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Inventory of Weeds Associated with the Apple Growing in Kabylia Tizi Ouzou

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Abstract

The present study concerns the inventory of weeds associated with apple crop in Tizi-Ouzou region (the great Kabylia) in Algeria. Sampling was carried out by direct collection during a study period ranging from November 2014 to October 2015and which allowed us to note the presence of 21 species of plants divided into 19 families belonging to 18 orders. This inventory is realized in order to expand knowledge and to identify plants accompanying apple.

INTRODUCTION

A weed is an herbaceous or woody plant, which is in an agro-ecosystem without have been intentionally installed there. It roughly corresponds to the expressions weeds or wild grasses in common parlance (Mamarotand Rodriguez, 2014). Weed species can be beneficial, neutral or harmful to human activities depending on the context in which they grow. The term weed more specifically designates a plant whose presence is undesirable at a given location (Maroufand Reynaud, 2007).

The term is sometimes used outside the agronomic field; we find the name adventitious of watercourses for plants, which hinder by their development nautical activities or weed of permanent meadows (Jauzein, 2011).

In this context, it seems interesting to us to inventory the flora accompanying the cultivation of apple trees, at the level of several plots of different varieties in the Tizi-Ouzou region in Greater Kabylia in Algeria, and thus increase our knowledge of their ornamental, toxic, food or medicinal uses.

MATERIELS AND METHODES

The study was carried out on several apple plots in the Tizi-Ouzou region (Figure 1) with several varieties, namely: Anna, Golden delicious, Red delicious and Dorset golden, during the period from November 2014 to October 2015 covering the periods of vegetation, flowering and fruiting of the apple tree. Weed plants were sampled by the direct sampling method at the rate of one trip per month.

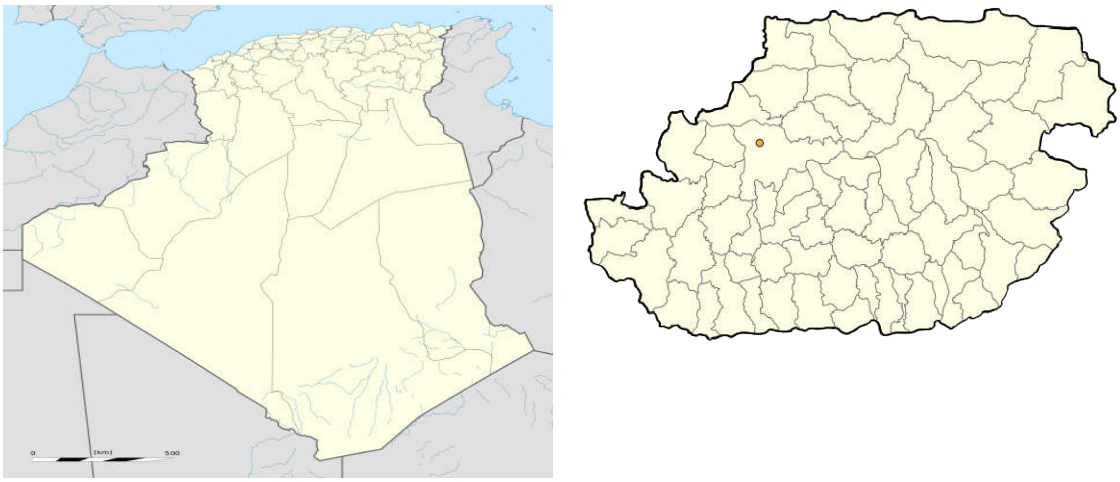

Figure 1: location of the study area in Kabylia region of Algeria

In laboratory

All samples collected in the field are brought back to the laboratory for sorting, dried separately in newspaper sheets with books on top to speed drying. Once the samples are dried, they are in order, the family, to arrive at the species when possible.

Identification

The determination of weed species is achieved through the invaluable assistance of Mr Asla teacher at Mouloud MAMMERI University in Tizi-Ouzou.

RESULTS AND DISCUSSIONS

During this study, we succeeded in sampling 21 species divided into 19 families belonging to 18 orders. Table 1 group together the different weed species identified during our sampling in apple plots.

