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Discrimination against authors and users of biological nomenclature on the basis of their racial, national, ethnic, or ethnocultural identity shall not be tolerated: Further comments on modified nomenclatural proposals by Wright and Gillman (2023)

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Abstract. Following the set of informal proposals by Wright and Gillman (2022) to modify the *International Code of Nomenclature for algae, fungi, and plants* (ICN, the *Code*: Turland et al., 2018), in which the authors demanded to allow the retroactive replacement of well-established, valid and legitimate scientific names of organisms with some “indigenous” names, meaning supposedly “pre-existing” vernacular names used by Indigenous Peoples, I presented my detailed counterarguments (Mosyakin, 2022/2023). I advocated for the stability of biological nomenclature, protested against its possible large-scale disruption, and concluded that any “attempts or proposals aimed at granting preferences in biological nomenclature to any political, racial, ethnic, social, gender, religious or other group or groups should be rejected as discriminatory acts”. In response to my criticism, Wright and Gillman (2023) tried to address and debunk some of my arguments. They denied the potentially discriminatory nature of their proposals, insisted on their ideas of using “indigenous” names for replacing retroactively at least some well-established scientific names of organisms, but at the same time modified some of their earlier claims. Unfortunately, these modifications also fail to fit the principles and rules of the current *Code*, and even those of any other rationally built code of biological nomenclature. In particular, the earlier proposals by Wright and Gillman (2022) on author citations and authorship clearly contradict their new ideas. They now propose to ascribe the authorship of the nomenclaturally new “indigenous” replacement names to the authors of the replaced names, and at the same time they think that those authors are not the authors of names but the authors of “descriptions”. I analyze here these and some other misunderstandings and misinterpretations of the *Code*. I also demonstrate and confirm, with proper references to relevant sources, the potentially discriminatory nature of any nomenclatural proposals aimed at providing the exceptional or preferential rights to any groups of authors and/or users of biological nomenclature on the basis of their racial, national, ethnic, or ethnocultural identity. I conclude that the “modified” proposals of Wright and Gillman (2023), still aimed at possible replacement of established valid and legitimate scientific names with some vernacular, folk, legendary, fabulous, or traditional (including “indigenous”) names based on the supposed “chronological priority” going before the starting date of 1753, are disruptive for biological nomenclature, illogical or naïve, and simply non-implementable in practice. I briefly consider here some rational and acceptable alternatives for addressing the issues of non-discrimination, real equity, diversity, representation, and recognition of traditional knowledge in biological nomenclature, including several formal proposals to amend the *Code*, to be considered at the Nomenclature Section of the XX International Botanical Congress (July 2024, Madrid, Spain).

Keywords: authorship, biological nomenclature, botanical nomenclature, discrimination, Indigenous People, non-discrimination, taxonomy, traditional knowledge

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Introduction

Following the set of informal proposals by Wright and Gillman (2022) to modify the *International Code of Nomenclature for algae, fungi, and plants* (ICN, the *Code*: Turland et al., 2018), in which the authors demanded to allow the retroactive replacement of well-established, valid and legitimate scientific names of organisms with “indigenous” names, meaning the supposedly “pre-existing” vernacular names used by Indigenous Peoples (see also other publications by these authors: Gillman, Wright, 2020, 2021, etc.), I presented my detailed counterarguments (Mosyakin, 2023; published online before print 26 November 2022 and referenced in the text below as “Mosyakin, 2022/2023”; see also earlier critical comments by Knapp et al., 2020; Heenan et al., 2021; Palma, Heath, 2021; McGlone et al., 2022, etc.). In particular, I advocated for the stability of biological nomenclature, protested against its possible large-scale disruption in case if proposals of Wright and Gillman (2022) are accepted, and concluded that any “attempts or proposals aimed at granting preferences in biological nomenclature to any political, racial, ethnic, social, gender, religious or other group or groups should be rejected as discriminatory acts” (Mosyakin, 2022/2023: 469).

In response to my criticism, Wright and Gillman (2023; available online before print 08 April 2023, but finally published in the same issue with my article in the July 2023 issue of *Taxon*) tried to address some of my critical arguments against their proposals. Initially I did not plan to write my response to the “Reply...” presented by Wright and Gillman (2023). However, after reading several other recent articles advocating new dramatic and, I think, politically motivated and disruptive (or at least potentially disruptive) changes in biological nomenclature (such as Hammer, Thiele, 2021; Smith et al., 2022; Thiele et al., 2022; Guedes et al., 2023, etc.) and rather hot discussions that erupted after their publication (e.g., Knapp, 2022; Antonelli et al., 2023; Bae et al., 2023; Ceriaco et al., 2023; Harris, Xavier, 2023; Heard, Mlynarek, 2023; Jost et al., 2023; Mosyakin, 2022b, 2023c; Pethiyagoda, 2023; Thiele, 2023; Scharpf, 2023; Jablonski, Dufresnes, 2024; Winker, 2024; see also relevant discussions at the ResearchGate platform, <https://www.researchgate.net/>, and in other online and printed media), I realized that a new reply to their reply (Wright, Gillman, 2023) is indeed now

necessary. The reason for that change of my opinion is simple: I understand that for experienced taxonomists and some other practical scientists all the weaknesses and inconsistencies (to put it rather mildly) of the updated argumentation of Wright and Gillman (2023) are evident and plain; however, people not so experienced in principles and practice of biological nomenclature and taxonomy may imagine, after reading the new text of these two authors, that they successfully debunked the critical argumentation provided by Mosyakin (2022/2023). That, I think, is not the case, as I am trying to demonstrate below. Thus, my new text presented here provides further explanations why the proposals by Wright and Gillman (2022) are potentially discriminatory (and will be **actually** discriminatory, if implemented, even partly) and why the practical implementation of their proposals is simply impossible under any logically built code of biological nomenclature. In the text below, I have tried to address mainly the general public and keep my arguments as simple as possible; however, I hope that some taxonomists and other scientists will also enjoy my reasoning.

