

The confusing case of the dipteran names *Megarhinus* and *Megarhina* in relation to the genus-group name *Lynchiella* Lahille, 1904 and a new status for *Megarhina* Macquart, 1838

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Abstract. A history of the proposals and usages of the names *Megarhina*, *Megarhinus* and *Lynchiella* is examined and it is concluded that *Lynchiella* Lahille, 1904 was proposed as a replacement name for *Megarhina* Macquart, 1838, not *Megarhinus* Robineau-Desvoidy, 1827. It is also concluded that the earliest available name for species currently placed in the subgenus *Lynchiella* should be *Megarhina* Macquart, 1838 and not *Lynchiella* Lahille, 1904. A list of the 38 new transfers to the subgenus *Megarhina* resulting from this change is provided.

Robineau-Desvoidy (1827: 412) proposed the genus name *Megarhinus* for a Neotropical species of mosquitoes and designated its only included species, *Culex haemorrhoidalis* Fabricius, 1787, as its type species. Lahille (1904:14) proposed the replacement name *Lynchiella*, and this is the name in current use, now treated as a subgenus of *Toxorhynchites* Theobald, 1901. But the situation is a bit more convoluted than what appears at first glance.

We here outline the proposals and usages of the names spelled as *Megarhinus* and *Megarhina*, and the ramifications of actions taken on them by various workers; and we rectify some mistakes made along the way.

Brief cresonymy [until Lahille (1904); see below for discussion of each separately]:

Megarhinus Robineau-Desvoidy, 1827: 412 [Culicidae]. Type species: *Culex haemorrhoidalis* Fabricius, 1787, by original designation. [Preoccupied by *Megarhinus* Rafinesque, 1820 (in Pisces).]

Megarhina: Le Peletier & Audinet-Serville, 1828: 585 [Tipulidae] (unavailable; incorrect original spelling of *Helius* [see discussion]).

Helius Le Peletier & Audinet-Serville, 1828: 655, 831 [Tipulidae]. Type species: *Limnobia longirostris* Meigen, 1818, by monotypy.

Megarhina Macquart, 1838: 32 (unjustified emendation of *Megarhinus* Robineau-Desvoidy, 1827). Type species: *Culex haemorrhoidalis* Fabricius, 1787, automatic.

Megarhina: Walker, 1848: i (unavailable; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827).

Megarhina: Loew, 1862: 5 (unavailable; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827).

Lynchiella Lahille, 1904: 13–14 (new replacement name for *Megarhina* Macquart, 1838). Type species: *Culex haemorrhoidalis* Fabricius, 1787, automatic.

DISCUSSION

(available names in boldface)

Megarhinus Robineau-Desvoidy, 1827. Robineau-Desvoidy (1827: 412) proposed this new genus-group name with its type-species *Culex haemorrhoidalis* Fabricius, 1787. The name was used as valid until the mid-20th century, with many workers either not knowing the name was preoccupied by *Megarhinus* Rafinesque, 1820, or not knowing of Lahille's (1904) proposal of *Lynchiella* as a replacement name.

Megarhina: Le Peletier & Audinet-Serville, 1828. This name was proposed for a new genus in Tipulidae on p. 525; but on p. 655, in a footnote to their genus *Megarhina*, the authors state that the name should be changed to *Helius* because of Robineau-Desvoidy's name one year earlier:

Nous avons donné ce nom à notre première division du genre Limnobie (pag. 585. de ce volume) qui nous paroît devoir former un sous-genre. L'ouvrage de M. Robineau où ce même nom de Mégarhine est appliqué à un nouveau genre de Culicides, comme on le voit dans le tableau ci-dessus, ayant été livré au public avant le nôtre, nous changerons notre nom de Megarhina en celui d'Helius. [We gave this name to our first division of the genus Limnobie (page 585 of this volume), which we believe should constitute a subgenus. Since Mr. Robineau's work, in which the same name Mégarhine is applied to a new genus of Culicidae, as shown in the table above, was published before ours, we will change our name Megarhina to Helius.]

The result of this action is that *Megarhina* of Le Peletier & Audinet-Serville is an incorrect original spelling and, as such, an unavailable name that does not enter into homonymy. Many workers failed to note the deliberate change of spelling to *Helius* in the footnote and incorrectly believed *Megarhina* was an available name and a senior homonym of names later spelled the same way. Additionally, workers originally thought that *Megarhina* of Le Peletier & Audinet-Serville, dated from 1825, had priority over *Megarhinus* Robineau-Desvoidy, 1827. However, that portion of the *Encyclopédie Méthodique* actually came out in 1828 (see Evenhuis, 2003). When that later date was known, workers believed that *Megarhinus* Robineau-Desvoidy was not preoccupied and continued to use the name; missing the fact it was indeed preoccupied, but by *Megarhinus* Rafinesque, 1820.

