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Formal Description of a New Subspecies of the European Robin from Gran Canaria Island, Spain (Aves: Muscicapidae: *Erithacus rubecula marionae* subsp. nov.)

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Abstract: Based on genetic and morphometric differences, Dietzen *et al.* (2003) [1] proposed to separate the Gran Canaria Robin from E. r. superbus of Tenerife as a new taxon in a nomenclaturally invalid way. Here, we provide a formal description of the new subspecies (*Erithacus rubecula* marionae subsp. nov.) in accordance with the rules of the International Commission of Zoological Nomenclature.

Keywords: *Erithacus rubecula marionae* subsp. nov, Gran Canaria Robin.

INTRODUCTION

Alone among the otherwise Afrotropical subfamily Cossyphinae [2, 3], the European Robin *Erithacus rubecula* (Linnaeus, 1758) is widely distributed in the Western Palearctic and occurs in the northeastern Atlantic as a resident bird on the oceanic archipelagos of the Canary Islands, Madeira, and the Azores. Dietzen *et al.* [1] studied the phylogeography of Robins in the Canary Islands using sequences of mitochondrial cytochrome b gene and morphometric data of specimens sampled, measured and then released. After analysis, the populations from the western Canarian islands (La Gomera, El Hierro, and La Palma) were referred to the nominate subspecies, in agreement with earlier authors [4]. Rodrigues *et al.* [5] showed that the populations of the Azores and Madeira too are the result of a fairly recent colonisation. However, the Robins from Tenerife and Gran Canaria, estimated to have arrived there around 1.8 and 2.3 million years ago, respectively, and both assigned to the endemic subspecies *E. r. superbus* Koenig (1889) [6], were shown to be distinct from the nominate subspecies and from each other in haplotypes, genetic distances and wing shapes.

Based on these differences, Dietzen *et al.* [1] proposed to separate the Gran Canaria Robin as a new taxon, which was named "*Erithacus [rubecula] marionae*".

However, an explicit designation of a name-bearing type for this name is missing, and as such the requirements set by Articles 16.4.1, 16.4.2 and 72.3 of the Code of the International Commission on Zoological Nomenclature [7] are not fulfilled. Although "*marionae*" is mentioned several times in subsequent literature, the lack of designated type material has not been noted or addressed, apart from in a pdf published on the internet [8], where it was stated in general terms "that this name appears not to have been validly introduced". To rectify this situation, and to make the name available for nomenclatural purposes, we herewith propose:

Erithacus rubecula marionae New Subspecies

Erithacus rubecula (nec Linnaeus, 1758) – Godman 1872: 175 ("Gran Canary") [9]

Erithacus "*rubecula* oder meine *superbus*" – Koenig 1890: 383 ("Gran Canaria") [10]

Erithacus superbus (nec Koenig, 1889) – Meade-Waldo 1893: 188 ("Grand Canary") [6]

Erithacus rubecula superbus (nec Koenig, 1889) [11] – Hartert 1901: 314 ("Gran Canaria.") [12]; Martin & Lorenzo 2001: 521 ("Gran Canaria") [13]

"*E. [r.] marionae*" Dietzen *et al.* 2003: 115, 128 (nomenclaturally invalid as no name-bearing type was explicitly designated) [1]

Erithacus rubecula superbus (nec Koenig, 1889) [11] – Dickinson 2003: 675 ("Gran Canaria I."; no mention of *marionae*) [14]; Collar in del Hoyo *et al.* 2005: 753 ("Gran Canaria"; *marionae* mentioned, but not listed as valid subspecies) [15]; Clarke 2006: 144, 293 ("Gran Canaria"; no mention of *marionae*) [16]; Clements 2007: 455 ("Gran Canaria"; no mention of *marionae*) [17]; Dickinson & Christidis 2014: 597 ("Gran Canaria"; no mention of *marionae*) [18].

Erithacus rubecula marionae – Fernández 2004: 243 [19]; Garcia-del-Rey 2011: 236 [20]; Rodrigues *et al.* 2013: 890 [5].

Erithacus marionae – Wink 2011: 23 (no name-bearing type was designated; see comment below for species status) [21].

Erithacus superbus (nec Koenig, 1889) – Van Duivendijk 2011: 315 ("Gran Canaria"; no mention of *marionae*) [22].

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Fig. (1). *Erithacus rubecula marionae.* Holotype from ZFMK (Photo C. Dietzen, © ZFMK).

Fig. (2). Comparison of *E. r. marionae* from Gran Canaria (bottom), with *E. r. superbus* from Tenerife (middle; type material) and *E. r. rubecula* from Germany (top) (collection of ZFMK). (Photo C. Dietzen, © ZFMK).

Table 1. Measurements of robins from the Canary islands and Europe (in mm) (measurements from museum specimens, ZFMK).