Down with the starting dates!?

In their new text, Wright and Gillman (2023) several times emphasized that their real intention was to restore the principle of **chronological priority of names** (!) by rejecting the codified starting dates of biological nomenclature (Art. 13.1 of the *Code*: here and below, all Articles refer to the *Shenzhen Code*, the current edition of the *ICN*: Turland et al., 2018), while, surprisingly, the indigenous status of those supposedly earlier names was now considered to be less important, if important at all. In particular, they stated that “The critical component of our proposal to formally accommodate indigenous plant names in taxonomy (Gillman & Wright, 2020; Wright & Gillman, 2021) relies on the application of *the principle of chronological priority* [here and in other quotations below: *my emphasis* is added in *italics*; comments are in square brackets — SM]” (Wright, Gillman, 2023: 483).

In response to my comment (Mosyakin, 2022/2023: 474) that Wright and Gillman “did not notice (or rather decided to ignore) that the earliest starting date for establishing priority of any names according to the ICN is 1 May 1753”, Wright and Gillman

(2023: 483) objected: “we were fully aware of this clause but seek to make changes to the *Code* in order to accommodate knowledge and nomenclature that precedes this date. We suggested many changes to the *ICN* Articles, including the Principles, that would override this starting date.”

This statement is not accurate. In their various proposals to amend many “clauses” and articles of the *Code*, Wright and Gillman (2022) *never* mentioned Art. 13, which specifically deals with the starting points for the nomenclature of various groups of algae, fungi, and plants.

Wright and Gillman (2023: 483) further explained: “For clarity we suggest the reference to “1 May 1753” should be followed by the addition of “[...] except where an indigenous name of earlier origin replaces the current name under Article 11.11”.

For clarity, it should be noted that in the text of their actual proposals (Wright, Gillman, 2022) the year “1753” and the word “May” (referring to a month) were *not mentioned at all*. It means that, when proposing their ambitious, dramatic, and large-scale changes to the *Code*, Wright and Gillman simply overlooked the whole problem of starting dates, and that omission was just one of many other glaring omissions and overlooked problems in their proposals, which, if implemented, would introduce a huge imbalance in the well-tuned system of interconnected and interdependent articles and other provisions of the *Code*.

Wright and Gillman (2023: 483) continued as follows: “Mosyakin also claims that the proposal discriminates on the basis of race and supports this by writing extensively on the definition of Indigenous Peoples. However, *such a definition is not in our estimation important under the system we propose* and, for example, the phrase “first peoples” could be used instead without materially affecting the outcome. Our proposal is that Indigenous Peoples can propose a name change and, although there may be debate on the meaning of the terminology defining indigeneity, the critical concept on which the proposal turns is that the first known name that was applied will have temporal precedence and it could be *from any surviving ethnic grouping*. The basis for any potential change would then be *chronological priority* and the potential to hold such priority will apply equally to *any ethnic group* (including, for example, those from within Europe). Our focus on indigeneity thus occurs in the context of a primary emphasis on the concept of priority.”

This is simply not true. In all their earlier articles and online resources (Gillman, Wright, 2020; Wright, Gillman, 2022, etc.) published before their present text (Wright, Gillman, 2023), the authors consistently and insistently proclaimed their “focus on indigeneity”, while the chronological priority was only a supporting argument. For example, in the text (excluding references) of their proposals to amend the *Code*, Wright and Gillman (2022) mentioned the word “indigenous” 90 times, while the word “priority” was mentioned 15 times, of which five mentions were direct citations from the text of the *Code*.

However, let us imagine what may happen to biological nomenclature if we actually apply the proposals of Wright and Gillman about replacing established scientific names of organisms with names used by any “first peoples” (not necessarily those recognized as Indigenous ones), using the principle of “chronological priority” going back into the past for centuries and probably millennia before the current earliest starting date of the nomenclature of plants, algae, and fungi, 1 May 1753, the conventional date of publication of Linnaeus’ *Species Plantarum* (see Art. 13.1 of the *Code*).

As I have already mentioned in my article (Mosyakin, 2022/2023: 473–474), Wright and Gillman decided to ignore the naming systems of organisms used by “many other peoples with rich written history and outstanding traditional knowledge of plants, fungi, and animals recorded in many ancient and medieval well-documented written sources, which evidently pre-date the earliest starting date (1 May 1753) of scientific nomenclature of algae, fungi and plants (see Art. 13.1 of the *ICN*)”.

Thus, many vernacular names of plants are registered in such sources as the Jewish Torah, the Christian Old and New Testaments, the Holy Quran of Muslims, the Vedic literature of India, numerous written sources of Ancient Egypt, Greece, Rome, China, and in many other sources traced to the deep past of the human history (see, e.g., Berlin, 2014; Bretschneider, 1871; Chen, 1978; Duke et al., 2008; Krishna, Amirthalingam, 2014; Mayr, 1982; Métaillé, 2015; Musselman, 2007, 2012, 2022; Theophrastus, 2019; Topachevskiy, 2014; Zohary, 1982, etc.). What should we do with those names of organisms reliably registered in these sources (many of which are rather well dated) and more or less reliably linked to concrete species or genera?

Consider, for example, the cases of plant names from the Torah and Old Testament [see Hirsch,

Löw, 1906 (online version: 2023–onward); Greenberg, 2023–onward; Duke et al., 2008; Musselman, 2007, 2012, 2022; Topachevskiy, 2014; Zohary, 1982, etc.]. There are dozens or probably even hundreds of plant species mentioned in these historical and religious sources. If we apply consistently the modified principle of the absolute chronological priority going beyond 1753, as proposed by Wright and Gillman (2023), should we then replace the scientific names of such plants as *Atriplex halimus* L. (shrubby orach, Mediterranean saltbush), *Hordeum vulgare* L. (barley), *Portulaca oleracea* L. (common purslane), *Prunus amygdalus* Batsch (*Amygdalus communis* L., almond), *Punica granatum* L. (pomegranate), *Triticum spelta* L. (spelt, hulled wheat), etc. with the new scientific names using older vernacular Hebrew names (see, e.g., the *List of plants in the Bible*: https://en.wikipedia.org/wiki/List_of_plants_in_the_Bible; all online sources initially accessed 14 September 2023 and re-checked 4 April 2024): “*Atriplex mallūah*”, “*Hordeum šā’ōrāh*”, “*Portulaca ḥallāmūl*”, “*Prunus šāqêd*”, “*Punica rimmōn*”, “*Triticum kussemel*”, etc., respectively?

