Notes on the nomenclature of the Macaronesian *Patella candei* d'Orbigny complex, with special reference to *Patella ordinaria* Mabille and *Patella crenata* Gmelin (Patellogastropoda, Patellidae)

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Patella candei d'Orbigny, 1840 is a taxon reported from the Azores, the Canary Islands, Madeira and the Selvagens Islands. The taxonomic status of the species has been the subject to several interpretations. Christiaens (1974) introduced the so-called *P. candei* complex encompassing four subspecies based on differences in shell morphology. Titselaar (1998) elevated two subspecies of the *P. candei* complex to species rank. Following recent morphometric and genetic research it has been recommended to elevate all four subspecies of the complex to full species rank. However, the nomenclature of these four species remained partly unclear. Here we show that the following names should be used: *P. candei* (predominantly Selvagens), *P. gomesii* Drouët, 1858 (Azores), *P. tenuis* Gmelin, 1791 (Madeira) and *P. ordinaria* Mabille, 1888 (Canary Islands). A lectotype is selected for *P. crenata* Gmelin, 1791 (resulting in its synonymy with *P. caerulea* Linnaeus, 1758) and for *P. teneriffae* Mabille, 1888 (resulting in its synonymy with *P. ulyssiponensis* Gmelin, 1791).

Key words: Gastropoda, Patellogastropoda, Patellidae, *Patella*, taxonomy, Macaronesia, Canary Islands, Madeira.

INTRODUCTION

Macaronesia comprises five ocean archipelagos: the Azores, the Canary Islands, Madeira, the Selvagens Islands and the Cape Verde Islands. Along the rocky shores many *Patella*-species can be encountered. In the past, researchers (e.g. Pilsbry 1891; Reeve, 1854/1855) considered the patellid species from Macaronesia to be conspecific with known species from the Mediterranean Sea and the European mainland. Other authors discerned the island dwellers from their mainland relatives and introduced new taxa e.g. *P. candei* d'Orbigny, 1840; *P. gomesii* Drouët, 1858; *P. ordinaria* Mabille, 1888. Christiaens (1974: 1323-1324) synonymized many taxa with *P. candei* and introduced the so-called *P. candei* complex containing four subspecies based on differences in shell morphology. In his sequence: *P. candei candei* mainly from the Selvagens Islands, *P. candei ordinaria* Mabille, 1888 mainly from Madeira, *P. candei crenata* Gmelin, 1791 (Auct.) mainly from the Canary Islands and *P. candei gomesii* Drouët, 1858 from the Azores. *P. candei* sensu lato does not occur on the Cape Verde Islands. Nevertheless, the taxonomic status of *P. candei* remained open to various interpretations. Whether the species from the different archipelagos should be given a specific status (species, subspecies) was and is at the heart of the debate. In the last twenty-five years several articles revealing patterns of variation in morphological and genetic diversity of *P. candei* have been published. Although these articles offered valuable insights, the results were often mutually inconsistent. Therefore, the taxonomic status of *P. candei* remained unsettled.

Côrte-Real et al. (1996) stated that *P. candei* could be considered as a Macaronesian endemic. Their most significant conclusion was that *P. candei* is not a homogeneous entity throughout the Macaronesian archipelago. The authors emphasized that the allozyme characters and the shape of the shells from specimens of the *P. candei* complex living in the Azores could clearly be distinguished from those of Madeira and the Canary Islands. The results indicated that populations from the Azores were isolated from those on the other Macaronesian islands. Furthermore, Côrte-Real et al. (1996: 150) stated: "Populations sampled in the Azores cannot be regarded as conspecific with those of Madeira and the Canaries". Nevertheless, the authors delayed a species designation for the Azores pending further research into the *P. candei* complex.

Titselaar (1998) elevated two subspecies of the *P. candei* complex to species rank: *P. gomesii*, from the Azores, and *P. candei,* mainly from the Selvagens Islands and Fuerte-

ventura (the Canary Islands). The remaining two subspecies were recognized as allopatric subspecies based on differences in shell morphology. Titselaar (1998) introduced *P. tenuis crenata* 'd'Orbigny, 1840' for the subspecies from the Canary Islands and *P. tenuis tenuis* Gmelin, 1791 for the subspecies from Madeira.

