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Two new species of the genus *Jujubinus* (Mollusca, Trochidae) from the Canary Archipelago

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Abstract: Two species of the genus *Jujubinus* from Canary Islands are described and compared with their closest congeneric species.

Introduction: The Mediterranean species of the genus *Jujubinus* Monterosato, 1884 were revised by Ghisotti & Melone (1975). Many other papers deal with this group, mainly in the Mediterranean (Curini Galletti & Palazzi, 1980; Curini Galletti, 1982a, 1982b). Curini Galletti (1985) described two new species from the Canary Archipelago. In the latest revision of the genus made by Cretella (1992a, 1992b, 1993a, 1993b) the difficulty in the study of **Trochidae** species, particularly of *Jujubinus* is explained. That is due to the great intraspecific variability and interspecific similarity. For these reasons, in the neighbouring Atlantic and Mediterranean, more than 100 taxa names are known within this genus.

The species of this genus for the European and north African areas were mentioned in Poppe & Goto (1991). In other works (such as Nordsieck & García-Talavera, 1979), the species mentioned for the Canary Islands are numerous and not conforming with the actual names for the area. The species from the Cape Verde Archipelago are mentioned in Rolán & Templado (2001) and in Rolán (2005).

In CLEMAM (Taxonomic Database for European species in Internet) 15 taxa are mentioned for the European zone and nearby Atlantic archipelagos.

During the study of material from the Canary Islands, some species of the genus *Jujubinus* were considered different from all previously known species, and two of them are described in the present work.

Abbreviations

- BMNH The Natural History Museum, London
 MHNS Museo de Historia Natural, Santiago de Compostela (coll. E. Rolán)
 MNCN Museo Nacional de Ciencias Naturales, Madrid
 MNHN Muséum National d'Histoire Naturelle, Paris
 MNHC Museo de la Naturaleza y el Hombre, Santa Cruz de Tenerife
 CJMH collection of José María Hernández, Gáldar
 CFS collection of Frank Swinnen, Lommel
 CJH collection of Juan Horro, Vigo
 CRG collection of Ramón Gómez, La Palma

Jujubinus hernandezi sp. nov.

Figs 1-23, 45, 46

Type material: **Holotype** (Figs 1-2) in MNCN (15.05/47568). **Paratypes** in the following collections: MNHN (1), BMNH (1), MNHC (1), MHNS (2), CFS (33), all from the type locality. Other paratypes in: CRG (1) Santa Cruz de La Palma, CRG (2) Puerto de la Cruz, Tenerife, CJMH (20) from La Palma and (10) from NW Gran Canaria.

Type locality: Punta del Lajial, El Hierro, Canary Islands.

Distribution: The species was collected in La Palma, El Hierro, Tenerife and Gran Canary.

Description: Shell (Figs 1-22) conical with a slightly convex solid base with prominent spiral cords. Protoconch (Figs 23, 45, 46) small, with about 200 μ m of diameter. At the beginning of the teleoconch there are two cords, 3-4 in the following whorls. On the last one there are 4-5 cords up to the periphery. The upper one is larger and more

prominent than the subsequent ones; the 5th and most prominent forms the periphery; the presence of a larger cord below the suture gives the shells a stepped appearance. Below the periphery, there are another 5-6 spiral cords up to the base. Aperture rounded, columella almost vertical and no umbilicus.

The colour is white in the apex, whereas the first and second whorl are usually darker; the background of the shells is predominantly lilac or light violet, sometimes pinkish, greenish or dark blue, with axial blotches of white, frequently bordered anteriorly by a dark line.

Dimensions: The holotype is 3.0 mm. Most of the shells reach up to 3.5-4.0 mm. Some larger specimens reach up to 5 mm.

Etymology: The species is named after José María Hernández, malacologist of Gáldar, Canary Islands, recently deceased, who collected and photographed an important part of the material studied.

Remarks: The existence of numerous strong small spiral cords, the upper one being larger as well as the peripheral, are two characteristics not present in any other species of *Jujubinus* in Europe or in the Macaronesian islands.

Jujubinus gravinae (Dautzenberg, 1881) (Figs 33-39) usually has a darker green or light brown colour, the subsutural spiral cord is similar to the subsequent one, the lower spiral cord is more prominent than others and has nodules which are very evident even on the first whorl (Fig. 49). The colour is darker with a predominance of green or brown, and the lowest spiral cord has very regular white blotches.

Jujubinus poppei Curini-Galletti, 1985 (Fig. 42) and *J. guanchus* Curini-Galletti, 1985 (Fig. 43) are smaller, less angulous at the periphery and the upper spiral cord is never prominent. The colour and the pattern are different and darker.