And who should be listed as the author of those names? Probably Moses? Or King Solomon (see Musselman, 2022)?

Or, if we should respect the ancient Indian tradition (see, e.g., Krishna, Amirthalingam, 2014; Patil, 2020), should we probably change the names *Cucumis sativus* L. (cucumber) and *Cannabis indica* Lam. (*C. sativa* L. subsp. *indica* (Lam.) E. Small & Cronquist, Indian hemp, marijuana), both plants most probably domesticated in India, to “*Cucumis urvaruka*” or “*urvāruka*” and “*Cannabis bhanga*” or “*bhaṅgā*”?

And what about the exceptionally rich ethnobotanical traditions of China? How many changes, according to the “priority” principles of Wright and Gillman (2023), should we expect in the scientific nomenclature of plants and fungi if we are going to consider for nomenclatural purposes the names of organisms available in ancient sources (see Bretschneider, 1871; Chen, 1978; Métaillé, 2015, etc.) from China? What should we do with some widespread species that may occur in both India and China, and are mentioned in ancient Indian and Chinese sources? Which of these ancient cultures should have priority?

With all our respect to traditional, local and/or indigenous knowledge and various naming systems used by peoples of the world, we should not mix

these naming systems with the scientific nomenclature of living and fossil organisms (see my earlier comments: Mosyakin, 2022/2023: 474–475). The differences between traditional / vernacular naming systems and the scientific biological nomenclature have been meticulously explained in detail by many experts in biological taxonomy, linguistics, ethnography, ethnobotany, culturology, cultural anthropology, and related fields (e.g., Raven et al., 1971; Mayr, 1982; Berlin, 2014; Heenan et al., 2021; McGlone et al. 2022, and references therein), so I simply do not understand why we should, again and again, provide counter-arguments to various claims by people who still do not understand (or ignore) these differences, despite the mountains of towering evidence available.

Thus, I conclude that the “modified” proposals of Wright and Gillman (2023) aimed at possible replacement of established valid and legitimate scientific names with some vernacular, folk, legendary, fabulous, or traditional (including “indigenous”), names based on the “chronological priority” going before 1753 are disruptive for biological nomenclature, illogical or naïve, and simply non-implementable in practice.

Misunderstanding or misinterpretation of the Code: problems with the authorship of names and author(s) citations

I have already provided examples and arguments clearly illustrating that Wright and Gillman (2022) in many cases misunderstood or misinterpreted some principles and provisions of the Code (see Mosyakin 2022/2023). Unfortunately, in their new text (Wright, Gillman, 2023) they added several other undeniable examples of their profound misunderstanding, or at least misinterpretation, of several fundamental provisions of the Code.

Let us analyze the following proposal by Wright and Gillman (2023: 484): “We seek to preserve the best of this dichotomy — namely the description and its authority — while modifying a naming tradition which has typically not recognised the temporal priority of first identification and usage. As an example, under our proposal the New Zealand tree *Agathis australis* (D. Don) Lindl. with the Māori name kauri might become “*Agathis kauri* (D. Don) Lindl. [Indig.]”. In our view this is an elegant and fair resolution that demonstrates the combined strengths of our proposal; namely, honouring the

taxonomic priority of description while acknowledging the nomenclatural priority of an earlier indigenous name. The fundamental primary relationship of authority would thus be intact in this process with the only alteration being a subsidiary addition to indicate acceptance of an indigenous name where this could be shown to have chronological priority.”

In the Conclusion section of their note, Wright and Gillman (2023: 484) further explained that they “do not seek to remove credit for published descriptions. These are currently recognised in the form of the authority and it is important that this recognition is retained. Under our proposal the current authority would remain intact except for an addition to indicate that an indigenous name had replaced the previously accepted name.”

As far as I understand these hardly understandable (at least to me) sentences, Wright and Gillman want to “retain” the current authorship of the replaced names, but in fact they propose to ascribe the newly coined “indigenous” **replacement** names to the authors of the **replaced** names, and at the same time think that those authors are not the authors of **names** but the authors of some (supposedly original?) “**descriptions**”!

The authorship and author citation in nomenclature of algae, fungi, and plants are regulated by Articles 46–50 of the *ICN* (Turland et al., 2018). Unfortunately, it seems that Wright and Gillman do not understand that these articles deal with the basic concept of **authors of names**, who are not necessarily the **authors of descriptions** of the relevant taxa. In most cases, authors of nomenclatural combinations are not the authors of **original descriptions** of these taxa. Let us explain that using the case of *Agathis australis*: David Don is indeed the author of the **original description** associated with the first scientific naming of that species, and thus at the same time he is the author of the name *Dammara australis* D. Don (in Lambert, *Descr. Pinus* 2: 14. 1824). However, John Lindley just transferred that species name to the genus *Agathis* Salisb., and thus he is the author of the **name** (new nomenclatural combination) *Agathis australis* (D. Don) Lindl. (in Loudon, *Encycl. Pl.*: 802. 1829), not of the **description** of that species.