Weber & Hawkins (2002) studied the genetic and morphological structure of the *P. candei complex* on the Macaronesian Islands by allozyme electrophoresis and multivariate analysis. Their research demonstrated that the shape of the shell belonging to specimens of the *P. candei* complex could be discerned among the different archipelagos. The allozymes retrieved two well-differentiated groups. Therefore Weber & Hawkins (2002: 350) suggested that the two groups could be considered as two subspecies of *P. candei* with the denomination *P. c. candei – P. c. gomesii* for the Azores and the Selvagens Islands and the other combining *P. c. crenata – P. c ordinaria* for the Canary Islands and Madeira. About *P. c. crenata* the authors stated: "*P. c. crenata* is a hybrid with a high degree of introgression to *P. c. ordinaria*". The authors considered *P. c. candei* (the Selvagens Islands) to represent the ancestral form.

Sá-Pinto et al. (2005) studied the phylogeny and phylogeography of the genus *Patella* based on mitochondrial DNA. In their conclusion they stated: "According to our results *P. candei* is paraphyletic, with samples of this species from Canaries and Selvagens being more closely related to *P. lugubris* Gmelin, 1791 from Cape Verde than to *P. candei* from Azores and Madeira. This points to the necessity of a taxonomic revision of these taxa".

Sá-Pinto et al. (2008) studied the patterns of colonization, evolution and gene flow in species of the genus *Patella* in the Macaronesian Islands. The authors studied larval dispersal and pointed out that: "The presence of pelagic larvae in these species is shown to be insufficient to ensure gene flow between continental and Macaronesian populations and between the Macaronesian archipelagos". In agreement with Sá-Pinto et al. (2005) the authors clustered *P. candei* from Madeira and the Azores in one group (clade) and *P. candei* from the Canary Islands and the Selvagens Islands with *P. lugubris* from the Cape Verde Islands in another group.

Carreira et al. (2017) analyzed the genetic (mtDNA sequencing) and morphological variation among Macaronesian populations of *P. aspera* Röding, 1798, *P. rustica* Linnaeus, 1758 and *P. candei*. The latter displayed the highest levels of clade divergence. The phylogenetic analysis revealed a strong partitioning of three phylogeographic groups corresponding to 1. the Azores, 2. Madeira and 3. Selvagens and Canary Islands. The genetic/morphological congruence supported the recognition of at least three described *P. candei* subspecies within the *P. candei* complex. For the denomination the authors applied *P. c. gomesii* (the Azores), *P. c. ordinaria* (Madeira) and *P. c. crenata* (the Canary Islands). Pending further research the taxonomic status of the nominotypical subspecies remained unclear (Careirra et al. 2017: 13).

Faria et al. (2017) studied the *P. candei* complex and applied morphometric and molecular genetic methods to test subspecies boundaries in *P. candei* in order to evaluate its current population connectivity throughout Macaronesia. They emphasized the detection of a highly significant genetic break between archipelagos following isolation by distance. They stated: "Significant shell-shape differences among archipelagos were also detected using both distance-based and geometric morphometric analyses. Adaptive processes associated with niche differentiation and strong barriers to gene flow among archipelagos may be the mechanisms underlying *P. candei* diversification in Macaronesia". Their study revealed that the Azorean populations are the most isolated with the highest level of differentiation from the remaining archipelagos. The populations from Madeira and the Canary Islands display significant genetic differentiation. They concluded: "Under the very probable assumption that populations of *P. candei* from each archipelago are geographically and/or ecologically isolated populations, the various subspecies within the *P. candei* complex may be best thought of as true species".

SYSTEMATIC PART

Abbreviations: NBC = Naturalis Biodiversity Center, Leiden, The Netherlands; MNHN = Muséum national d'Histoire naturelle, Paris, France; NHMUK = Natural History Museum, London; SMF = Senckenberg Museum, Frankfurt am Main, Germany.

Superfamily Patelloidea Rafinesque, 1815
Family Patellidae Rafinesque, 1815
Genus *Patella* Linnaeus, 1758

***Patella caerulea* Linnaeus, 1758**

Patella caerulea Linnaeus, 1758: 782. Type locality: "Habitat in M[are]. Mediterraneo".
Patella crenata Gmelin, 1791: 3706. Type locality: "Habitat ad Africae, Malagae, Ulyssiponis littorae".

