

## Notas / Notes

### Presence of *Nacerdes (Xanthochroa) raymondi* (Mulsant & Godart, 1860) (Coleoptera, Oedemeridae) in western Maghreb (Northern Africa)

José L. Ruiz<sup>1</sup> & Mario García-París<sup>2</sup>

<sup>1</sup>Instituto de Estudios Ceutíes. Paseo del Revellín, 30. 51001 Ceuta. Spain.  
Email: [euserica@hotmail.com](mailto:euserica@hotmail.com) – ORCID iD: <https://orcid.org/0000-0001-5845-1638>

<sup>2</sup>Museo Nacional de Ciencias Naturales (MNCN-CSIC). C/ José Gutiérrez Abascal, 2. 28006 Madrid. Spain.  
Email: [mparis@mncn.csic.es](mailto:mparis@mncn.csic.es) – ORCID iD: <https://orcid.org/0000-0002-9361-9405>

#### ABSTRACT

We report the presence of an established population of *Nacerdes (Xanthochroa) raymondi* in the Autonomous City of Ceuta (Spain, northern tip of the Tingitanian Peninsula). This new record confirms the presence of *N. (X.) raymondi* in western Maghreb after more than half a century without data. The presence of *N. (X.) raymondi* in Ceuta extends its North African known range to the northwest, filling the distributional gap between the Algerian and the southern Iberian populations, and supporting the veracity of two old dubious northern Moroccan records (Rif and Middle Atlas). The specimens observed were attracted to lights at night, in different occasions during July and August. Morphological traits of the collected specimens are similar to those shown by Iberian specimens, confirming its identity with *N. (X.) raymondi raymondi* (Mulsant & Godart, 1860).

**Keywords:** Coleoptera; Tenebrionoidea; geographic range; Autonomous City of Ceuta; taxonomy; *Pinus* forests; false blister beetles.

#### RESUMEN

##### Presencia de *Nacerdes (Xanthochroa) raymondi* (Mulsant & Godart, 1860) (Coleoptera, Oedemeridae) en el Magreb occidental (Norte de África)

Se informa de la presencia de una población establecida de *Nacerdes (Xanthochroa) raymondi* en la Ciudad Autónoma de Ceuta (España, extremo septentrional de la península Tingitana). Este nuevo registro confirma la presencia de *N. (X.) raymondi* en el Magreb occidental, tras más de medio siglo sin datos al respecto. La presencia de *N. (X.) raymondi* en Ceuta extiende su distribución norteafricana hacia el noroeste, completando el vacío de registros entre las poblaciones argelinas e ibéricas, y apoya la veracidad de dos antiguas citas normarroques dudosas (Rif y Atlas Medio). Los ejemplares estudiados fueron atraídos por luces artificiales durante la noche, en diferentes ocasiones a lo largo de los meses de julio y agosto. Los rasgos morfológicos de los ejemplares ceutíes son similares a los de los ejemplares ibéricos examinados por lo que se confirma su identidad con *N. (X.) raymondi raymondi* (Mulsant & Godart, 1860).

**Palabras clave:** Coleoptera; Tenebrionoidea; distribución geográfica; Ciudad Autónoma de Ceuta; taxonomía; bosques de *Pinus*; edeméridos.

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The subgenus *Xanthochroa* Schmidt, 1844 (type species: *Oedemera carniolica* Gistel, 1834, by monotypy) has a wide distribution throughout the Holarctic and Oriental regions, with the highest diversity in the Eastern Palaearctic region. The subgenus encompasses about 80 species, four of them occurring in Europe and the Mediterranean basin (Švihla, 1991, 2008; Kriska, 2002; Vázquez, 2002; Tian *et al.*, 2014; Kubisz & Iwan, 2020). Among the latter, only one, *Nacerdes (Xanthochroa) raymondi* (Mulsant & Godart, 1860), is present in Northern Africa (Allemand, 1993; Kubisz & Iwan, 2020).