Thus, the texts by Wright and Gillman cited above mean that these two authors propose to ascribe the authorship of the nomenclaturally new “indigenous” **replacement** names to the authors of the **replaced** names! Of course, that proposal is

simply illogical and even utterly absurd from the nomenclatural viewpoint. Neither David Don nor John Lindley ever dreamt of becoming the “authors” of the “indigenous” replacement name “*Agathis kauri*”, which they neither used nor authorized. Thus, the “elegant and fair resolution” (“honouring the *taxonomic priority of description* [what is that? — SM] while acknowledging the nomenclatural priority of an earlier indigenous name”) proposed by Wright and Gillman is simply erroneous and indicates their profound misunderstanding of the rules and procedures of the *Code* regulating the authorship issues (Art. 46–50).

It is also rather interesting that in their earlier set of proposals to amend the *Code* Wright and Gillman (2022) never mentioned the articles 46–50 of the *Code* dealing with the authorship and author citation and did not propose any amendments or other changes to these articles. Instead of that, they rather confusingly stated that “A convention for assigning the authority when indigenous names replace existing names will be required, and we suggest that the authority be denoted as the first author of the publication [which publication? — SM]. The author of the basionym would be included in parentheses as per current protocols [which protocols? — SM] when legitimate names are replaced” (Wright, Gillman, 2022: 8). At the same time, they proposed the following addition to Art. 11, which deals with issues of priority: “Art. 11.12. The new authority [authorship? — SM] is denoted as the first author of the publication of the indigenous name together with the basionym author(s)” (Wright, Gillman, 2022: 9). It should be noted that Wright and Gillman often erroneously used the term “basionym” instead of terms “replaced synonym” or “replaced name”. As far as I can understand the confusing statements cited above, the earlier proposals by Wright and Gillman (2022) on author(s) citations and authorship clearly contradict their new ideas published in their follow-up note (Wright, Gillman, 2023).

All that means, in my opinion, that Wright and Gillman not only failed to understand or interpret properly some basic provisions of the *Code*, in particular those regulating the authorship, but also failed to provide non-contradictory proposals to amend the relevant articles of the *Code*. Besides, I have already commented on that elsewhere in my earlier article (Mosyakin, 2022/2023) and indicated specific errors in interpreting the *Code*. Unfortunately, in their reply Wright and Gillman (2023)

decided not to comment, explain, or justify their nomenclatural mistakes (see my comment below).

Wright and Gillman (2023: 484) also noted that "...the *system* [I am not sure which "system" they had in mind; probably the system of rules and recommendations of the current nomenclatural *Codes* — SM] would need to involve expertise beyond taxonomic science: a move that would broaden the horizon of nomenclature and make it relevant to more people, particularly in the fields of applied ecology and conservation biology." I think that for expanding the horizon of nomenclature and making it (taxonomic science? nomenclature? horizon?) relevant to more people, it would be probably useful not only to popularize taxonomy and to explain, patiently and painstakingly, the importance of biological nomenclature to more people, but also to kindly ask some ecologists, conservation biologists and other people proposing the large-scale changes to the rules and traditions of biological nomenclature to take pains to learn at least the basics of the field of science that they so arrogantly (and sometimes naively) intend to "reform".

I express my respect to Len Norman Gillman and Shane Donald Wright, who are ecologists with expertise in that field. However, in my humble but well-justified opinion (see above), their understanding of principles, rules, and practice of biological nomenclature and their expertise in practical nomenclatural aspects of taxonomy are not sufficient for initiating any large-scale reforms, and I kindly recommend them to stop their destructive activities in that field, especially since their proposed reforms may result in discrimination (see my arguments below).

Selective responses instead of solid counter-arguments

Finally, just an additional observation regarding the style of argumentation used by Wright and Gillman (2023) in their "Reply...". In response to my several questions, the authors discussed just the example of plant names of Moriori and Māori of the Rēkohu / Wharekauri / Chatham Islands and concluded that "this example, therefore shows how our proposal would work, not how it would fail".

In my opinion, this is either misunderstanding or misinterpretation. The non-specific example of Moriori *versus* Māori indigenous names was just one of several examples (in particular, peoples of

Eurasian steppes or southern Africa) used in that section of my critical article. These examples (including the example of Moriori and Māori of the Rēkohu / Wharekauri / Chatham Islands) were in fact used in the form of rhetorical questions, just to illustrate the idea that plant taxonomists should not be engaged in finding solutions to controversial issues of history directly or even distantly related to supposed priority of local vernacular names of organisms. However, Wright and Gillman decided to respond only to one question, leaving aside (or just ignoring) all other examples and/or specific questions from my article. This discussion trick represents a partial or selective response, when people engaged in a discussion decide to respond only to some part of argumentation of the opponent, specifically to the part which is more convenient to them for answering, but not to the whole body of argumentation.

Discriminatory (or potentially discriminatory) nature of the proposals by Wright and Gillman to favor organisms' names of selected ("Indigenous") national, racial, ethnonational, or ethnocultural groups over all other names

In my earlier discussion article (Mosyakin, 2022/2023) I indicated the discriminatory (or at least potentially discriminatory) nature of the proposals by Wright and Gillman (2022) but avoided or omitted some arguments because I considered them too strong. Also, I did not want to hurt the social reputation of the authors by any association of their proposals with the socially toxic concept of actual or potential racial discrimination. Unfortunately, in their response Wright and Gillman (2023) decided to reject my opinion without any further counter-argumentation and preferred not to recognize the discriminatory (or, better to say, potentially discriminatory) nature of their proposals. Because of that I have to present here further considerations and arguments supporting my earlier claim that the very idea of replacing the existing scientific names with "indigenous" ones was indeed potentially discriminatory or, at least, created the possibilities for actual discrimination, specifically in biological nomenclature, against all other national, ethnic, racial, and ethnocultural groups not considered to be Indigenous.