Remarks. — In his description of *P. crenata*, Gmelin (1791: 3706) referred to Lister (1770: pl. 537, fig. 16) (Fig. 1), which is most likely a figure of *Cymbula safiana* (Lamarck, 1819); to Buonanni (1709: 437, pl. e fig. 25) (Fig. 2), which is a modified figure as given by Lister (op. cit.); to Gual-

tieri (1742: pl. 9 fig. G) (Fig. 3), which represents *P. caerulea;* and to Martini (1769: 116-117, pl. 8 figs 64-65) (Figs 4-5), which represent *P. caerulea* and *P. depressa,* respectively. Gmelin mentioned "Habitat ad Africae, Malagae, Ulyssiponis" as localities. This excludes the Macaronesian archipelagos. Clearly, Gmelin's concept of *P. crenata* is a mixture of several species. In order to fix the identity of *Patella crenata* Gmelin, 1791 the shell of figure G on plate 9 of Gualtieri (1742) is here selected as its lectotype (Fig. 3). Consequently, *P. crenata* becomes a synonym of *P. caerulea*. Unfortunately, no locality is given by Gualtieri. Interestingly, Gualtieri refers under fig. G to Tournefort (1727: 294). In this publication, Tournefort describes and figures a *Patella* (figured on the plate as "Lepas") that was found at the northern part of the small island Ikaria (formerly called "Raclia" or "Nicaria") situated between the islands Shinoussa and Ios (south of Naxos, Greece). It is not known whether the shell figured by Gualtieri is derived from the Tournefort voyage. The Gualtieri collection is housed in the Carthusian monastery at Calci (Museo di Storia Naturale e del Territorio of the University of Pisa); it should be investigated whether the shell (i.e. the lectotype) is still present.

Patella ordinaria Mabille, 1888

Patella crenata — d'Orbigny 1840: 97; 1842: pl. 7 figs 6-8; MacAndrew, 1857: 146 (partim: non Madeira). Non *P. crenata* Gmelin, 1791 = *P. caerulea* Linnaeus, 1758.

Patella caerulea — Reeve, 1854: pl. 13 fig. 28. Non *P. caerulea* Linnaeus, 1758.

Patella ordinaria Mabille, 1888: 7. Type locality: "Les Iles Canaries, particulièrement à Sainte-Croix de Ténériffe". Lectotype (designated by Titselaar, 1998: 44, pl. 2 figs 7, 8) MNHN-IM-2000-4971.

Patella caerulea var. *crenata* — Pilsbry, 1891: 84, pl. 54 figs 12-14 (partim: non Azores). Non *P. crenata* Gmelin, 1791 = *P. caerulea* Linnaeus, 1758.

Patella lowei — Powell, 1973: 584, pl. 74 figs 1-2; Nordsieck, 1975: 3 (partim: non Azores), pl. 1 fig. 4. Non *P. lowei* d'Orbigny, 1840 = *P. ulyssiponensis* Gmelin, 1791.

Patella candei crenata — Christiaens, 1974: 1325-1326; Poppe & Goto, 1991: 69, listed as a form; Hernández-Dorta, 1992: 114-115, fig. 4 (right specimen). Non *P. crenata* Gmelin, 1791 = *P. caerulea* Linnaeus, 1758.

Patella conspicua — Nordsieck, 1975: 3, pl. 1 fig. 5; Nordsieck & García-Talavera, 1979: 42, pl. 4 fig. 11; Nordsieck, 1982: 11, pl. 5 fig. 08.19. Non *P. conspicua* Philippi, 1849 = *P. nigra* da Costa, 1771 (unavailable name, published in a non-binominal work – see Petit, 2013) = *Cymbula safiana* (Lamarck, 1819).

Patella nidulina — Nordsieck, 1975: 3, pl. 2 fig. 7; Nordsieck, 1982: 10 (partim: non Azores), pl. 4 fig. 08.09. Non *P. nidulina* Locard, 1898 = *P. lugubris* Gmelin, 1791.

Patella saxea Nordsieck, 1975: 4, pl. 2 fig. 10. Type locality: "Lanzarote" (= locality of the holotype; the paratype from Porto Santo is from the distribution area of *P. tenuis*).

Patella orbignyana Nordsieck & García-Talavera, 1979: 41, pl. 3 fig. 9. Nomen novum for *Patella crenata* sensu d'Orbigny, 1840 (non Gmelin, 1791).

