



## Correction of the original spelling of *Hydrobates matsudairae* (Kuroda, 1922) (Aves: Procellariiformes: Hydrobatidae)

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*Hydrobates matsudairae* (Kuroda, 1922) was originally described as *Oceanodroma melania matsudariae*. In the original publication, the honouree is identified as Viscount Matsudaira, whose last name is spelled correctly elsewhere in the text. The specific epithet was printed incorrectly as *matsudariae*, with the letters "i" and "r" transposed. This has led nearly all subsequent taxonomic treatments to regard the original spelling as an incorrect original spelling, correctable under Article 32.5.1 of the International Code of Zoological Nomenclature (ICZN 1999), henceforth 'the Code'. Not all authors have followed this interpretation, with a small minority instead using the original spelling *matsudariae* (e.g. Kuroda 1927; Storr 1984; Johnstone & Darnell 2016). This paper seeks to clarify the correct spelling of the specific name: *matsudairae*.

Kuroda (1922: 309) stated: "Viscount Y. Matsudaira, M.O.S.J., has recently collected a series of Petrels off the coast of Sagami Bay, Hondo, Japan, and has sent them to me for examination. They are preserved in his collection." Kuroda was referring to the Viscount Yorinari Matsudaira (松平頼孝; まつだいら よりなり) (Matsudaira 1924) (b. 1876–d. 1945), a collector, lepidopterist, and one of the founders of the Ornithological Society of Japan (OSJ). Matsudaira's extensive collection was housed in the short-lived Matsudaira Family Specimen Museum (1916–1926) and many specimens later became part of the original holdings of the Yamashina Institute for Ornithology, largely due to his insolvency and health issues (Kashiwabara 1991, *vide* Yamasaki *pers. comm.*). The type specimens for *O. matsudairae* are presumed to have been destroyed during World War II (Morioka *et al.* 2005).

Matsudaira was a co-author of a checklist of birds of Japan in 1922 (Kuroda *et al.* 1922). Kuroda (1927) and the updated checklists in 1932 and 1942 all include notes stating that *matsudariae* was a misprint (Hachisuka *et al.* 1932: 122; Special Committee of the Ornithological Society of Japan 1942: 670). The Code has a clause, Article 32.5.1, that covers accidents in printing, which states: "If there is in the original publication itself, without recourse to any external source of information, clear evidence of an inadvertent error, such as a lapsus calami or a copyist's or printer's error, it must be corrected. Incorrect transliteration or latinization, or use of an inappropriate connecting vowel, are not to be considered inadvertent errors." The note about misprints in later publications is not strictly relevant to the interpretation of the Code. However, as shown above, Viscount Matsudaira's name was correctly spelled in the original description of *O. m. matsudariae*, which can be used as internal evidence that the misprinting in the spelling of the name was unintentional. The spelling *matsudariae* is therefore most plausibly a typographical or copyist's error rather than incorrect latinization.

The misspelled name has been used in the literature. Kuroda (1927) was the first, where he noted the misspelled form and that it was a misprint, but used the original misspelling in the section heading. Hachisuka (1942: 323) also noted the intended name but used the misprint as the official name in his list. Alexander (1928: 81), Storr (1984: 11) and Johnstone *et al.* (2013: 360) used *matsudariae*, without comment. Two authors, Johnstone & Darnell (2016) and Johnstone *et al.* (2021: 13) have both added an almost identical footnote to *Oceanodroma matsudariae* in their lists, noting: "Mostly listed as *O. matsudairae*, but Nagamichi Kuroda latinised Y. Matsudaira's Japanese name as *matsudariae* and this has not been validly emended." Incorrect latinizations are not changeable under Article 32.5.1, so their view that this is an error in latinization would provide a reason not to correct the spelling, if such a view were valid.