Megarhina Macquart, 1838: 32. This name was not a proposal of a new genus-group name, but instead an emendation (albeit unjustified) of *Megarhinus* Robineau-Desvoidy, 1827. The name was made available as an emendation by virtue of similar spelling changes in two or more names from "us" to "a" in the same work [see Evenhuis *et al.* (2016: 81) for details]. This name is not preoccupied by an older name, as mistakenly thought by Evenhuis *et al.* (2016), so it has priority over other genus-group names where the type species is considered as congeneric. Consequently, we here treat *Megarhina* Macquart, 1838 as the senior synonym of *Lynchiella* Lahille, 1904 [see below for discussion].

Megarhina: Walker, 1848: i (unavailable name; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827 or subsequent usage of *Megarhina* Macquart, 1838). There is no evidence of criteria being fulfilled to make the name available as an emendation in this work.

Megarhina: Loew, 1862: 5 (unavailable name; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827 or subsequent usage of *Megarhina* Macquart, 1838). Evenhuis *et al.* (2026: 92) mistakenly thought that this was an unjustified emendation and, thus, an available name that threatened the name *Lynchiella* Lahille, 1904. To conserve *Lynchiella* by reversal of precedence, they deemed *Megarhina* of Loew (1862) a *nomen oblitum* and *Lynchiella* Lahille, 1904 a *nomen protectum*. This action was unnecessary as Loew (1862: 5), in spelling the name as *Megarhina*, could have either been emending *Megarhinus* Robineau-Desvoidy, 1827 or following Macquart (1838) in using the spelling *Megarhina*. Due to the equivocal nature of the usage by Loew (1862), we here invoke ICZN Code Article 33.5 (ICZN, 1999) and treat all uses of *Megarhina* by Loew (1862) and other works by him as an incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827. This nullifies the action of considering it as a *nomen oblitum*, and it is therefore an unavailable name.

Lynchiella Lahille, 1904: 13–14. Lahille (1904) gave a brief history of usages of *Megarhina* / *Megarhinus* and stated he was replacing “ce nom [this name]” with *Lynchiella*, worded as follows.

Le nom de *Megarhina* que l’on donnait jusqu’à présent à ces Culicidés a été employé en 1825 par Saint-Fargeau (*Encyclopédie méthodique des insectes*, t. X, p. 585) pour désigner des Rhamphidines; aussi, le nom de *Megarhina* Macquart (*Dipt. exot.*, I, 1838), ne peut être conservé, pas plus que celui de *Megarhinus* Rob. Desvoidy (*Essai sur les Culicidés*, 1827), puisque ce dernier ne diffère que par la terminaison du nom de genre de Saint-Fargeau et que d’après l’article 48 des lois de la nomenclature des êtres organisés, on ne doit pas considérer comme des noms des genres différents, les noms qui ne se distinguent que par la terminaison masculine, féminine ou neutre, ou par un simple changement orthographique.

Osten-Sacken a donné aussi (1877) à une espèce de *Gnoriste* le nom de *Megarhina*.

Je remplacerai donc ce nom par celui de *Lynchiella* en honneur du savant et regretté diptérologue argentin : Félix Lynch Arribáizaga.

[The name *Megarhina*, which has been used until now for these Culicidae, was employed in 1825 by Saint-Fargeau (*Encyclopédie méthodique des insectes*, vol. X, p. 585) to designate Rhamphidines; therefore, the name *Megarhina* Macquart (*Dipt. exot.*, I, 1838) cannot be retained, any more than that of *Megarhinus* Rob. Desvoidy (*Essai sur les Culicidés*, 1827), since the latter differs only in the ending of the genus name from that of Saint-Fargeau, and according to Article 48 of the rules of nomenclature for organized beings, names that differ only in their masculine, feminine, or neuter endings, or by a simple spelling change, should not be considered as different genus names.

Osten-Sacken also gave (1877) the name *Megarhina* to a species of *Gnoriste*.

I will replace this name with that of *Lynchiella* in honor of the learned and lamented Argentinian dipterologist: Félix Lynch Arribáizaga.]