Patella taslei — Nordsieck & García-Talavera, 1979: 44 (partim: non "Azores"), pl. 5 fig. 19. Non *P. taslei* Mabille, 1888 = *P. depressa* Pennant, 1777.

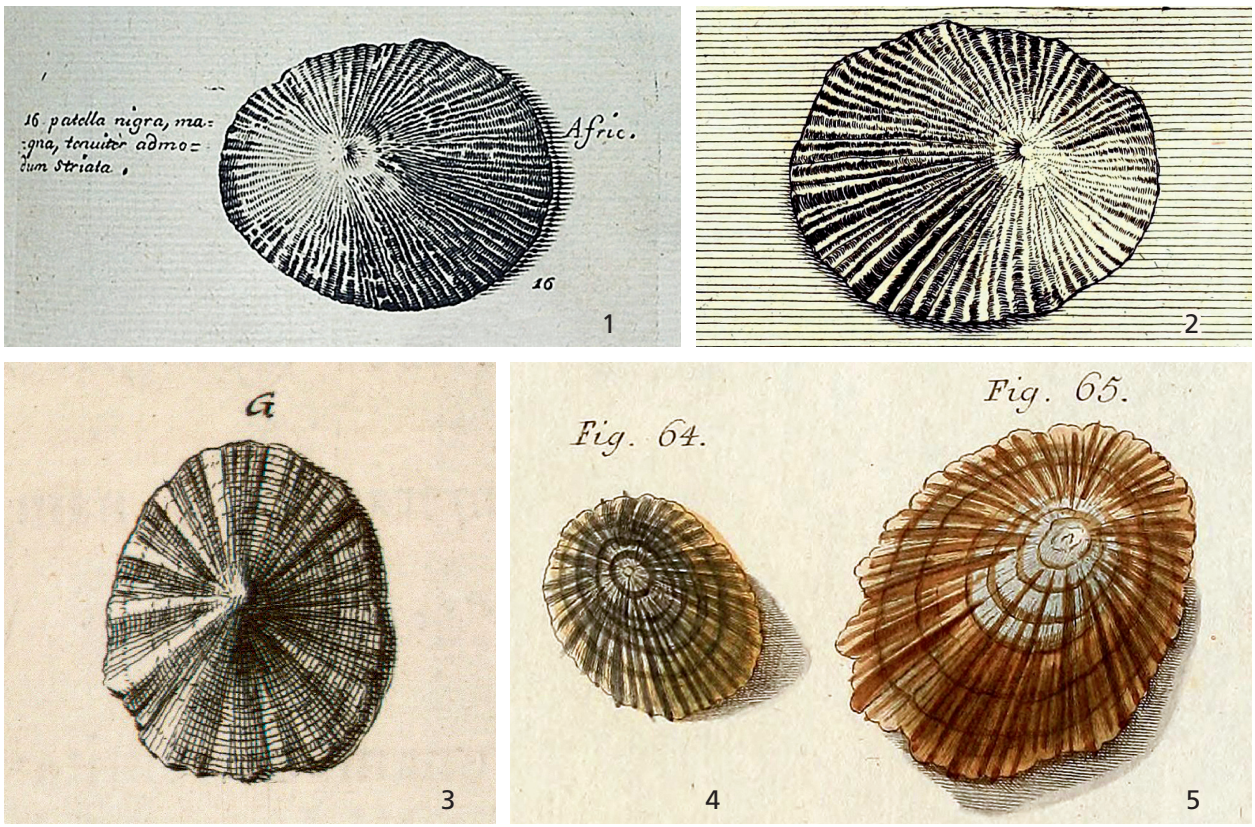
Patella dorbignyana [sic!] — Nordsieck, 1982: 11 (partim: non Azores), 294, pl. 5 fig. 08.18.

Patella tenuis crenata — Titselaar, 1998: 43-45, fig. 17, pl. 2 figs 1-8. Non *P. crenata* Gmelin, 1791 = *P. caerulea* Linnaeus, 1758.

Type material and synonymy. — Pilsbry (1891: 84) listed P. *crenata* as a 'variation' of *P. caerulea* and referred to d'Orbigny 1840. Pilsbry mentioned the Azores and the Canary Islands as localities. His illustrations (pl. 54 figs 12-14) represent *P. ordinaria* as discussed herein (his figs 12 and 13 are copied from d'Orbigny, whereas fig. 14 is an original drawing). The locality Azores must be an error, as *P. ordinaria* is endemic to the Canary Islands.