Latinization is defined in the Glossary of the Code as: "To give Latin form and characteristics (including a Latin ending or a Latin suffix) to any word which is not Latin." *Matsudariae* cannot be the correct latinization of Matsudaira. Latin suffixes are appended to stems, and do not normally cause a change in the stem of the word. Matsudaira ends in *-a*, which would make it most likely to be treated as a first declension noun, whose stems do not change when a genitive suffix such as *-ae* is added. Some Latin words, such as *rēx*, *rēgis* or *pater*, *patris* do change in the genitive case, but there

are no cases in Latin where a vowel is transposed as in *matsudaira* → *matsudariae*. Transposition of a character, or metathesis, does happen in diachronic lexical changes but not normally as the result of latinization or suffixation. Article 31.1.1 notes: "A species-group name, if a noun in the genitive case formed from a personal name that is Latin, or from a modern personal name that is or has been latinized, is to be formed in accordance with the rules of Latin grammar." According to the rules of Latin grammar, the correct latinization of *Matsudaira* using this form is *matsudairae*. There is no morphological or etymological basis in Latin by which *Matsudaira* would become *matsudariae* and the spelling of *matsudariae* does not represent any known Latin form, suffixation, or declensional modification of a Latin name which looks like *Matsudaira*.

*Matsudairae* is not the only way to correctly latinize *Matsudaira*. Another possible ending is *matsudairai*, as used by Kuroda (1921) for *Yungipicus kizuki matsudairai*, also named for the Viscount. This is a masculine singular genitive ending following the form of second declension nouns in Latin. The ending *-ae* is the masculine and feminine singular genitive ending for first declension nouns. Most but not all first declension nouns are feminine. The example under Article 31.1.1 points out that "Nicolaus Poda, even though the name of a man, if accepted as a Latin name, gives *podae*." Contra Szabo & Miskelly (2023), the suffix *matsudairae* is not exclusively feminine; Morioka *et al.* (2005) questioned whether the name may have been dedicated to the Viscountess *Matsudaira*. At the time of Kuroda's publication, "Japanese ornithologists had adopted an Anglo-American culture of imperial masculinity visible through the male-dominated cultural practice of ornithology across their territories" (Bossoh 2023: 16) and the intent was unlikely to have been to feminize the Viscount. Taka-Tsukasa (1922), another member of the OSJ, also dedicated a species to Viscount *Matsudaira*, *Catharacta matsudairae* [= *Stercorarius maccormicki* Saunders, 1893], using the same spelling.

While examples are not legislative parts of the Code (Article 89.2), current practice allows either *matsudairae* or *matsudairai* as valid species-group names in the genitive case under Article 11.9.1.3. The two forms would also be considered identical under an inclusive interpretation of Article 58.14 (but an exclusive reading that only considers pairwise changes (e.g., *-i* for *-ii* but not *-i* for *-ae*) would mean that *matsudairae* and *matsudairai* would be treated as two different names). Jobling (2026) lists both names together under *Hydrobates matsudairae*, but there are no known citations for *matsudairai* combined with *Hydrobates*.

The question remains: was *matsudariae* an issue of failed latinization or an inadvertent error? Johnstone *et al.* (2021) might be saying in their footnote that the spelling error was made during the process of latinizing *Matsudaira* into *matsudairae*, or that *matsudariae* was incorrectly transliterated from the Japanese spelling, 松平 or まつだいら. Since the *-i-* in question underwent metathesis in the stem of the word, the error could have happened before, during, or after latinization. The original description provides no indication of when the error occurred. It is not an inappropriate connecting vowel, as there was no connecting vowel needed, and it was metathesised, and not inserted as a connector. An error in transliteration is also unlikely, as *Matsudaira* is spelled correctly in English characters in the original description.

The simplest and most parsimonious explanation is that *matsudariae* is a typographical (i.e. a *lapsus calami*) or copyist's error, not a failed latinization. If it is viewed as an error in latinization, Article 32.5.1 becomes unenforceable for any original spelling, as all errors could be seen as errors in giving Latin "form and characteristics" to any non-Latin word in a scientific name. This reading would introduce instability and should be avoided. Latinization errors should be confined to issues with spelling at morphological boundaries or with suffixes, not to unrelated typographical changes in word stems.

Article 33.2.3 states that "any other emendation [than under Article 32.5] is an 'unjustified emendation'; the name thus emended is available and it has its own author and date and is a junior objective synonym of the name in its original spelling; it enters into homonymy and can be used as a substitute name." Under the view that the incorrect original spelling was not an incidence of poor latinization under Article 32.5.1, this article applies to the original spelling when it was first used subsequently, as the original spelling has no separate availability under Article 32.4. *Oceanodroma melania matsudariae* Kuroda, 1927 is then a junior objective synonym. *Oceanodroma matsudeirae* Palmer, 1962, a clear misspelling noted by Miskelly *et al.* (2024), is an incorrect subsequent spelling and does not enter synonymy according to Art. 33.5, as is *Cymochorea (Bianchoma) matsurairae* (Mathews & Hallstrom, 1943: 29) (but see note on the genus *Bianchoma* below).