***Jujubinus mabelae* sp. nov.**

Figs 24-32, 47, 48

Type material: **Holotype** (Figs 24, 25) in MNCN (15.05/47569). **Paratypes** in the following collections: MNHN (1), BMNH (1), MNHC (1), MHNS (75), CFS (5), CRG (2), CPR (2), CJMH (5) all from the type locality. In CJH (4) from Playa del Duque, Costa Adeje, Tenerife.

Other material examined: More than 200 juveniles and eroded shells from the type locality (MHNS). About 40 more in bad condition from Playa del Duque (CJH).

Type locality: Fañabé, Tenerife, Canary Islands, in sediments (5-27 m).

Distribution: The species is only known from the type locality and other places from Tenerife.

Description: Shell (Figs 24-32) conical with the base almost flat in juveniles or slightly convex in adults. Protoconch (Figs 47, 48) small with about 300 μm of diameter. At the beginning of the teleoconch there are 3 spiral whorls and in the next whorl they grow up to 5. These cords are variable in number and size. On the last whorl there are between 5 and 7. The subsutural one is sometimes wider but not more prominent than the subsequent ones; the lower one is larger and a little more prominent representing the periphery of the last whorl; below the periphery down to the base there are about 6-7 cords more. Aperture almost quadrangular, columella almost vertical, no umbilicus.

The colour is white in the apex; in the first-second whorls it is usually darker; the background of the shells is predominantly cream or whitish, with axial irregular brown blotches, which, on the lower cord, have a rectangular shape, being bordered anteriorly with a dark brown line.

Dimensions: The holotype is 4.7 mm. Largest shells reach up to 5.0 mm.

Etymology: The species is named after María Isabel Fraga "Mabel", director of the Museo de Historia Natural "Luis Iglesias" of the University of Santiago.

Remarks: The shells obtained from the type locality came from sediments from a rich tanatocenoses area and they look somewhat like subfossils. Anyway, the colour is well preserved. Furthermore, numerous shells were obtained from a different area having a fresh aspect but scarcely eroded.

The most important characteristics are the lower larger cord with alternating white and brown rectangles and a darker line.

Jujubinus exasperatus (Pennant, 1777) (Fig. 40) is usually of a reddish colour with white blotches, the cords being very nodulous.

Jujubinus gravinae (Dautzenberg, 1881) (Figs 33-39) has nodulous bumps on the lower spiral cord, which are evident in the teleoconch, even from the first whorl onwards (Fig. 49), and in the peripheral undulating profile on the last whorl. The protoconch (Fig. 50) is smaller, with around 200 μm . The colour is always darker and predominantly dark green.

Jujubinus striatus (Linné, 1758) (Fig. 41) is larger (up to 9 mm), more uniform, and its colour pattern does not have so many rectangles at the lower spiral cord.

Jujubinus poppei Curini-Galletti, 1985 (Fig. 42) and *J. guanchus* Curini-Galletti, 1985 (Fig. 43) are smaller, less angulous at the periphery and with fewer spiral cords. The colour and the pattern are different.

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Plate 1

1-23 : *Jujubinus hernandezi* sp. nov.

1-2: holotype, 3.0 mm, El Hierro (MNCN)

3-21: paratypes in CJH, La Palma.

22: paratype in CRG; 23: protoconch, La Palma (CJH)

Plate 2

24-32: *Jujubinus mabelae* sp. nov.

24: holotype, 4,7 mm, Fañabé (MNCN)

25: paratype, 4,3 mm (MHNS)

26-32: paratypes in MHNS (all between 3.3 and 3.8 mm)

33-39: *Jujubinus gravinae* (Dautzenberg, 1881), between 5.7 and 6.1 mm.:

39: 6.1 mm, form with strong nodules.

45-46: *Jujubinus hernandezi* sp. nov.

47-48: *Jujubinus mabelae* sp. nov.

49-51: *Jujubinus gravinae*, 8,3 mm, Gran Canaria.

40: *Jujubinus exasperatus* (Pennant, 1777) 8,3 mm, Gran Canaria

41: *Jujubinus striatus* (Linné, 1758), 8.6 mm, Lanzarote.

42: *Jujubinus poppei* (Curini-Galletti, 1985), 3.4 mm, holotipo (USNM).

43: *Jujubinus guanchus* (Curini-Galletti, 1985), 4.5 mm, holotipo (USNM).

44: *Jujubinus vexationis* Curini-Galletti, 1990, 3.4 mm, Lanzarote (CFS)

Plate 3: Protoconches and details.

45-46: *Jujubinus hernandezi* sp. nov.

47-48: *Jujubinus mabelae* sp. nov.

49-51: *Jujubinus gravinae*