The species figured as *Patella caerule*a by Reeve (1854: pl. 13 fig. 28) is an excellent illustration of the species as discussed herein (*P. ordinaria*). Reeve mentioned "Teneriffe" as locality.

In 1840 d'Orbigny described and illustrated several species from the Canary Islands, including a species under Gmelin's name *P. crenata* (Fig. 6); Tenerife was specifically mentioned as locality. Christiaens (1974: 1325) referred to the publication of d'Orbigny and introduced "*Patella candei crenata* Gmel. (Auct.)" for his subspecies from the Canary Islands, as he realized that the taxon from the Canary Islands as mentioned by him and d'Orbigny is not conspecific with the concept of Gmelin regarding *crenata*. Several authors mentioned d'Orbigny as the authority of *crenata*, such as MacAndrew (1857: 146), Pilsbry (1891: 84) and Poppe & Goto (1991: 69). Nordsieck & García-Talavera (1979: 41) introduced the nomen novum *P. orbignyana* for *Patella crenata* sensu d'Orbigny, 1840 (non Gmelin, 1791). However, formally there does not exist a *Patella crenata* d'Orbigny, as d'Orbigny attributed the name correctly to Gmelin. Unfortunately, Titselaar (1998: 45) subsequently used the name *Patella tenuis crenata* d'Orbigny, 1840 for the taxon from the Canary Islands and designated a lectotype (Fig. 7) for this taxon (= NHMUK 1854.9.28.146/1; 6 paralectotypes NHMUK 1854.9.28.146/2-7) from the d'Orbigny collection. Since d'Orbigny did not introduce the name *crenata* (but merely misinterpreted the *crenata* of Gmelin), his material cannot be considered syntypes, and therefore the lectotype



Figs 1-5. The figures cited by Gmelin (1791: 3706) as belonging to his *P. crenata*. **1.** Copy from Lister, 1770: pl. 537 fig. 16 (as "Patella nigra, magna, tenuiter admodum striata"), representing *Cymbula safiana*. **2.** Copy from Buonanni, 1709: pl. e fig. 25, representing *C. safiana*. **3.** Gualtieri, 1742: pl. 9 fig. G, representing *P. caerulea*. Here selected as the lectotype of *P. crenata*. **4.** Copy from Martini, 1769: pl. 8 fig. 64, representing *P. caerulea*. **5.** Copy from Martini, 1769: pl. 8 fig. 65, representing *P. depressa*.

selection is invalid, as is the nomen novum *P. orbignyana* introduced in 1979 by Nordsieck & García-Talavera.