Assuming that *matsudariae* and *matsudairae* are synonyms, there may be an argument that *matsudariae* is in prevailing usage under Article 23.9 as it has been used by multiple authors. Article 23.9.1 states that "prevailing usage must be maintained when the following conditions are both met: 23.9.1.1. the senior synonym or homonym has not been used as a valid name after 1899, and 23.9.1.2. the junior synonym or homonym has been used for a particular taxon, as its presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and

encompassing a span of not less than 10 years." While the name has been used as a valid name after 1899, there have not been at least 25 works in the last 50 years which use *matsudariae*, so that name cannot be in prevailing usage.

Miskelly *et al.* (2024) noted that "we are not using the original spelling of this species, as we invoke Article 33.3.1 – prevailing use." Article 33.3.1 deals only with incorrect subsequent spellings. As *matsudairae* is a demonstrably intentional change according to Article 33.2, it is an emendation and not an incorrect subsequent spelling, and so Article 33.3 cannot be applied. As the specific name *matsudairae* is already in prevailing usage, there is no need to reverse priority under either Article 23.9 or Article 33.

In cases where a name is spelled in multiple different ways in the original publication, a First Reviser action is called for to determine which name has priority. The name *matsudariae* is the only form listed in the original publication and in the journal's index, so a First Reviser action under Articles 24 and 32.2.1 is not possible here.

In effect, the determination that *matsudariae* should be *matsudairae* due to Article 32.5 is the same as noting that the original spelling is *matsudariae* with a digraph or ligature for *ae*. Digraphs are regularly corrected under Article 32.5.2. While occasional authors will retain them in the literature (especially in older texts), the consensus in taxonomic nomenclature is that available names do not contain them. Jouanin & Mougín (1979) cite the original spelling as *matsudariae*, without using the digraph, as noted by Morioka *et al.* (2005), but use the correct form *O. matsudairae* in their heading, as do others (Carboneras *et al.* 2021; Checklist Committee 2022; AviList Core Team 2025; etc.). No authors suggest that the original spelling of *matsudariae* should be absolutely maintained, nor that it has separate availability. Both *lapsus calami* and digraph corrections are incorrect original spellings that must be corrected under Article 32.5.

In summary, the name *matsudariae* constitutes an incorrect original spelling and must be corrected to *matsudairae* under ICZN Article 32.5.1, and thus prevailing usage is maintained.

Two brief notes follow. First, several anglophone authors refer to *Y. Matsudaira* incorrectly as "Yorikatsu Matsudaira" (Beolens & Watkins 2003: 223; Fraser & Gray 2013; Szabo & Miskelly 2023; Jobling 2026), which has caused some confusion (for instance, in Bannon 2014). This name should be corrected to *Yorinari* where possible.

Secondly, the subgenus *Bianchoma* Mathews & Hallstrom, 1943 was first published with the type species *Cymochorea matsudairae* (Kuroda, 1922). This genus-group name has not been accepted or used by any taxonomic committee, but it may be worth clarifying its unavailability, as this name is otherwise untreated in the literature. The wording used in the original publication was "To emphasise these points, the new subgenus *Bianchoma* is here proposed with genotype *matsudairae*," and later, "its genotype *matsudairae*." There is no other wording explicitly stating "type species". Article 67.5 states that "The term 'designation' in relation to fixation of a type species [Arts. 68, 69] must be rigidly construed." In the Glossary, the term "genotype" is defined as "a term not recognized by the Code, formerly used for type species, but that should not now be used in zoological nomenclature [Recommendation 67A]." That Recommendation discourages the use of the word "genotype", and notes that only "type species" or the equivalent when translated should be used. Article 89 notes that the Recommendations are not legislative parts of the Code, and that "in interpreting the Code, the meaning attributed in the Glossary to a word or expression is to be taken as its meaning for the purposes of the Code." As the term "genotype" is not recognized by the Code, it cannot be used as the designation of a type species. Without this term, there is no clear designation of a type species for *Bianchoma*. This appears to be a case where the fourth version of the Code (ICZN 1999) is not backwards compatible with interpretations of previous versions. As there is no designated type species, *Bianchoma* is a *nomen nudum* and is not available as a name according to Article 13.3.

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