

The genus *Phillyrea* L. (Lamiales Oleaceae) in the Tlemcen Region (western Algeria)

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ABSTRACT

The aim of our work is to contribute to improving the systematics and faunistic of the genus *Phillyrea* L. (Lamiales Oleaceae) in the Tlemcen region (Western Algeria). In October 2016, *Phillyrea* leaves and fruits were collected from different plants at each of the following stations: Beni-Saf, Zarifet and Sidi Yahia. The plant material was prepared in a herbarium and then taken to the laboratory for identification and study also with the help of the known bibliography. Following most of the authors, the samples were attributed to *P. angustifolia* L. and *P. latifolia* L. We considered as present in the study area also specimens attributable to the “*media*” taxon almost always considered synonymous of *P. latifolia*.

KEY WORDS

Phillyrea; Tlemcen; Algeria; taxonomic; faunistic.

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INTRODUCTION

The genus *Phillyrea* L. (Lamiales Oleaceae) is distributed in the Mediterranean region, also naturalized in the Canary Islands and Madeira Island. It listed two species: *P. angustifolia* L., native to western and central Mediterranean Basin, Portugal to Albania, and *P. latifolia* L., native to the entire Mediterranean Basin, Portugal to Syria. Another species, *P. media*, is almost always considered synonymous of *P. latifolia*. In particular, *P. angustifolia*, commonly known as “*el ktem*, *tamthoula*” in Berber, closely resembles the olive tree, a plant widespread in Algeria (Quezel & Santa, 1962-1963); it is very useful to animals who use it as food and shelter and to humans who use it as a medicinal plant and in horticulture.

The aim of our work is to contribute to improving the current systematic and faunistic knowledge of the genus *Phillyrea* in the Tlemcen region (western Algeria).

MATERIAL AND METHODS

The Tlemcen region is part of the Oranie and covers most of the Tlemcen wilaya and a resort in the Ain-Temouchent wilaya. It is a region rich in landscape biodiversity and for this study three stations presenting important *Phillyrea* groupings were chosen.

Station 1. Béni-Saf is located east of the Traras Mountains with a northern exposure and an altitude of about 25 m. The station has a recovery rate of 5 to 6% on a slight slope of 10-20% with a silica substrate (Stambouli, 2010). This station is characterized by the dominance of *Pistacia lentiscus*, *Calicotome intermedia* and the different species of *Phillyrea*.

Station 2. Zarifet station is located on the northern slope of the Tlemcen Mountains, with an altitude of about 12 m. Its recovery rate is around 70%, with the dominance of *Quercus* sp., *Calicotome* and *Phillyrea*.

Station 3. Located between Sebdou and Sidi Yahia, at an altitude of 960 m, characterized by the dominance of the different species as *Phillyrea*, *Juniperus oxycedrus* and *Quercus ilex*.

In October 2016, we took samples of *Phillyrea* leaves and fruits from different plants present in the three stations covered by this study. These samples were stored in the herbarium and transported to the laboratory for species identification.

The books most consulted to facilitate identification were those of Coste (1900–1906), Battandier & Trabut (1902), Quezel & Santa (1962–1963) Guinocet & de Vilmorin (1975) and Dobignard & Chatelain (2012).

RESULTS AND DISCUSSION

The research carried out on the *Phillyrea* population in the study area allowed us to find the taxa mentioned below.

Phillyrea angustifolia is a 1 to 2 meters evergreen shrub with small, slender twigs, greyish smooth bark

leaves 0.5 to 1 centimeters wide and 2 to 3 centimeters long and dark green, linear, narrow, leaf borders are whole; the upper face is smooth and hairless; the underside of a lighter green. The flowers are whitish and 5 millimeters long; very short tube calyx at 4 divisions, corolla with 4 lobes spread 2 protruding stamens, short style with conical stigma.

The fruit is a drupe similar to that of blueberry; bluish, 2 to 5 millimetre round; and the dark purple mesocarp contains a fragile spherical beige endocarp inside a dark brown seed.

Phillyrea population named “*media*” are located in the rugged part of the beni Saf station. It is a medium-high shrub of 1.5 to 2.5 meters with branches always small and slender, smooth grayish brown bark. The leaves are dark green wider, linearly tossed, the edges of the leaf are toothed, 1 to 2 centimetres wide and 4 to 5 centimetres long. The upper face is always smooth and hairless, the underside of a lighter green. According to Quezel & Santa (1962–1963) this taxon is a subspecies of *P. angustifolia*, but it is almost always considered synonymous of *P. latifolia*.