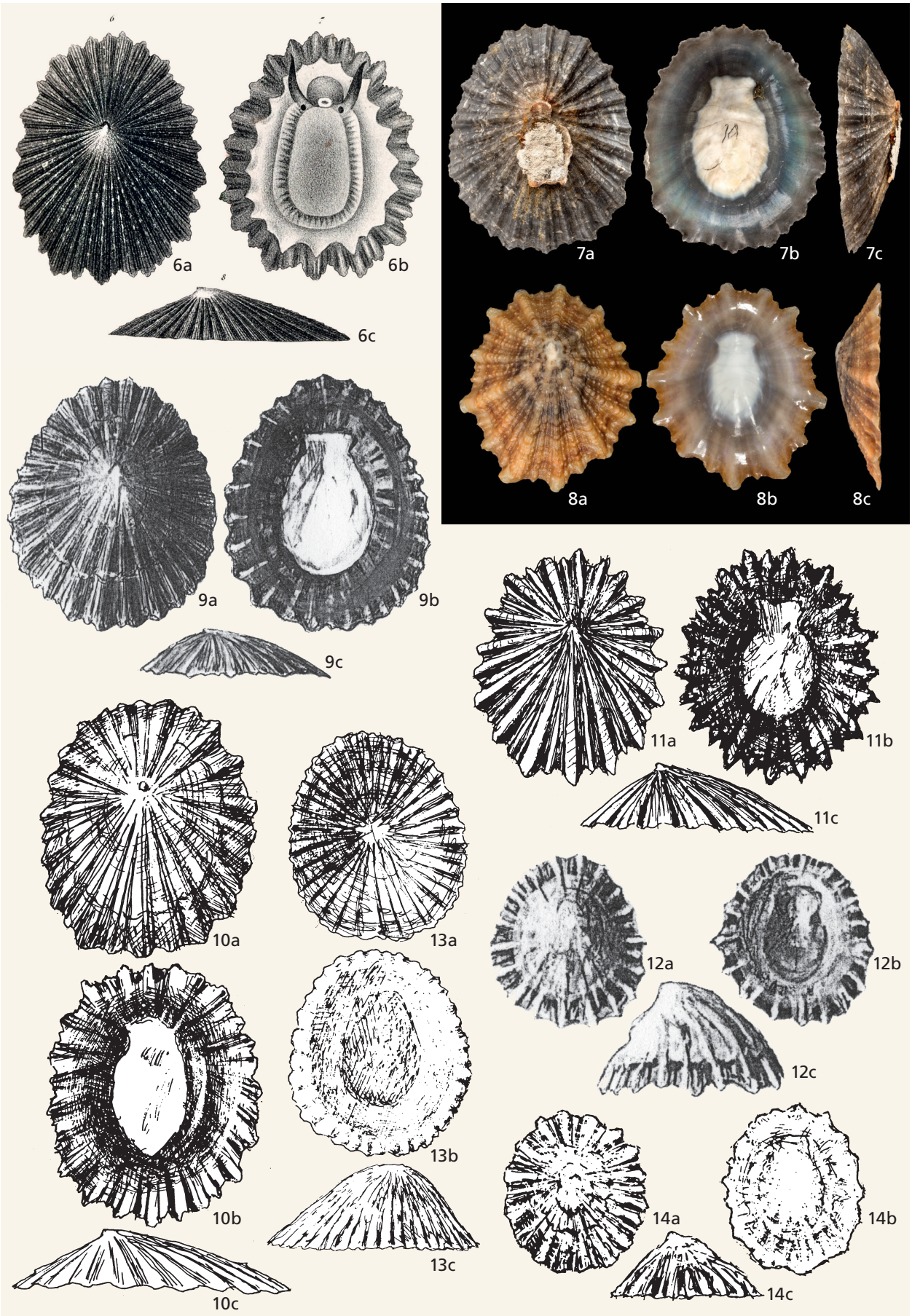
Patella lowei d'Orbigny, 1840, is well described and illustrated by its author (1840: 97; 1842: pl. 7 figs 9-10). The seven syntypes of *P. lowei* (NHMUK 1854.9.28.147) show that it represents *P. ulyssiponensis* Gmelin, 1791. The descriptions and figures of Powell (1973: 584, pl. 74 figs 1-2) and Nordsieck (1975: 3, pl. 1 fig. 4) under the name *P. lowei* (Fig. 10) are in my opinion quite recognizable as *P. ordinaria*.

Nordsieck (1975: 3, pl. 1 fig. 5) (Fig. 11), Nordsieck & García-Talavera (1979: 42, pl. 4 fig. 11) and Nordsieck (1982: 11, pl. 5 fig. 08.19) listed *P. conspicua* from Macaronesia, but their descriptions and illustrations represent *P. ordinaria*. In fact, *P. conspicua* Philippi, 1849 (syntype SMF 313946) represents *Cymbula safiana* (Lamarck, 1819), a species that does not occur on the Macaronesian archipelagos.

For *Patella ordinaria* Mabille, 1888 a lectotype (MNHN-IM-2000-4971) (Fig. 8) has been designated by Titselaar (1998: 44, pl. 2 figs 7-8) out of the two syntypes in MNHN. The species is endemic to the Canary Islands. Records from other islands are misidentifications. For example, Locard (1898: 91, pl. 5 figs 10-12) described and illustrated *P. ordinaria* from Branco (an uninhabited islet in the Cape Verde archipelago) and from the Desertas Islands (three narrow islands close to Madeira). However, Locard's figures show a flat, thin shell with a radiating rib pattern that resembles the typical *P. tenuis* from Madeira.