*Nacerdes (X.) raymondi* was described from “midi de la France” (as *Xanthochroa raymondi*) and also cited from Corsica (Mulsant & Godart, 1860: 161). Allemand (1993: 7) fixed a lectotype from Saint Raphaël (“St Raphaël”, Var, France), therefore, it becomes the type locality of the species according to the article 76.2 of the International Code of Zoological Nomenclature (ICZN, 1999). *Nacerdes (X.) raymondi* presents a relatively broad geographic range, subdivided in isolated populations grouped in three subspecies (Kubisz & Iwan, 2020): 1) *N. (X.) raymondi raymondi*, distributed in south-eastern France (departments of Bouches-du-Rhône, Var, Vaucluse, Drôme and Alpes-Maritime; Allemand, 1993, 2003; Fadda, 2016), eastern Spain (provinces of Barcelona, Tarragona, Castellón, Valencia, Alicante, Murcia, Albacete, Guadalajara, Jaén and Málaga; Vázquez, 1989, 1993, 1995, 2004; Vázquez & Švihla, 1990; Lencina *et al.*, 2008), and very localised in Northern Africa (Algeria and doubtfully Morocco) (Peyerimhoff, 1918; Allemand, 1993; Vázquez *et al.*, 2017); according to Allemand (1993, 2003) the old records from Corsica are likely misidentifications; 2) *N. (X.) r. ciliciensis* Švihla, 1991, known from southern Anatolia (Taurus mountain range, Turkey) and the Island of Rhodes (Greece) (Švihla, 1991; Kubisz *et al.*, 2007; Kubisz & Iwan, 2020), separated from the nominal subspecies by a gap of, at least, 2000 km by air; 3) *N. (X.) r. canyellesi* Vázquez, 2006, only known from from Mallorca (Tramuntana mountain range) (Balearic Islands, Spain) (Vázquez, 2006; Núñez *et al.*, 2016; Vázquez *et al.*, 2017; Kubisz & Iwan, 2020).

Allemand (1993) established the synonymy between *N. (X.) raymondi* and *Xanthochroa barbara* Peyerimhoff, 1918. *Xanthochroa barbara* was described based on a single male specimen from “Bois de Boulogne, près Alger” (Algeria) that emerged from a branch of *Pinus halepensis* Mill. (Peyerimhoff, 1918). Until Allemand’s work (1993), who revised the holotype of Peyerimhoff’s species, the Iberian and central Maghreb (Algeria) populations were named as *N. (X.) barbara* (see Vázquez & Švihla, 1990; Vázquez, 1990, 1993, 1995). Kocher (1964: 85) recorded *N. (X.) raymondi* [sub *Xanthochroa raymondi* Muls. (s. lat.)], with

doubts, from the Rif mountain range, specifically from “Talass-n-Tane, alt. 1800 m.” (= Talassemtane National Park, province of Chefchaouen, 35°07’N-5°06’W), pointing out that it was an uncertain identification on a single specimen, housed at the Institut Scientifique Cherifien (ISC, Rabat, Morocco); latter, added the locality of Tafechna (= Taftechena, province of Khenifra, 32°55’22”N-5°31’34”W, 1400 m.a.s.l.) [Kocher, 1969: 67; sub “*Xanthochroa reymondi* Muls. (s. lat.)” *sic!*], in the Middle Atlas, also on a single specimen (ISC). Both Moroccan records, unconfirmed to date, have been ignored by subsequent authors. Therefore, the only reliable locality of *N. (X.) raymondi* in Northern Africa, so far, is Algiers (north central Maghreb), since the “Bois de Boulogne” is now integrated into the urban centre of the Algerian capital, as a green area (36°45’03”N-3°02’40”E, 200 m.a.s.l.)

We recently detected an established population of *N. (X.) raymondi raymondi* in the Autonomous City of Ceuta (Spain, northeastern tip of the Tingitanian Peninsula). This is the first record of *N. (X.) raymondi* in Northern Africa after more than half a century, and confirms its presence in a large area, the western Maghreb (Moroccan geographic context). The presence of *N. (X.) raymondi* in Ceuta extends its North African known range to the northwest, supporting the veracity of the previous records provided by Kocher (1964, 1969), or at least the one referring to the western Rif (Talassemtane, about 100 km southeast of Ceuta) (Fig. 1). Specimens were identified according to Allemand (1993), Vázquez (1993, 2002) and Fadda (2016), including examination of the male genitalia. We have compared these specimens with four additional Iberian exemplars (see studied material paragraph). The examined material is preserved in the following collections: Museo Nacional de Ciencias Naturales (MNCN-CSIC) (Madrid, Spain); Centro de Colecciones de Zoología (CZGR) (University of Granada, Granada, Spain); and Col. J.L. Ruiz (JLR) (Ceuta, Spain).

STUDIED MATERIAL: Autonomous City of Ceuta (Spain): 35°54’45”N-5°22’23”W, 72 m, Parcela 114, Benzú, 25-VII-2018, J.L. Ruiz leg.: 1 ex., attracted to white actinic light (JLR); 35°54’03”N-5°22’01”W, 205 m, Pista de la Lastra, Arroyo Calamocarro basin, 31-VIII-2019, Zerynthia Association leg.: 1 ex., attracted to light trap (mercury tungsten blended lamp 250W) (JLR); 35°54’47”N-5°22’23”W, 62 m, Parcela 114, Benzú, 19-VII-2020, J.L. Ruiz leg.: 4 exx., attracted to light trap (mercury tungsten blended lamp 250W) (MNCN and JLR); *Idem*, 27-VII-2020: 6 exx. plus 3 exx. observed (MNCN and JLR). Andalusian Autonomous Community (Spain): Málaga: 36°51’50”N-3°58’14”W, 720 m, Río de la Llanada de Turvilla, Fábrica de la Luz, Canillas de Albaida, Sierras de Tejada, Almirajara y Alhama Natural Park, 28-VI-2015, C. Zamora leg.: 2 exx., attracted to light trap (CZGR and JLR); 36°34’47”N-5°17’56”W, 640 m, Camping Salitre, Algotocin, 4-VIII-2007, J.L. Ruiz leg.: 2 exx., attracted to white actinic light (JLR).

