

Nomenclature of *Johnstonimyia bezzi* Lopes & Kano, 1979 (Diptera: Sarcophagidae)

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Abstract. The nomenclature of *Johnstonimyia bezzi* Lopes & Kano, 1979 is revised.

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Lopes (1959) introduced the flesh fly genus *Johnstonimyia* with type species *Sarcophaga kappa* Johnston & Tiegs, 1921 by original designation. This nominal genus-group taxon has been considered as a valid genus (e.g., Ye *et al.* 1998; Xue *et al.* 2011; Barták *et al.* 2019; Verves 1990, 2020), or as a valid subgenus under the broad concept of *Sarcophaga* Meigen, 1824 (e.g., Pape 1991, 1996; Pape & Kurahashi 2004; Meiklejohn *et al.* 2013).

Lopes & Kano (1979) published a contribution to the genus-group taxon *Sarcorohdendorfia* Baranov, and they provided a key including species with a setose proanepisternum from “related genera”. Couplet 20 in their key (p. 659) provides, at its first alternative, “Styli very much enlarged [*sic*]. (New Hebrides)”, which identifies “*Johnstonimyia* [*sic*] *bezzi* Lopes & Kano”. The paper contains no other mention of this species, but the diagnostic information provided by the key is sufficient for making the name available. As the name is given only once in the original work, and as there is neither etymology nor evidence of an inadvertent error, *Johnstonimyia bezzi* is the correct original spelling.

The same authors, probably not realising that the above-mentioned key had made the name *Johnstonimyia bezzi* available, later described two species of *Johnstonimyia* as new to science (Kano & Lopes 1981), of which one was presented with the alternate spellings *Johnstonimyia bezzii* (three times) and *Johnstonimyia bezzi* (one time). This species was based on a “holotype” and a “paratype” (but see below) from “New Hebrides” (i.e., Vanuatu) and it unambiguously matches the key entry in their 1979 publication.

The valid proposal of *Johnstonimyia bezzi* Lopes & Kano, 1979 was overlooked until now, and all subsequent authors have credited authorship and date from Kano & Lopes (1981). The spelling *Johnstonimyia bezzi* was used by Lopes (1989) and Shinonaga & Kano (1990), whereas Pape (1991, 1996) considered *Johnstonimyia bezzii* as the correct original spelling [missing that Lopes (1989) would have served as First Reviser as per Art. 24.2.4 of the *International Code of Zoological Nomenclature* (ICZN 1999, henceforth ‘Code’) and selected *Johnstonimyia bezzi* as the correct original spelling]. Pape (1991) proposed the new replacement name *Sarcophaga vanuatu* for “*Johnstonimyia bezzii* KANO et LOPES, 1981”, arguing that under a broad concept of *Sarcophaga* Meigen, it would be a secondary junior homonym of *Sarcophaga bezzii* Corti, 1897 and *Sarcophaga*

bezzii Salem, 1946.

The proposal of *Johnstonimyia bezzi* / *bezzii* by Kano & Lopes (1981) is here considered a subsequent usage of *Johnstonimyia bezzi* Lopes & Kano, 1979 argued from the unambiguous match mentioned above. A subsequent usage of a previously established name has no separate availability unless it qualifies as an unjustified emendation. However, the current *Code* does not provide a specific definition of subsequent usage. For the usage of a name to qualify as subsequent, the name has to be used in the same spelling as that of a previously established name, or at least in a spelling that is close enough to suggest that the difference is a lapsus or misspelling. Also, the name should be used for a taxon that is (or at least is intended to be) consistent with the taxonomic concept outlined for the name in its original publication. A crucial point is whether or not a subsequent user needs to demonstrate awareness of the previous usage of the name. The taxonomic literature contains several examples where a key to species unintentionally is published before the more formal description of one or more of the species included by name in that key. In such cases, and if published before the year 2000, the new name(s) given in the key will have been made available. The subsequently published detailed description(s) will not necessarily refer to the publication they were intended to predate, and in such cases only circumstantial evidence can be brought forth to demonstrate that the names explicitly stated to be new are actually subsequent usages. I will here act from the assumption that a subsequent user does not need to demonstrate awareness of any previous usage or availability of the name.