I should state at once that I do not consider the published expression of opinions by Wright and

Gillman as a case of actual discrimination. However, if their proposals are **actually accepted**, that would mean an undeniable case of discrimination based on racial, ethnonational, or ethnocultural characteristics or identities of people. As Thomas Sowell (2011) precisely formulated it, “While biases and prejudices are conditions in people’s minds, discrimination is an overt act taking place outside their minds in the real world”. As long as Wright and Gillman’s views and proposals (even being potentially discriminatory in their nature) remain in their minds, on the paper, and even in the virtual world of the World Web, but are **not** implemented in the real life of biological nomenclature and incorporated in the *Code*, they should **not** be considered the acts of discrimination. However, I suppose that Wright and Gillman should admit that with their “indigenous” proposals they at least created the prerequisites for possible discrimination in the field of biological nomenclature, and thus, I suppose, they should cease their disruptive activity threatening the nomenclatural stability and all fields of science and human activities (including biodiversity conservation, agriculture, biotechnology, historical geology, etc., etc.) dealing with naming and identification of living and fossil organisms.

According to Gillman and Wright (2023), “Moyakin also claims that the proposal *discriminates on the basis of race* and supports this by *writing extensively on the definition of Indigenous Peoples*.”

This is not true. In my article I did not emphasize the **racial discrimination** but have stated that any attempts to introduce a system of **national, racial and/or ethnocultural discrimination** in biological nomenclature should not be tolerated, which is evident even from the title of my article. Moreover, my claims are **not** supported solely by my “writing extensively on the definition of Indigenous Peoples”. I used the in-depth discussion on the definition or, better to say, criteria of identification or self-identification of Indigenous Peoples in order to demonstrate the impracticability of any (even partial) implementation of the proposals of Wright and Gillman, but not to demonstrate that their proposals potentially “discriminates on the basis of race” (which I in fact did in another section of my article).

However, since Wright and Gillman (2023) in their response touched the issue of discrimination “on the basis of race”, let us consider that issue in more detail using the relevant documentary base. A specific explanation is needed here, which I provide

below, based on foundational international documents and scientific evidence.

Unfortunately, the meanings of the words “race”, “racial”, and the word combination “racial discrimination” (in the sense used in the UN *International Convention on the Elimination of All Forms of Racial Discrimination* — United Nations, 1969) in the modern usage can be rather misleading, and these meanings are often misunderstood. That misunderstanding is rooted in the not so distant past (for example, in the late 1960s, when the mentioned UN Convention was drafted and finally adopted), when the concept of a biological or anthropological “race” was still alive and rather widely used, even in international policy and science. Now most of researchers, social activists, and policymakers (among other people) admit and accept that the concept of “race”, at least in its traditional biological or anthropological meaning and as applied to human beings, is non-scientific and even racist (see various opinions and policy recommendations, e.g.: American Anthropological Association, 1998; Zack, 2001; American Association of Biological Anthropologists, 2019; Keita et al., 2004; Sowell, 2011; APF & OHCHR, 2013; Kolbert, 2018; Prontzos, 2019; Goodman, 2020; American Psychological Association, 2023—onward; National Academies of Sciences, Engineering, and Medicine, 2023; Feero et al., 2024, and references therein; the past and current literature on that problem is simply huge). Evidently, because of that there cannot be any scientific justification of racism.

However, we still have the UN *International Convention on the Elimination of All Forms of Racial Discrimination* (United Nations, 1969), and, evidently, there is still the racial discrimination concept existing in the world. But it should be understood that the mentioned *Convention* uses the term “race” (and also derived terms, such as “racial discrimination”) **not** in its biological or anthropological meaning.

The United Nations *International Convention on the Elimination of All Forms of Racial Discrimination* in its Art. 1.1 states that “In this Convention, the term ‘racial discrimination’ shall mean any distinction, exclusion, restriction or preference based on race, colour, descent, or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms in the political, economic, social, cultural

or any other field of public life” (United Nations, 1969). As we see, in modern practice, and especially in international documents, the term “racial discrimination” shall be, and is indeed, understood in a much expanded sense, covering not the biological or former anthropological concept of “race” (now considered as outdated and even non-scientific by many experts and activists, see references above), but any discrimination based on “descent, or national or ethnic origin”. Should we treat the proposals of Wright and Gillman (2022) to give special rights and privileges to Indigenous Peoples (a category evidently based largely on “descent, or national or ethnic origin”) but not to other peoples as potential discrimination against those peoples who are not considered to be Indigenous? I think we should. Or at least we may.

The American Psychological Association (2023–onward) in its online *Grammar and Style Guidelines* (section *Bias-Free Language: Racial and Ethnic Identity*) provides the following definition: “Race refers to physical differences that groups and cultures consider socially significant. For example, people might identify their race as Aboriginal, African American or Black, Asian, European American or White, Native American, Native Hawaiian or Pacific Islander, Māori, or some other race.” As we see, among the “races” mentioned as examples by APA, several can be considered as referring to Indigenous Peoples, in particular, Aboriginal, Native American, Native Hawaiian or Pacific Islander, Māori, plus probably some others which we can imagine, such as Indigenous Europeans, Indigenous Asians, Indigenous Africans, etc. (see discussion in Mosyakin, 2022/2023, and references therein). Consequently, it looks like Wright and Gillman (2022) propose to grant preferences in biological nomenclature to representatives of these Indigenous “races” as opposed to representatives of other “races”, such as African Americans, Europeans and Asians not considered to be Indigenous, etc. If so, it would mean the discrimination (at least against researchers and users of taxonomic information and scientific names) “based on race, colour, descent, or national or ethnic origin” in the field of biological nomenclature (see United Nations, 1969), which, as I believe, I have already demonstrated in my earlier argumentation (Mosyakin, 2022/2023).