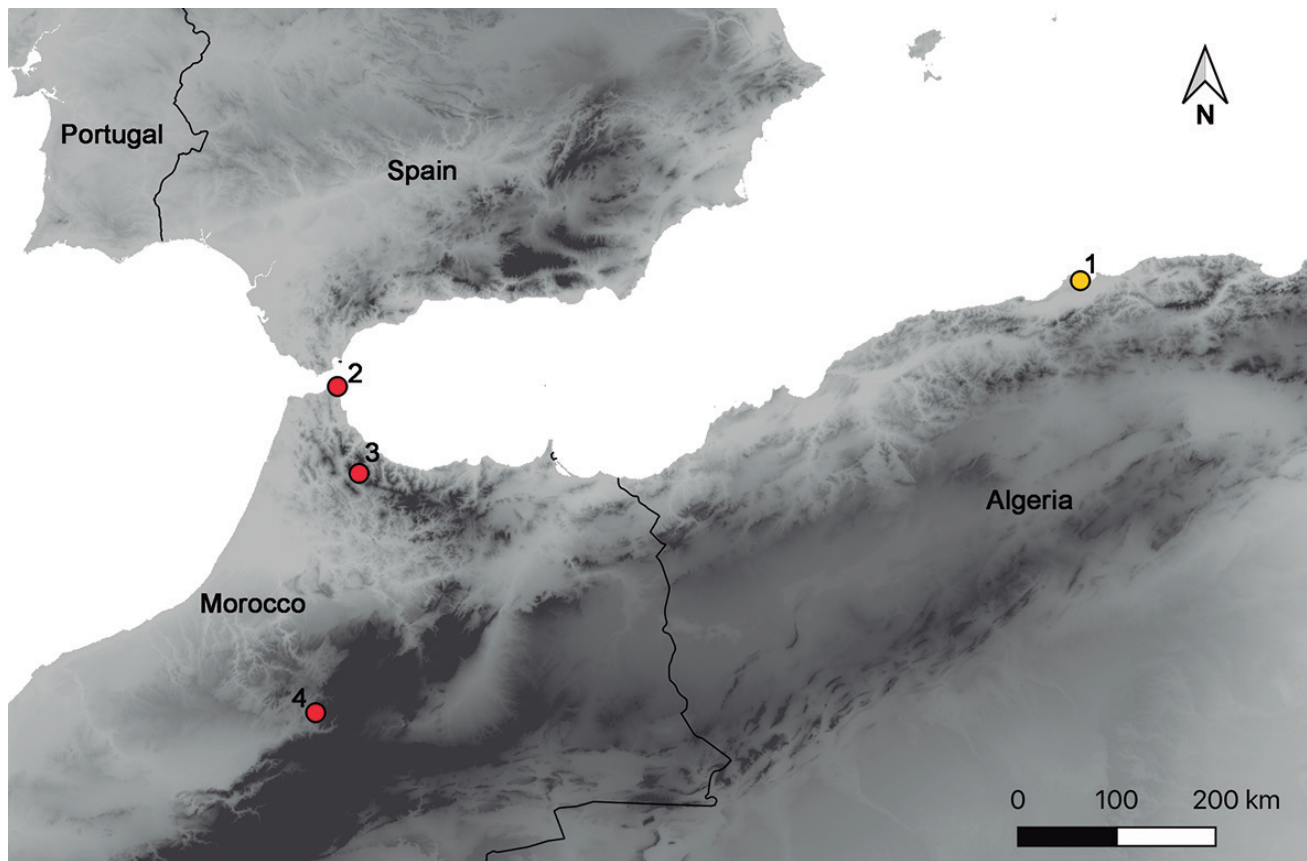


Fig. 1.— Map showing the known localities of *Nacerdes (Xanthochroa) raymondi raymondi* (Mulsant & Godart, 1860) in Northern Africa: 1. Algiers (Algeria), type locality of *Xanthochroa barbara* Peyerimhoff, 1918; 2. Autonomous City of Ceuta (Spain), new record; 3. Talassemtane (Rif, Morocco); 4. Tafechna (Middle Atlas, Morocco).