The new replacement name *Sarcophaga vanuatu* proposed by Pape (1991) is available even if proposed for a subsequent usage of the name that is preoccupied. The need for a new replacement name was argued from secondary homonymy with *Sarcophaga bezzii* Corti, 1897 and *Sarcophaga bezzii* Salem, 1946. Homonymy in the species group occurs when each of two or more available species-group names that are established for different nominal taxa but combined with the same generic name have the same spelling, or if their non-identical spellings are deemed under *Code* Art. 58 to be the same (*Code* Glossary). *Code* Art. 58 includes the use of -i or -ii as alternative endings in a genitive based on the name of some entity associated with the taxon, and for the names to enter into homonymy it is required that they are of the same derivation and meaning. Secondary homonymy between *Johnstonimyia bezzi* Lopes & Kano, 1979 and any of *Sarcophaga bezzii* Corti, 1897 and *Sarcophaga bezzii* Salem, 1946 would therefore require that the specific names “*bezzi*” and “*bezzii*” are of the same derivation and meaning. In the present case, the evidence is circumstantial, because while Corti (1897: 140) explicitly dedicated his *Sarcophaga bezzii* to “prof. Mario Bezzi”, and Salem (1946: 195) capitalised the specific name in his “*Sarcophaga Bezzii*”, Lopes & Kano (1979) did not provide an etymology for their proposal of *Johnstonimyia bezzi*. Taken verbatim, the specific name equals that of Italian dipterist Mario Bezzi, but the context, and especially the subsequent paper by Kano & Lopes (1981), where the specific name is spelled with both single and double terminal -i, may offer evidence that the name was intended as an honorific in appreciation of the work Mario Bezzi did on flesh flies and many other Diptera from various Pacific islands.

According to the *Code* Preamble, which is an integral part of the *Code*, all its provisions and recommendations are subservient to promoting stability and universality in the scientific names of animals. This is implemented here by considering the specific name

“*bezzii*” in the nominal species-group taxon *Johnstonimyia bezzii* Lopes & Kano, 1979 as an (incorrectly formed) honorific. Consequently, *Johnstonimyia bezzii* Lopes & Kano, 1979 is a secondary junior homonym as already argued by Pape (1991), and the new replacement name *Sarcophaga vanuatu* Pape, 1991, even if proposed to replace a name in its subsequent usage, is a valid nomenclatural act.

The complete synonymy can be summarised as follows:

Sarcophaga vanuatu

Johnstonimyia bezzii Lopes & Kano, 1979: 659. Type locality: Vanuatu, hill east of Luganvilla. Lectotype ♂, designated by Kano & Lopes (1981: 297), stated to have been deposited in Museu Nacional in Rio de Janeiro and now lost when this museum burned down (Escobar 2018). Secondary junior homonym of *Sarcophaga bezzii* Corti, 1897 and *Sarcophaga bezzii* Salem, 1946.

Sarcophaga vanuatu Pape, 1991: 215. New replacement name for *Johnstonimyia bezzii* Lopes & Kano, 1979 [using the incorrect subsequent spelling *Johnstonimyia bezzii* and incorrectly crediting the name to the subsequent use by Kano & Lopes (1981)].

Johnstonimyia bezzii: Kano & Lopes (1981: 295), incorrect subsequent spelling of *Johnstonimyia bezzii* Lopes & Kano, 1979.

Lopes & Kano (1979) did not provide any data on the type material for *Johnstonimyia bezzii*, but it is reasonable to consider the two specimens studied by Kano & Lopes (1981) as the original type series. Furthermore, Code Art. 74.5 instructs that “a subsequent use of the term “holotype” does not constitute a valid lectotype designation unless the author, when wrongly using that term, explicitly indicated that he or she was selecting from the type series that particular specimen to serve as the name-bearing type”. The (incorrect) designation of a holotype by Kano & Lopes (1981) is here considered an explicit expression that that particular specimen is selected to serve as the name-bearing type, thereby validating this as a lectotype designation.