One may argue that Art. 1.4 of the mentioned *Convention* (United Nations, 1969) in fact excludes cases of so-called “positive discrimination”

or “affirmative action” (see also Sowell, 2004, 2011, 2019): “Special measures taken for the sole purpose of securing adequate advancement of certain racial or ethnic groups or individuals requiring such protection as may be necessary in order to ensure such groups or individuals equal enjoyment or exercise of human rights and fundamental freedoms shall not be deemed racial discrimination...” However, this Article is aimed at ensuring *equal, but not preferential*, rights and freedoms. Moreover, Art. 1.4 has an important continuation: “...provided, however, that such measures do not, as a consequence, lead to the maintenance of separate rights for different racial groups and that they shall not be continued after the objectives for which they were taken have been achieved”. I think that the proposals by Wright and Gillman (2022) may (and, in my opinion, certainly will) “lead to the maintenance of separate rights for different racial groups” in the field of biological nomenclature; specifically, separate rights of Indigenous Peoples as opposed, for example, to the rights of non-Indigenous Americans of African origin, to consider just one of many possible cases.

Also, can anyone state, with proper evidence and proof, that the *ICN at present, in its present wording* (or even in its earlier versions) discriminates against Indigenous Peoples; e.g., prevents using indigenous vernacular names in forming scientific names and epithets, or excludes representatives of Indigenous Peoples from practicing taxonomy and/or proposing nomenclatural novelties? Is there any real need for provisions for “positive discrimination” or “affirmative action” to be introduced in the *Code*?

I am certain that the *ICN* gives equal rights to all Indigenous and non-Indigenous peoples alike, including taxonomists forming the names and non-taxonomists using the taxonomic information and scientific names of organisms in all relevant fields of science and other human activities. In other words, the current *ICN* is evidently non-discriminatory in its principles, approaches, and practice; except for, probably, the preferential (in fact, exclusive) use of the Latin and English languages for validation of names of new taxa, but that exclusion is aimed at the standardization and efficient communication between researchers and other people belonging to various nations, ethnic groups and cultures. If we accept that statement of the non-discriminatory nature of the *ICN*, we should also accept that, according to Art. 1.4 of the mentioned

Convention (United Nations, 1969), there is no need to apply any “positive discrimination” to the *ICN*. Just *vice versa*, application of such selective approaches in the *ICN* to any selected racial, national, ethnic, ethnonational, or ethnocultural groups of people would mean discrimination of other such groups. Because of the above considerations and for coping with the existing threat to the non-discriminatory nature of the *ICN* (e.g., by such proposals as those by Wright and Gillman, 2022), I have proposed to add to the Preamble a special “Non-Discrimination Statement” (see below).

In addition to provisions of the United Nations *International Convention on the Elimination of All Forms of Racial Discrimination* discussed above, let us consider some other relevant foundational documents.

In its Preamble, the *Declaration on the Rights of Indigenous Peoples* (United Nations, 2007; see also Hochman, Weller, 2018) states that “all doctrines, policies and practices based on or advocating superiority of peoples or individuals on the basis of national origin or racial, religious, ethnic or cultural differences are racist, scientifically false, legally invalid, morally condemnable and socially unjust.” In my opinion, that is exactly the case: Wright and Gillman (2022, 2023) propose to codify in biological nomenclature the policies and practices advocating superiority of a rather vaguely delimited category of Indigenous Peoples over all other peoples “on the basis of national origin or racial, religious, ethnic or cultural differences.”

According to New Zealand Government’s official information on human rights and freedoms (<https://www.govt.nz/browse/law-crime-and-justice/human-rights-in-nz/human-rights-and-freedoms/>), based on the Human Rights Act 1993, which Gillman and Wright as New Zealand citizens should respect, “Unlawful discrimination is when you’re treated unfairly or less favourably than another person because of your: age, colour, disability, employment status, ethical belief, ethnic or national origin, family status, marital status, political opinion, race, religious belief, sex, sexual orientation.” In fact, Wright and Gillman (2022) proposed to change the *ICN* as to treat **all** non-Indigenous people and peoples (including many of those underrepresented, less privileged, currently or formerly oppressed and/or discriminated, etc.) unfairly and less favorably than Indigenous Peoples, because of their ethnic or national origin.

Consequently, I cannot agree with the objections by Wright and Gillman (2023), and still think that their proposals (both original ones of 2022 and modified ones of 2023), if implemented, will create discrimination against authors and users of biological nomenclature based at least on their racial (see above), ethnonational, and/or ethnocultural identity or identities. That should not be tolerated.

Also, the confusing and confused (yes! I mean it; see my arguments above) proposals of Wright and Gillman actually neither enhance nor improve the much needed wider participation and involvement of Indigenous People and other local and/or traditional communities and peoples worldwide in biodiversity research, conservation, and sustainable use. Just *vice versa*, these proposals and the accompanying public campaigns create (at least among researchers and other mostly rationally thinking people) an irrational, antiscientific, and even ludicrous distorted image for Indigenous People, most of whom, I sincerely hope, do not support the views of Wright and Gillman (see, e.g., Pethiyagoda, 2023, who considers such recent campaigns as possible indicators of “the new colonialism”).

Biological nomenclature as a fundamental component of modern science: some general considerations

Free and rational development of science is the basis and one of the main prerequisites of human progress in all fields of human activities (see Shermer, 2015; Pinker, 2018, 2022; Al-Khalili, 2022). Modern science cannot operate without scientific integrity and academic freedom (Hudson, Williams, 2016; Williams, 2016, etc.). Rational science unites people of various backgrounds, identities, and cultures; it is based upon achievements of the whole humankind, the diverse world cultures of the past and present (see Montgomery, Kumar, 2016; Al-Khalili, 2022, etc.).

Biological nomenclature is foundational and crucially important not only to taxonomists or for taxonomy, and not only to biological sciences in general. It, and especially its stability, predictability, and rational and free development, are crucially important for all fields of science and all human activities dealing, directly or indirectly, with the diverse and complicated world of living and fossil organisms.

Biological nomenclature is the basis for effective and universal communication, both in science and

in our everyday life (see Jiménez-Mejías et al., 2024, and references therein). Because of that I think that it is simply irresponsible to undermine the well-working systems of biological nomenclature which “allow transcultural communication through a shared, operationally neutral system of scientific names that is stable across space and time” (Jiménez-Mejías et al., 2024), especially when the “reformers” have little understanding of the principles and operational practices of these systems and when they cannot understand the grave consequences of disrupting the fine-tuned nomenclatural codes and conventions.