Fig. 1.— Mapa con las localidades conocidas de *Nacerdes (Xanthochroa) raymondi raymondi* (Mulsant & Godart, 1860) en el norte de África: 1. Argel (Argelia), localidad tipo de *Xanthochroa barbara* Peyerimhoff, 1918; 2. Ciudad Autónoma de Ceuta (España); 3. Talassemtane (Rif, Marruecos); 4. Tafechna (Atlas Medio, Marruecos).

The specimens from Ceuta are chromatic and morphologically similar to the south Iberian specimens studied (Fig. 2). The variability observed is scarce, perceptibly involving body size (length: 8.6-11.7 mm; mean= 9.53 mm, s.d.= 0.98; n= 12, 9 females and 3 males), the extension of the diffuse dark frontal spot, and the width of the dark bands on the elytral margins. No differences in male genitalia have been observed between Iberian and North African specimens. The specimens located in Ceuta correspond morphologically to the nominal subspecies (see Vázquez, 1993, 2002, 2006). *Nacerdes (X.) r. raymondi* differs from the Balearic subspecies, *N. (X.) r. canyellesi*, by the following traits: eyes distinctly more globose and larger, with shorter interocular distance, in the first; pronotum entirely yellow in *N. (X.) r. canyellesi*, being pale yellow with darkened sides in the nominal subspecies; and elytra uniformly dark brown in *N. (X.) r. canyellesi*, yellowish with dark brown sides in *N. (X.) r. raymondi* (Vázquez, 2006).

From a bioclimatic viewpoint, the places where *N. (X.) raymondi* has been found in Ceuta are situated in the upper thermo-Mediterranean horizon,

with a semi-humid ombroclimate (mean annual precipitation: 625 mm) (Chamorro, 1995). The habitat in this locations, very close to the coastline, is conformed mostly by cork oak (*Quercus suber* L.) patches with diverse undergrowth (*Myrta communis-Quercetum suberis* association), xeric scrublands mainly of *Calicotome villosa* (Poir.) Link in Schrad. (related to *Asparago aphylli-Calicotometum villosae* association) and scattered spots with pines (*Pinus halepensis*, *Pinus pinea* L., and *Pinus pinaster* Ait.) and non-native eucalypts (*Eucalyptus camaldulensis* Dehnh) (see Chamorro, 1995; Ruiz, 1995; Ugarte *et al.*, 2003). Both the pine and eucalyptus groves have their origin in reforestations carried out in the 50s-60s of the 20<sup>th</sup> century mainly (Navarro Capel, 1994; Chamorro, 1995). The observations of *N. (X.) raymondi* in Ceuta were made in the protected natural space “Calamocarro-Benzú” SCI-SPAs (surface area: 601.8 ha.), included within the Natura 2000 network (see Ciudad Autónoma de Ceuta & OBIMASA, 2020).

*Nacerdes (X.) raymondi*, a species with nocturnal habits, is apparently linked to Mediterranean pine forests (Vázquez, 1993; Lencina *et al.*, 2008). It has





Fig. 2.— Live specimen of *Nacerdes (Xanthochroa) raymondi* (Mulsant & Godart, 1860) from Ceuta, attracted to light trap.

Fig. 2.— Individuo vivo de *Nacerdes (Xanthochroa) raymondi* (Mulsant & Godart, 1860) en Ceuta, atraído a una trampa de luz.

been observed feeding at night in inflorescences of *Bupleurum fruticosum* L. (Lencina *et al.*, 2008). The data available indicate that the imaginal period of activity is between the beginning of July and the end of September (Peyerimhoff, 1918; Vázquez, 1993; Lencina *et al.*, 2008). Our observations were made within the known phenological range of the species, all of them on adults attracted to artificial light, as it is usual for this species (Vázquez, 1985, 1993, 2004; Lencina *et al.*, 2008). Caillol (1914) and Allemand (1993) commented that adult specimens were collected beating holm oaks (*Quercus ilex* L.) and cork oaks. Echave & Trócoli (2018) captured adult specimens of *N. (X.) raymondi* with wine-baited traps and Lencina *et al.* (2008) with flight interception traps. Larvae are saproxylophagous developing on dead wood of *Pinus* L., usually on *P. halepensis* (Vázquez, 1993, 2004; Bouget *et al.*, 2019).

The new records suggests the possibility that the apparent fragmentation of the North African populations of *N. (X.) raymondi* could be rather a result of lack of sampling in suitable areas (e.g. natural or reforested pine forest in mountain ranges; see

Charco, 1999), than to a real absence of the species at the Mediterranean areas of Morocco and Algeria (gap between Algiers and the western Rif). This fact is likely a consequence of the nocturnal imaginal habits (which requires the use of light traps for sampling) and narrow adult phenology (strictly summer), that make the species difficult to detect, as Vázquez (2004) already pointed out for Spain.

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