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REFERENCES

- Barták, M., Khrokalo, L. & Verves, Y.G.** 2019. New records, synonyms and combinations for oriental Sarcophagidae (Diptera), with updated checklists for Cambodia, India, Taiwan, Thailand and Vietnam. *Journal of Asia-Pacific Entomology* **22**: 44–55.
<https://doi.org/10.1016/j.aspen.2018.11.011>
- Corti, E.** 1897. Aggiunte alla fauna dipterologica della provincia di Pavia. *Bollettino della Società Entomologica Italiana* **29**: 136–143.
<https://www.biodiversitylibrary.org/item/39849#page/144/mode/1up>
- Escobar, H.** 2018. In a ‘foretold tragedy’, fire consumes Brazil museum. *Science* **361**: 960–960.
<https://www.science.org/doi/10.1126/science.361.6406.960>

- International Commission on Zoological Nomenclature (ICZN)** 1999. *International Code of Zoological Nomenclature*. Fourth edition. International Trust for Zoological Nomenclature, London. xxix + 306 pp.
- Kano, R. & Lopes, H.S.** 1981. On *Johnstonimyia* Lopes with descriptions of two new species from Australian region (Diptera, Sarcophagidae). *Revista Brasileira de Biologia* **41**: 295–297.
- Lopes, H.S.** 1959. A revision of Australian Sarcophagidae (Diptera). *Studia Entomologica* **2**: 33–67.
- Lopes, H.S.** 1989. Family Sarcophagidae, pp. 721–732. In: Evenhuis, N.L. (ed) *Catalog of the Diptera of the Australasian and Oceanian Regions*. Bishop Museum Press & E.J. Brill.
- Lopes, H.S. & Kano, R.** 1979. Notes on *Sarcorohdendorfia* with key of the species (Diptera, Sarcophagidae). *Revista Brasileira de Biologia* **39**: 657–670.
- Meiklejohn, K.A., Dowton, M., Pape T. & Wallman J.F.** 2013. A key to the Australian Sarcophagidae (Diptera) with special emphasis on *Sarcophaga* (sensu lato). *Zootaxa* **3680**: 148–189.
<https://doi.org/10.11646/zootaxa.3680.1.11>
- Pape, T.** 1991. New names for *Sarcophaga bezzii* Salem, 1946 and *Johnstonimyia bezzii* Kano & Lopes, 1981 (Diptera, Sarcophagidae). *Japanese Journal of Entomology* **59**: 215–216.
- Pape, T.** 1996. Catalogue of the Sarcophagidae of the world (Insecta: Diptera). *Memoirs of Entomology, International* **8**: 1–558.
- Pape, T. & Kurahashi, H.** 2004. Three new species of *Sarcophaga* from Timor (Insecta: Diptera: Sarcophagidae), with a lectotype designation for *Myophora peronii*. *Species Diversity* **9**: 165–185.
<https://doi.org/10.12782/specdiv.9.165>
- Salem, H.H.** 1946. New species of *Sarcophaga* (Diptera-Sarcophagidae) from the Australian Region and its neighbouring islands. *Bulletin de l'Institut d'Égypte* **27**: 183–213.
- Shinonaga, S. & Kano, R.** 1990. A new species of *Johnstonimyia* Lopes from Vanuatu (New Hebrides) (Diptera, Sarcophagidae). *Memórias do Instituto Oswaldo Cruz* **84**(supl. 4)[1989]: 487–489.
[Date of publication given as 1990.6.28 in *Memórias do Instituto Oswaldo Cruz* **85**(3).]
- Verves, Y.G.** 1990. Prof. Hugo de Souza Lopes and the modern system of Sarcophagidae (Diptera). *Memórias do Instituto Oswaldo Cruz* **84**(supl. 4)[1989]: 529–545.
[Date of publication given as 1990.6.28 in *Memórias do Instituto Oswaldo Cruz* **85**(3).]
- Verves, Y.G.** 2020. An annotated list of Chinese Sarcophagidae (Diptera). *Suplementos del Boletín de la Asociación Española de Entomología* **1**: 1–68.
<https://digibug.ugr.es/handle/10481/68937?show=full>
- Xue, W.-q., Verves, Y.G. & Du, J.** 2011. A review of subtribe *Boettcheriscina* Verves 1990 (Diptera: Sarcophagidae), with descriptions of a new species and genus from China. *Annales de la Société Entomologique de France* (n.s.) **47**: 303–329.
<https://doi.org/10.1080/00379271.2011.10697723>
- Ye, Z.-m., Chao, C.-m., Xue, W.-q., Zhang, C.-t., Liu, L., Chen, H.-w., Zhang, X.-z. & Han, X.-q.** 1998. Sarcophagidae, pp. 1518–1660. In: Xue, W.-q. & Chao, C.-m. (eds.), *Flies of China*. Vol. 2. “1996”. Liaoning Science and Technology Press, Shenyang.