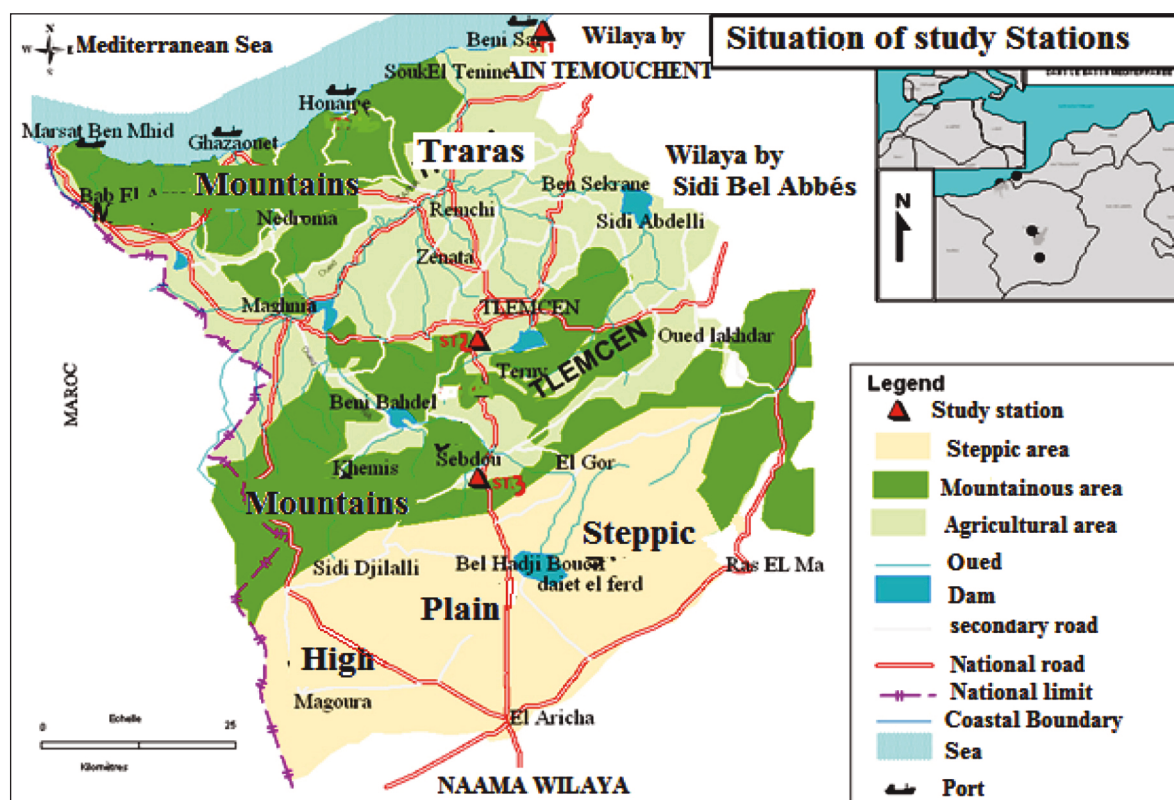


Figure 1. Study area: Tlemcen region (western Algeria).



Figure 2. *Phillyrea angustifolia* from the resort of Beni-Saf, Tlemcen region (western Algeria).

Figure 3. *Phillyrea* "media" from the resort of Beni-Saf, Tlemcen region (western Algeria).

Figure 4. *Phillyrea latifolia* from the resort of Zarifet, Tlemcen region (western Algeria).

Phillyrea latifolia is a small shrub of 0.5 to 1 meter, small twigs, and smooth brown-reddish bark. The leaves are 1 to 1.3 centimeters wide and 3 to 4 centimeters long, they are dark green, linear, narrow, the margins of the leaves have some very fine spines.

In the three locations studied, the *Phillyrea* populations were distributed as follows:

Beni-Saf station with *P. angustifolia*, *P. "media"* and *P. latifolia*.

Zarifet station represents two species: *P. angustifolia* and *P. latifolia*.

Sebdou station with only *P. angustifolia* and *P. latifolia*.

Phillyrea angustifolia and *P. latifolia* are very abundant in all resorts in the Tlemcen region, while the population attributable to *P. "media"* is present only in the Beni-Saf station.

CONCLUSIONS

It can be concluded that for the majority of authors, except Quezel & Santa (1962–1963), confirm the presence of this three morphotypes in the Tlemcen region (western Algeria).

The distinctions between these taxa are essentially based on traits of leaf morphology, characters that exhibit great variability: all intermediate forms

can be found between the leaf of *P. angustifolia* and that of *P. latifolia*.

Phillyrea angustifolia and *P. latifolia* are the most commonly accepted, while it remains very difficult to differentiate *P. media* from *P. latifolia*; the hybridization hypothesis has often been formulated on the basis of morphology (Clos, 1906; Regel, 1949; Sebastian, 1956).

Desplanque (1994) used chloroplastic markers (RFLP) to show that *P. angustifolia* and *P. latifolia* individuals from the same region shared the same chloroplastic types, and were closer to each other than individuals of the same species but from different regions (Languedoc, Morocco, Sicily). This result shows the existence of gene flow between *P. angustifolia* and *P. latifolia* (Vassiliadis, 1999).

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