Thus, the unjust misuse of misinterpreted and/or misunderstood noble ideals of “political correctness” and “social justice” demonstrated by some claimants for “nomenclatural justice” (see examples cited in Jiménez-Mejías et al., 2024) is not a productive approach. Excessive politicization of science has never brought any good but was usually destructive both to the science itself and to the societies using this distorted science, either in totalitarian or democratic societies (see Graham, 1993; Sokal, Bricmont, 1998; Josephson, 2005; Pollock, 2008; Sowell, 2011; Wolters, Steel, 2018; Pluckrose, Lindsay, 2020; Krylov, 2021; Terbish, 2022; Tucker, 2023, etc.).

A disclaimer and concluding remarks: toward the XX International Botanical Congress (July 2024)

As I have already explicitly stated in my earlier articles (see disclaimers in Mosyakin, 2022a: 249, 2022b, 2022/2023: 470), I am strongly against any forms of “colonialism, imperialism, aggression, national or ethnic oppression, racism, or any other form of discrimination against people based on their nation, religion, class, sex or gender, ethnic or other group, or other categories” (Mosyakin, 2022/2023: 470), against any forms of other unlawful and unjustified discrimination (for definitions and indicators, see Sowell, 2019). Just because of that I feel that it is my duty to oppose any attempts to introduce or enforce any kind of discrimination in science, and in particular in biological nomenclature. In my opinion, as seen from my arguments provided above and in my earlier articles, giving some exceptional or special rights in the governance of biological nomenclature to Indigenous People is as absurd and unjust as giving similar exceptional or special rights to any other ethnic or national (Germans? Ukrainians?

Jews or Israelis? Chinese? etc.), gender (women? transgender? non-binary people? etc.), religious (Christians? Buddhists? Mormons? etc.), ethnocultural or racial (African Americans? European Europeans? etc.) group.

All researchers should be equal in science, meaning having equal rights and opportunities, which are limited and/or defined only by their academic qualities, academic integrity, scientific merits of their work, and/or other identifiers and qualifiers directly relevant to science (see Abbott et al., 2023; etc.). All authors and users of biological nomenclature, regardless of their “race, colour, ethnicity, national origin, disability, age, sex and sexual orientation, gender identity, religion, social status, cultural identity, and/or political beliefs” (see below), should also have equal rights and opportunities.

Just because of that I proposed to amend the Preamble of the *ICN* by adding a “Non-Discrimination Statement” (Mosyakin, 2023b). That proposed amendment is available in the cited proposal and in the Synopsis of all proposals (Turland, Wiersema, 2024). However, since it is directly relevant to the topic discussed in the present article, I also reproduce it here *verbatim*:

“Non-Discrimination Statement

Authors and editors of this *Code* recognize the importance of principles of human rights, equal rights and opportunities, diversity, inclusivity, and representation, especially with regard to authors and users of scientific names governed by this *Code*.

Authors and users of scientific names governed by this *Code* shall not be discriminated against on the basis of their race, colour, ethnicity, national origin, disability, age, sex and sexual orientation, gender identity, religion, social status, cultural identity, and/or political beliefs, and shall have equal rights under this *Code*, including the rights to propose amendments to this *Code*.

Preferential or discriminatory treatment, rejection or censoring of names governed by this *Code* because of the aforementioned characteristics of their authors, or because of actual or assumed association of such names with any cultural, religious, political, social, ethnic, national, or racial concepts, beliefs, or ideologies, is not allowed, except for the cases explicitly regulated by this *Code* (e.g. the preferential status of the Latin alphabet and the Latin and English languages in nomenclature).”

I hope that this amendment, proposed in the spirit of preserving the scientific freedom and avoiding any discrimination of researchers and users of biological nomenclature, will be positively accepted by the voters at the preliminary guiding vote (“mail vote”, by the deadline of 31 May 2024), institutional voters, and members of the Nomenclature Section of the forthcoming XX International Botanical Congress in Madrid in July 2024.

I also proposed to amend the Preamble by adding a “Potentially sensitive content disclaimer and limitation of liability”; this proposal, among other paragraphs, contains the following clause (Mosyakin, 2023a: 442), which should further safeguard the authors and users of biological nomenclature, as seen in the excerpt below:

“Anyone using the scientific names of taxa governed by this *Code* should be aware that this *Code* is not intended for judging, evaluating, changing, rejecting, or censoring such names because of ethical, cultural, religious, political, social, ideological, and/or other principles, criteria, and procedures, except for those explicitly prescribed in this *Code* (see Preamble 1, 12, Art. 51.1)”.

I have already expressed earlier “my respect to all Indigenous (as well as non-Indigenous) Peoples of the world, their rights, needs, cultures and traditions” (see Mosyakin, 2022/2023: 470) and also emphasized that I also have Indigenous People (Karelian: see Fig. 1 and Honko, 1990) in my distant European ancestry. Just because of that I authored and co-authored several proposals to amend the *Code*, which are directly relevant to ensuring and strengthening the recognition of the knowledge and traditions of Indigenous Peoples and other forms of traditional knowledge of many peoples of the world. For example, we (Hayova et al., 2023) proposed to add a new Recommendation after Art. 38, with the advice to report local/indigenous vernacular names (if available) of new taxa and to use such names, if appropriate, in scientific nomenclature. Definitely, this proposed Recommendation, if accepted, will promote the usage of available local/indigenous vernacular names of organisms in forming names of new taxa, and thus will contribute to a better involvement of local/indigenous societies and communities in biodiversity research and conservation, and will improve the recognition of their traditional knowledge. Of course, even without that proposed Recommendation, many authors worldwide willingly use local/indigenous vernacular



Fig. 1. *The Defense of the Sampo / Sammon puolustus* (1896), by Akseli Gallen-Kallela (1865–1931). Tempera on canvas. Turku Art Museum. Public domain (https://commons.wikimedia.org/wiki/File:Sammon_puolustus.jpg). A fine example of the art inspired by and based on Indigenous European (Karelian and Finnish) folklore and mythology

names of organisms in their taxonomic publications and in forming the scientific names of new taxa (see, for example, Veale et al., 2019; Heenan et al., 2021). However, our proposal (Hayova et al., 2023) does not encourage any rejection or replacement of existing legitimate names with “indigenous” ones (as it was suggested by Wright and Gillman, 2022, 2023).