A problematic taxon is *Patella teneriffae* Mabille, 1888. It is based on two sources, namely from the collection of Roissy (MNHN) and from the collection of Cuming (as illustrated by Reeve). The shell illustrated by Reeve as *Patella caerulea* (1854: pl. 13 fig. 28) is in fact *Patella ordinaria* (see above). Mabille (1881: 80) wrongly stated "Madère (Reeve)" as its locality, since Reeve clearly mentioned "Teneriffe". The single syntype from the collection Roissy (MNHN-IM-2000-4990) from "Teneriffe" belongs to *P. ulyssiponensis* Gmelin, 1791. In order to fix the identity of *P. teneriffae* Mabille, 1888, this syntype is here selected as the lectotype (Fig. 15); *P. teneriffae* consequently becomes a synonym of *P. ulyssiponensis*.

The *P. taslei* as mentioned by Nordsieck & García-Talavera (1979: 44, pl. 5 fig. 19) (Fig. 12) most likely represents a conical shell of *P. ordinaria*. The 26 syntypes (MNHN-IM-2000-4986, MNHN-IM-2000-4987, MNHN-IM-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< Figs 6-14. Figures of specimens belonging to *P. ordinaria*. **6.** Copy from d'Orbigny, 1842: pl. 7 figs 6-8 (as *P. crenata*). **7.** The "lectotype" selected by Titselaar (1998: 45) of *P. crenata* sensu d'Orbigny (non Gmelin) (NHMUK 1854.9.28.146/1, ©Natural History Museum of London, photograph by Kevin Webb), 57 mm. **8.** Lectotype of *P. ordinaria* Mabille, 1888 selected by Titselaar (1998) (MNHN-IM-2000-4971, ©MNHN), 39 mm. **9.** Modified from Nordsieck & García-Talavera, 1979: pl. 3 fig. 9 (as *P. orbignyana*), 85 mm. **10.** Modified from Nordsieck, 1975: pl. 1 fig. 4 (as *P. lowei*), 68 mm. **11.** Modified from Nordsieck, 1975: pl. 1 fig. 5 (as *P. conspicua*), 57 mm. **12.** Modified from Nordsieck & García-Talavera, 1979: pl. 5 fig. 19 (as *P. taslei*), 30 mm. **13.** Modified from Nordsieck, 1975: pl. 2 fig. 7 (as *P. nidulina*), 56 mm. **14.** Modified from Nordsieck, 1975: pl. 2 fig. 10 (as *P. saxea*), 36 mm.

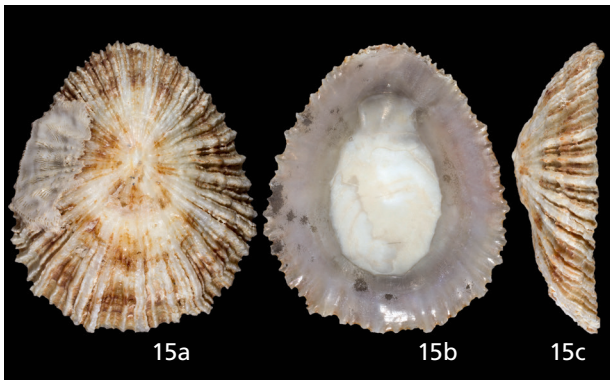

Fig. 15. *P. ulyssiponensis*. Lectotype (here selected) of *P. teneriffae* Mabille, 1888 (MNHN-IM-2000-4990, ©MNHN), 60.1 mm.

2000-4988, MNHN-IM-2000-4989) of *Patella taslei* Mabille, 1888 belong to *P. depressa* Pennant, 1777, a species that does not occur on the Macaronesian archipelagos.

The descriptions and illustrations of *P. nidulina* in Nordsieck (1975: 3, pl. 2 fig. 7) (Fig. 13) and Nordsieck (1982: 10, pl. 4 fig. 08.09) are also most likely representations of the species as discussed herein. The two syntypes (MNHN-IM-2000-4966 and MNHN-IM-2000-4967) of *Patella nidulina* Locard, 1898 are specimens of *P. lugubris* Gmelin, 1791. Since *P. lugubris* is endemic to the Cape Verde Islands, it means that the two type localities mentioned by Locard (1898: 89, pl. 5 figs 4-6) are incorrect.

The original figure of *Patella saxea* Nordsieck, 1975 (Fig. 14) is most likely a representation of the species *P. ordinaria*.