Lahille (1904) mentioned that he was following Article 48 of the “*lois de la nomenclature des êtres organisés*”. Checking the various sets of rules of nomenclature that existed in 1904, it appears Lahille (1904) was following the Blanchard (1889) rules. In those rules (Blanchard 1889: 282), Article 48 states:

On ne doit pas considérer comme des noms de Genre différents des noms qui ne se distinguent que par la terminaison masculine, féminine ou neutre, ou par un simple changement orthographique. [Names that differ only in their masculine, feminine, or neuter endings, or by a simple spelling change, should not be considered as names of different genera.]

That is what Lahille was referring to when he said there was no difference as to whether a name had a masculine or feminine ending regarding *Megarhinus* or *Megarhina*. So, to rectify the homonymy, he said he replaced “*ce nom* [this name]” with *Lynchiella*. Although workers have indicated *Lynchiella* was a new name for *Megarhinus* Robineau-Desvoidy, 1827, there is no explicit evidence of that action in Lahille (1904). It is instead clear from Lahille’s discussion that he was replacing *Megarhina* Macquart, 1838, thinking it was preoccupied by *Megarhina* of Le Peletier & Audinet-Serville, 1828.

However, since *Megarhina* Macquart, 1838 is found in this study not to be preoccupied by an older name, it is therefore the oldest available name for species classified in the subgenus *Lynchiella* Lahille, 1904 and is its senior synonym, **syn. nov.**

The resulting synonymical history of the subgenus is thus as follows (earliest valid name in bold):

Megarhinus Robineau-Desvoidy, 1827: 412. Type species: *Culex haemorrhoidalis* Fabricius, 1787, by original designation. Preoccupied by *Megarhinus* Rafinesque, 1820 (in Pisces).

Megarhina Macquart, 1838: 32 (unjustified emendation of *Megarhinus* Robineau-Desvoidy, 1827). Type species: *Culex haemorrhoidalis* Fabricius, 1787, automatic, **stat. nov.**

Megarhina: Walker, 1848: i (unavailable; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827 or subsequent usage of *Megarhina* Macquart, 1838).

Megarhina: Loew, 1862: 5 (unavailable; incorrect subsequent spelling of *Megarhinus* Robineau-Desvoidy, 1827 or subsequent usage of *Megarhina* Macquart, 1838).

Lynchiella Lahille, 1904: 13–14 (unnecessary new replacement name for *Megarhina* Macquart, 1838). Type species: *Culex haemorrhoidalis* Wiedemann, 1828, automatic, **syn. nov.**

Nominal species previously included in *Lynchiella* Lahille and transferred here to *Megarhina* Macquart are listed below (NB: these are not new combinations since they are all still in the genus *Toxorhynchites* Theobald; original genus and orthography in parentheses; junior synonyms indented). The three-letter abbreviation *Meg.* is proposed for the subgenus *Megarhina*.

Toxorhynchites (Megarhina) bambusicola (Lutz & Neiva, 1913: 136) (*Megarhinus*).

Tx. (Meg.) aldrichanus (Bonne-Wepster & Bonne, 1920: 179) (*Megarhinus*).

Tx. (Meg.) caatingensis Andrade & La Corte, 2021: 132 (*Toxorhynchites*).

Tx. (Meg.) cavalerii García & Casal, 1967: 436 (*Toxorhynchites*).

Tx. (Meg.) gerbergi Belkin, 1977: 329 (*Toxorhynchites*).

Tx. (Meg.) grandiosus (Williston, 1900: 224) (*Megarhina*).

Tx. (Meg.) longipes (Theobald, 1901: 241) (*Megarhinus*).

Tx. (Meg.) guadeloupensis (Dyar & Knab, 1906: 254) (*Megarhinus*).

Tx. (Meg.) horei (Gordon & Evans, 1922: 98) (*Megarhinus*).

Tx. (Meg.) tucumanus (Brèthes, 1926: 318) (*Megarhinus*).

Tx. (Meg.) arborealis (Shannon & Del Ponte, 1928: 89) (*Megarhinus*).

Tx. (Meg.) guianensis (Bonne-Wepster & Bonne, 1920: 180) (*Megarhinus*).