We (Earp, Mosyakin, 2023) also proposed to amend Art. 38.3 of the *ICN* to clarify what local, indigenous or traditional information is to be accepted in a validating description or diagnosis. Also, I proposed to amend Recommendation 7A on deposition of type material in institutions of countries of origin, and to add a new Recommendation 51A regarding avoiding potentially inappropriate or unacceptable names of taxa (Mosyakin, 2021), thus addressing some of the current concerns.

In my opinion, the formal proposals to amend the *Code* mentioned above could be considered as rational and acceptable alternatives to some other potentially disruptive ideas and nomenclatural proposals (e.g., Smith, Figueiredo, 2021, 2022; Smith et al., 2022; Thiele et al., 2022; Wright, Gillman, 2022, 2023, etc.) for addressing the issues of non-discrimination, real equity, diversity, representation, and recognition

of traditional knowledge (see Mabry et al., 2024) in biological nomenclature. I think that the dream of a really “inclusive” botany outlined by Mabry et al. (2024) is achievable only with the proper respect to our science, its traditions, principles, and freedom.

All formal proposals (those listed and summarized in the Synopsis of Proposals on Nomenclature: Turland, Wiersema, 2024) will be considered and either accepted (in their original or modified wording) or rejected, first during the preliminary guiding vote (“mail vote”), and then at the Nomenclature Section of the XX International Botanical Congress (July 2024, Madrid, Spain), see Division III of the ICN (Turland et al., 2018). Let us wait for the wise (hopefully) decisions of the global community of taxonomists, experts in biological nomenclature, and other stakeholders, for the benefit of science and all direct and indirect users of scientific names of organisms worldwide.

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ETHICS DECLARATION

The author declares no conflict of interest.

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Дискримінація авторів і користувачів біологічної номенклатури на основі їхньої расової, національної, етнічної чи етнокультурної приналежності є неприпустимою: Подальші коментарі до уточнених номенклатурних пропозицій Райта та Гілмана (2023)

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Реферат. У відповідь на неофіційні пропозиції Райта та Гілмана (Wright, Gillman, 2022) щодо змін *Міжнародного кодексу номенклатури водоростей, грибів і рослин* (ICN: Turland et al., 2018), в яких автори вимагали дозволити заміну усталених, дійсних (валідних) і законних наукових назв організмів певними “корінними” (“тубільними”) назвами, тобто, начебто “раніше існуючими” народними назвами, які використовували корінні народи, я представив свої детальні контраргументи (Mosyakin, 2022/2023). Я підтримав стабільність біологічної номенклатури, висловив протест проти її ймовірного широкомасштабного порушення, а також висловив думку про те, що будь-які спроби чи пропозиції, спрямовані на надання переваг у біологічній номенклатурі будь-якій політичній, расовій, етнічній, соціальній, гендерній, релігійній чи іншій групі або групам повинні бути відхилені як дискримінаційні дії. У відповідь на мою критику Райт та Гілман (2023) спробували переглянути та заперечити деякі з моїх аргументів. Вони зокрема заперечили потенційно дискримінаційний характер своїх пропозицій, підтвердили свої ідеї щодо використання “корінних” назв для ретроактивної заміни принаймні деяких загальноновизнаних наукових назв організмів, але в той же час змінили деякі зі своїх попередніх пропозицій. На жаль, ці зміни також не відповідають принципам і правилам чинного Кодексу і навіть будь-якого іншого раціонально побудованого кодексу біологічної номенклатури. Зокрема, попередні пропозиції Райта та Гілмана (2022) щодо цитування авторів при таксонах та авторства назв явно суперечать їхнім новим ідеям. Тепер вони пропонують приписувати авторство номенклатурно нових “корінних” назв-замін авторам заміненних назв, і водночас вважають, що ці автори є не авторами назв, а авторами якихось “описів”. Я аналізую ці та деякі інші непорозуміння та неправильні тлумачення Кодексу. Я також демонструю та підтверджую, належним чином посилаючись на відповідні джерела, потенційно дискримінаційний характер будь-яких номенклатурних пропозицій, спрямованих на надання виняткових або преференційних прав будь-яким групам авторів та/або користувачів біологічної номенклатури на основі їх расової, національної, етнічної, або етнокультурної приналежності. Я приходжу до висновку, що “модифіковані” пропозиції Райта та Гілмана (2023), які все ще спрямовані на можливу заміну усталених дійсних (валідних) і законних наукових назв деякими народними, легендарними, фольклорними або традиційними (у тому числі “корінними”) назвами на основі начебто “хронологічного пріоритету”, що передує початковій даті номенклатури з 1753 року, є руйнівними для біологічної номенклатури, нелогічними або наївними, та й просто нереалізованими на практиці. Я стисло розглядаю деякі раціональні та прийнятні альтернативні рішення, спрямовані на недопущення дискримінації, на забезпечення реальної справедливості, різноманітності, репрезентації та визнання традиційних знань у біологічній номенклатурі, включаючи кілька офіційних пропозицій щодо внесення змін до Кодексу, які мають бути розглянуті на Номенклатурній секції XX Міжнародного ботанічного конгресу (липень 2024 р., Мадрид, Іспанія).

Ключові слова: авторство, біологічна номенклатура, ботанічна номенклатура, дискримінація, запобігання дискримінації, корінні народи, таксономія, традиційні знання