DISCUSSION

Faria et al. (2017) made the assumption that the four subspecies within the *P. candei* complex [sensu Christiaens] may be best thought of as true species using the denomination: *P. candei* (the Selvagens Islands), *P. gomesii* (Azores), *P. crenata* (the Canary Islands) and *P. ordinaria* (Madeira). Although I concur with their assumption, the nomenclature of the species should be partially corrected (see Table 1). Their application of the names *P. candei* and *P. gomesii* corresponds with that of Titselaar (1998). Christiaens (1974: 1325) introduced '*P. candei crenata* Gmel. 1791 (Auct.)' for his subspecies from the Canary Islands. Christiaens (1974: 1324) stated that the references listed by Gmelin (1791: 3706) do not correspond with the species from the Canary Islands. Nevertheless, he (1974: 1325) applied the epithet *crenata* for his subspecies from the Canary Islands and for that purpose referred to the illustrations and the description of Gmelin's *P. crenata* as provided by d'Orbigny (1840: 97). This has led to the misconception that d'Orbigny introduced a homonym *crenata* (e.g. Nordsieck & García-Talavera, 1979; Poppe & Goto, 1991; Titselaar, 1998). A precursor of this misconception was MacAndrew (1857: 146) who listed '*P. crenata* D'Orb.' in his report.

P. crenata Gmelin, 1791 is a mixture of different species. Consequently, it has been interpreted differently by various authors. For example, Drouët (1858: 40) and Dautzenberg (1889: 68) consider it a species from the Azores. Interestingly, the name *crenata* is now predominantly in use for

Authors	Madeira	Canary Islands	Azores	Selvagens
Christiaens 1974	*P. c. ordinaria*	*P. c. crenata*	*P. c. gomesii*	*P. c. candei*
Côrte-Real 1996	*P. candei*	*P. candei*	*P. gomesii ?*	*P. candei*
Titselaar 1998	*P. tenuis tenuis*	*P. tenuis crenata*	*P. gomesii*	*P. candei*
Weber 2002	*P. c. crenata – c. ordinaria*	*P. c. crenata – c. ordinaria*	*P. c. candei – c. gomesii*	*P. c. candei – c. gomesii*
Sá-Pinto 2005 + 2008	*P. candei*	*P. candei / lugubris ?*	*P. candei*	*P. candei / lugubris ?*
Carreira 2017	*P. c. ordinaria*	*P. c. crenata*	*P. c. gomesii*	*P. c. candei ?*
Faria 2017	*P. ordinaria*	*P. crenata*	*P. gomesii*	*P. candei*
This publication	*P. tenuis*	*P. ordinaria*	*P. gomesii*	*P. candei*

Table 1. Nomenclature of Macaronesian *Patella* species as used by various authors.

the species from the Canary Islands. However, the concept of Gmelin does not include the taxa of the *P. candei* complex. In order to fix the identity of *P. crenata*, a lectotype is here selected, resulting in the synonymization of *P. crenata* Gmelin, 1791 with *P. caerulea* Linnaeus, 1758.

As shown here, the oldest name for the endemic species of the Canary Islands is *P. ordinaria* Mabille, 1888. This name is often wrongly used for the species from Madeira. Titselaar (1998) showed that *P. tenuis* Gmelin, 1791 is the oldest name for the species from Madeira and deposited a neotype in the National Biodiversity Center (RMNH.MOL.59071). The pentagon look-alike shape of *P. tenuis* in Madeira stands out in comparison to the species from the Canary Islands (Faria et al., 2017). For a description of the morphological characteristics of both *P. ordinaria* and *P. tenuis* and a comparison between the two species I refer to Titselaar (1998: 43-47).

P. teneriffae Mabille, 1888 has been listed as a synonym of *P. candei* by Christiaens (1974: 1323), but the syntype MNHN-IM-2000-4990 (Fig. 15) represents *P. ulyssiponensis* Gmelin, 1791. Since the original description of *P. teneriffae* is based on a mixture of two species I have selected the syntype as the lectotype of *P. teneriffae*, thereby securing its identity with *P. ulyssiponensis*.

In conclusion, the following names should be used for the Macaronesian "*P. candei* complex": *P. candei* (predominantly Selvagens with some scattered records on the Canary Islands), *P. gomesii* Drouët, 1858 (Azores), *P. tenuis* Gmelin, 1791 (Madeira) and *P. ordinaria* Mabille, 1888 (Canary Islands).

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