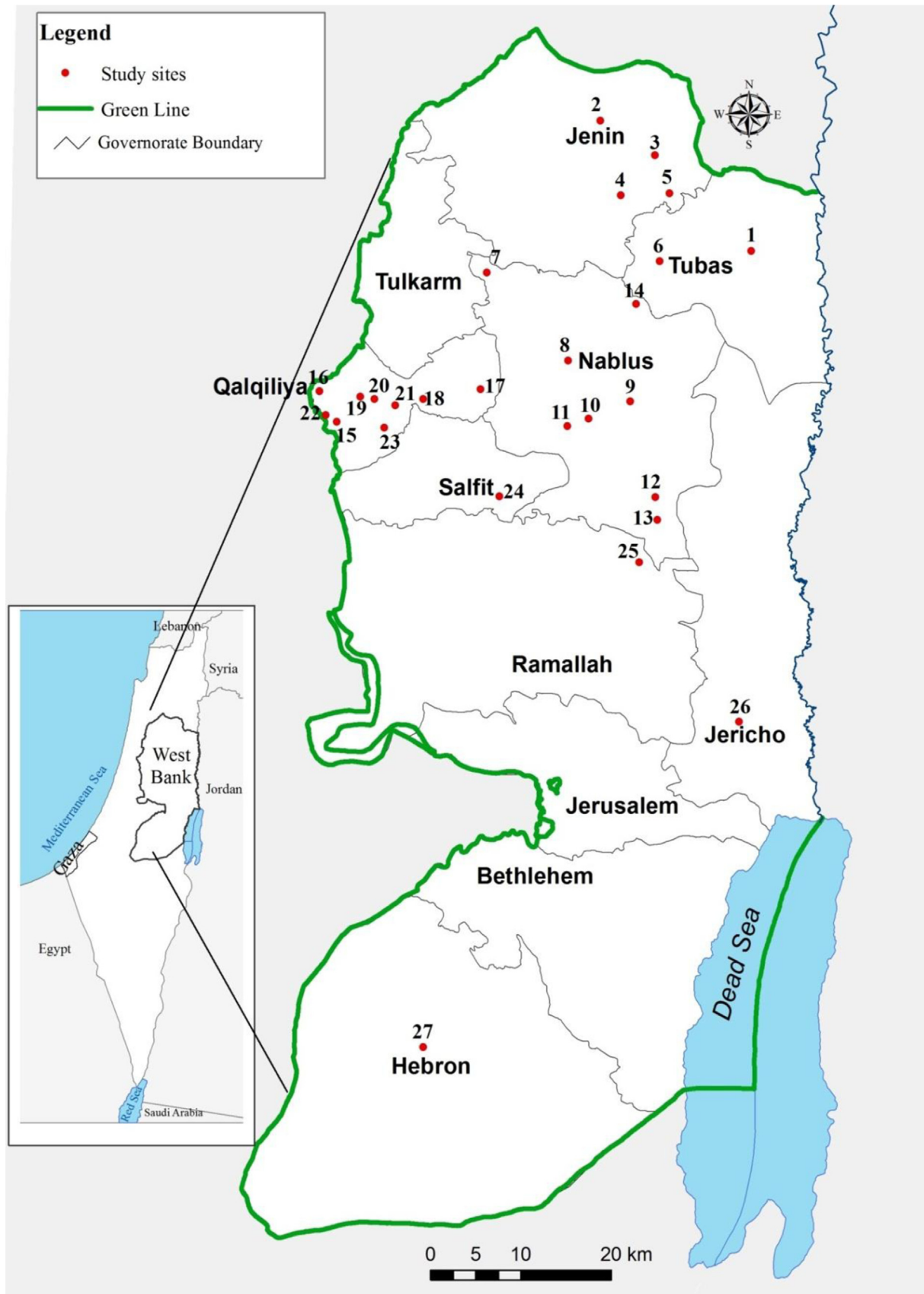


Fig. 1. Map of the West Bank, Palestine showing study sites: 1, Al Malih; 2, Jenin; 3, Jalqamus; 4, Az Zababida; 5, Raba; 6, Tubas; 7, Bizzariya; 8, Nablus; 9, Beit Furik; 10, 'Awarta; 11, Huwwara; 12, Majdal Bani Fadil; 13, Duma; 14, Wadi al Far'a; 15, Ras'Atiya; 16, Qalqiliya; 17, Immatin; 18, Kafr Laqif; 19, An Nabi Elyas; 20, 'Izbat at Tabib; 21, 'Azzun; 22, Habla; 23, Kafr Thulth; 24, Salfit; 25, Al Mughayyir.

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