	Wing length		Body length		Bill length		Bill width	
	Mean	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
Gran Canaria (n=51) *E. r. marionae*	66.7	2.0	122.0	3.7	15.3	0.5	3.8	0.4
Tenerife (n=22) *E. r. superbus*	69.1	1.6	125.3	5.1	15.9	0.8	3.7	0.2
Mainland Europe (n=18)								
E. r. rubecula	72.4	1.6	129.3	8.0	15.2	0.5	3.7	0.3

Holotype.–Zoologisches Forschungsmuseum Alexander Koenig, Bonn (Germany): ZFMK H.II.4.α³.ηηη. Adult male, skin, collected in Moya (approx. 28°06'40"N, 15°35'00"W), Gran Canaria Island, by R. von Thanner in April 1909 or 1910. Two labels are attached to this specimen, with the original label reading: "*Erithacus rub. superbus* ♂. Gr. Canaria (Moya) April 1909. 139.69.38." The other label reads: "*Erithacus rubecula superbus*, Kg ♂ ad. coll. R. von Thanner Moya (Gran Canaria) IV. 1910 Museum A. Koenig, Bonn. № [illegible letter handwritten in ink crossed out and replaced by pencil-written 'H'] H.II.4.α³.ηηη". The '1910' on the latter label probably is erroneous, as suspected by Dr. T. Töpfer (pers. comm.), with further support for the veracity of the 1909-date provided by von Thanner (1910: 92), who states that he found *Erithacus rubecula superbus* to be "außerordentlich häufig bei Moya" on a collecting trip he undertook on Gran Canaria in 1909 ("Im Jänner dieses Jahres unternahm ich eine viermonatliche Reise zur Durchforschung dieser Insel. [...] 1909").

Diagnosis.–*Erithacus rubecula marionae* and *E. r. superbus* are both distinguished from the other subspecies of *E. rubecula* by the patch on breast and throat deep orange-red, eye ring white, forehead and sides of neck grey, and belly white (Figs. **1** and **2**). In addition, the tip of the wing is on average shorter and rounded. *E. r. marionae* differs from *E. r. superbus* in having the mean length of primaries 1 to 9 shorter, wing-tip shape even more rounded and convex, and mean body length shorter (Table **1**, Fig. **3**; [1]). Body weights do not differ between *Erithacus rubecula marionae*

and *E. r. superbus* (15.3 ± 0.9 g and 15.5 ± 2.7 g, respectively; [1]).

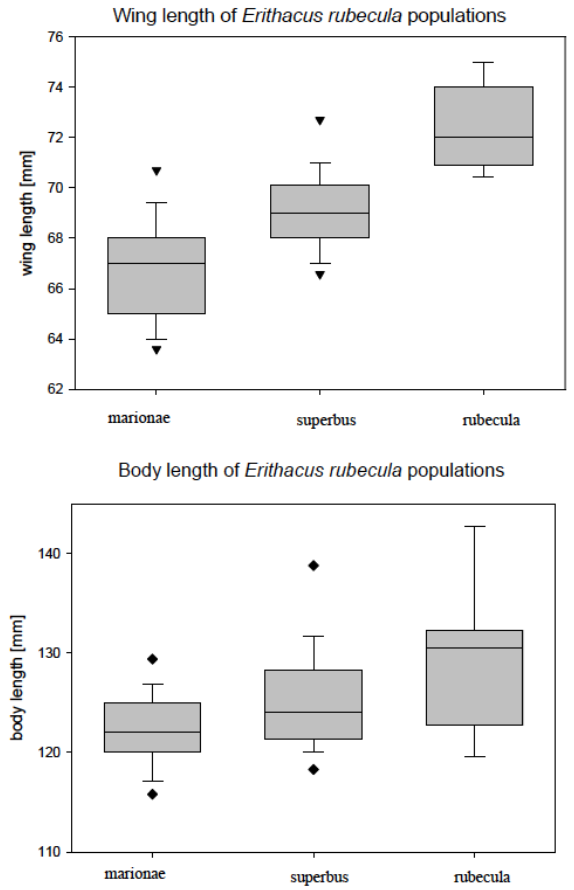

Fig. (3). Comparison of wing and body length (in mm) of *E. r. marionae* (left), with *E. r. superbus* from Tenerife (middle) and *E. r. rubecula* from mainland Europe (right) (measurements from Museum specimens, ZFMK).

The Robins of Tenerife shared the same mitochondrial haplotype (except for one specimen from Teide Mountain) which was significantly different from that of Robins from Gran Canaria: nucleotide sequences of the mitochondrial cytochrome b differed by 3.7% between *E. r. marionae* and *E. r. superbus* [1]. Such a difference is quite substantial and often indicative of species level differentiation [23]. Therefore, because of morphometric, genetic and distributional differences, Wink [21] even suggested to treat *E. marionae* as a distinct species. As further study of genetic divergence, using nuclear DNA and additional mtDNA markers, and vocalizations is needed to determine if species status is warranted, we conservatively propose it as a subspecies. Von Thanner [24] hinted at a possible difference in calling behavior when he wrote "Auch gebrauchten alle Vögel auf Gr. Canaria nicht so häufig den Warnungsruf, wie dies speziell die ♀♀ auf Teneriffa tun" (in translation: Also all the birds on Gr. Canaria did not use the alarm-call as frequently as especially the females on Tenerife do).

Distribution.–Island of Gran Canaria, the Canary Islands, Spain. Robins live in laurel and pine forests below 2000 m above sea-level, also in some barrancos (ravines) [13].

Etymology.–The subspecific epithet is coined in honour of Mrs. Marion Steinbüchel (born 12-11-1976, in Mannheim, Germany), and is a noun of the first declension in the genitive case, formed from the latinized version of the given name Marion.

Suggested vernacular names.–Gran Canaria Robin (English); Petirrojo de Gran Canaria (Spanish); Gran Canaria-Rotkehlchen (German).

ZooBank registration.–To make this name published online available for nomenclatural purposes, the work in which it is contained is registered at urn: lsid: zoobank.org: pub: B5459C07-4B2C-4884-989B-C50C9E6566EF; and the nomenclatural act is registered at urn: lsid: zoobank.org: act: 2002AE12-F041-4821-B73E-0D8FDAF236EB.

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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PATIENT'S CONSENT

Declared none.

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