Table 1: List of species of weeds inventoried

Orders	Families	Species
Polypodiales	Dennstaedtiaceae	*Pteridium equilinum*
	Aspleniaceae	*Asplenium trichomanes*
Ericales	Primulaceae	*Cyclamen africanum*
Lamiales	Lamiaceae	*Salvia sclarea*
Asterales	Asteraceae	*Inula viscosa*
		Senecio sp
		Sonchus sp
Liliales	Discoreaceae	*Tamus communis*
Capparales	Brassicaceae	*Sinapsis arvensis*
Apiales	Apiaceae	*Daucus carota*
Malvales	Malvaceae	*Malva sylvestris*
Primulales	Primulaceae	*Anagallis arvensis*
Geraniales	Oxalidaceae	*Oxalis perscapae*

Solanales	Convulvulaceae	*Convulvulus althaeoides*
Myrtales	Myrtaceae	*Myrtus communis*
Rosales	Rosaceae	*Rubus ulmifolius*
Boraginales	Boraginaceae	*Borago officinalis*
Fabales	Fabaceae	*Trifolium* sp
Polygonales	Polygonaceae	*Rumex crispus*
Poales	Poaceae	*Avena sterilis*
Theales	Clusiaceae	*Hypericum* sp
18	19	21

The species of the herbaceous layer are identified by Mr Asla T., teacher at the department of biology of the UMMTO. This layer is composed by the fern (*Pteridium equilinum*), the cyclamen (*Cyclamen africanum*), clary sage (*Salvia sclarea*) ; the capillary of the walls (*Asplenium trichomanes*) which is a plant known for its medicinal properties. Other species have also been identified as: viscous inule (*Inula viscosa*); common tamier (*Tamus communis*), wild mustard (*Sinapsis arvensis*), wild carrots (*Daucus carota*), deer mauve (*Malva sylvestris*), the chickweed (*Anagalis arvensis*), Bermuda oxalis (*Oxalis pescaprea*), the false marshmallow bindweed (*Convolvulus althaeoides*), common myrtle (*Myrtus communis*), the bramble (*Rubus ulmifolius*), the rag (*Senecio*sp), borage (*Borago officinalis*) , the Clover (*Trifolium*sp), frizzy sorrel (*Rumex crispus*), the sow (*Sonchus* sp), wild oats (*Avena sterilis*), St. John's Wort (*Hypericum* sp), as well as many other species of grasses.

The results obtained allowed us to distinguish plants for therapeutic and medicinal use, plants for culinary and edible use, as well as toxic plants.

The fern *Pteridium equilinum*
The fern is a medicinal plant known for its virtues to treat bronchitis; it is also used as a green manure but remains toxic to livestock.

Clary sage *Salvia sclarea*
Clary sage is a plant with medicinal properties that can relieve stomach and colon ailments, it is also used in cooking as a flavoring plant.

The viscous *Inula viscosa*
The viscous inule has calming properties for rheumatic pain and healing. The dried leaves can be used as tobacco.

The common tamier *Tamus communis*
The common tamier is often used in pharmaceuticals, this edible plant and often confused with asparagus.

Wild mustard *Sinapsis arvensis*
Field mustard is used in the culinary arts, has digestive and appetizing properties, but is nonetheless toxic to animals.

The wildcarrot *Daucus carota*
The wild carrot is used in cooking.

Deer mauve *Malva sylvestris*
The deer mallow is known to be edible often in salad, we know it medicinal properties to know, it is an anti-inflammatory, relieves edema, softened the respiratory tract.

Scarlet pimpernel *Anagallis arvensis*
Scarlet pimpernel is toxic to farm animals.

Bermuda oxalis *Oxalis pescaprae*
Bermudas are known for their culinary use; often they season stews and soups. It quenches thirst with its refreshing properties.

The common myrtle *Myrtus communis*
The common myrtle is edible by its fruits; it is a medicinal plant which relieves heartburn, respiratory ailments, colds and bronchitis.

Bramble *Rubus ulmifolius*
The bramble is edible by its ripe fruits.

The Senecio *Senecio* sp
Senecio is a medicinal plant that treats menstruation disorders and pain, also treats chlorosis. It is an edible plant used in infusion or mixed in salad.

Borage *Borago officinalis*
Borage causes hepathotoxicity and carcinogenicity towards the consumer.

Clover *Trifolium* sp
Clover is an excellent fodder, it improves the quality of the soil; nevertheless it remains rich in hydrogen cyanide which ingested in large quantities causes the inevitable toxicity.

Fried sorrel *Rumex crispus*
Frizzled sorrel is rich in protein, vitamin A and iron but remains toxic to livestock.

The dairy *Sonchus* sp
The dairy is very popular in salads.

St. John's Wort *Hypericum* sp
St. John's Wort is an herb with medicinal properties, fighting against depression and mood disorders.

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