- Tx. (Meg.) haemorrhoidalis* (Fabricius, 1787: 364) (*Culex*).
Tx. (Meg.) lynchi (Dyar & Knab, 1906: 244) (*Megarhinus*).
- Tx. (Meg.) hypoptes* (Knab, 1907: 50) (*Megarhinus*).
- Tx. (Meg.) mariae* (Bourroul, 1904: 3) (*Megarhinus*).
Tx. (Meg.) iris (Knab, 1913: 35) (*Megarhinus*).
- Tx. (Meg.) moctezuma* (Dyar & Knab, 1906: 251) (*Megarhinus*).
Tx. (Meg.) trinidadensis (Dyar & Knab, 1906: 252) (*Megarhinus*).
- Tx. (Meg.) portoricensis* (Röder, 1885: 337) (*Megarrhina*).
Tx. (Meg.) haitiensis (Dyar & Knab, 1906: 253) (*Megarhinus*).
- Tx. (Meg.) pusillus* (Lima, 1931: 313) (*Megarhinus*).
- Tx. (Meg.) rizzoi* (Palma & Galvão, 1969: 3) (*Lynchiella*).
- Tx. (Meg.) rutilus* (Coquillett, 1896: 44) (*Megarhinus*).
- Tx. (Meg.) separatus* (Lynch Arribáizaga, 1891: 133) (*Megarhinus*).
- Tx. (Meg.) septentrionalis* (Dyar & Knab, 1906: 249) (*Megarhinus*).
Tx. (Meg.) herrickii (Theobald, 1906: 241) (*Megarhinus*).
- Tx. (Meg.) solstitialis* (Lutz in Bourroul, 1904: 10) (*Megarhinus*).
Tx. (Meg.) chrysocephalus (Theobald, 1907: 136) (*Megarhinus*).
Tx. (Meg.) mara (Anduze, 1942: 43) (*Megarhinus*).
- Tx. (Meg.) superbus* (Dyar & Knab, 1906: 255) (*Megarhinus*).
- Tx. (Meg.) theobaldi* (Dyar & Knab, 1906: 246) (*Megarhinus*).
Tx. (Meg.) ferox (Wiedemann, 1828: 1) (*Culex*).
Tx. (Meg.) ambiguus (Dyar & Knab, 1906: 246) (*Megarhinus*).
Tx. (Meg.) wiedemanni (Dyar & Knab, 1906: 246) (*Megarhinus*).
Tx. (Meg.) fluminensis (Neiva in Peryassú, 1908: 128) (*Megarhinus*).
Tx. (Meg.) posticatus (Lutz & Neiva, 1913: 139) (*Megarhinus*).
Tx. (Meg.) moengoensis (Bonne-Wepster & Bonne, 1923: 7) (*Megarhinus*).
- Tx. (Meg.) violaceus* (Wiedemann, 1820: 7) (*Culex*).

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REFERENCES

- Andrade, D.C. & La Corte, R.** 2021. *Toxorhynchites (Lynchiella) caatingensis* sp. nov. (Diptera: Culicidae) from the semi-arid region of Brazil. *Zootaxa* **5072**(2): 130–144.
- Anduze, P.J.** 1942. Fauna culicidiana de Venezuela. Descripción de dos especies nuevas (Diptera: Culicidae). *Boletín de Entomología Venezolana* **1**(2): 43–49.
- Belkin, J.N.** 1977. *Toxorhynchites (Lyn.) gerbergi*, a new species from the southern Lesser Antilles. *Mosquito Systematics* **9**(3): 329–332.
- Blanchard, R.E.** 1889. De la nomenclature des êtres organisés. *Bulletin de la Société Zoologique de France* **14**: 212–282.
- Bonne-Wepster, J. & Bonne, C.** 1920. Diagnoses of new mosquitoes from Surinam, with a note on synonymy. *Insector Inscitiae Menstruus* **7**[1919]: 165–180.
- Bonne-Wepster, J. & Bonne, C.** 1923. A new *Megarhinus* from Surinam (Diptera, Culicidae). *Insector Inscitiae Menstruus* **11**(1–3): 7–9.
- Bourroul, C.** 1904. *Mosquitos do Brasil*. These, Faculdade de Medicina da Bahia. Officina Typographica, Bahia. viii + 78 pp.

- Brêthes, J.** 1926. Contribución para el conocimiento de los mosquitos argentinos. Descripción de un nuevo *Megarhinus*: *Megarhinus tucumanus*. *Boletín del Instituto de Clínica Quirúrgica* (Buenos Aires) **2**: 318–321.
- Coquillett, D.W.** 1896. New Culicidae from North America. *The Canadian Entomologist* **28**(1): 43–44.
- Dyar, H.G. & Knab, F.** 1906. The species of mosquitoes in the genus *Megarhinus*. *Smithsonian Miscellaneous Collections* **48**(3): 241–258.
- Evenhuis, N.L.** 2003. Publication and dating of the journals forming the *Annals and Magazine of Natural History* and the *Journal of Natural History*. *Zootaxa* **385**: 1–68.
- Evenhuis, N.L., Pape, T. & Pont, A.C.** 2016. Nomenclatural studies toward a world list of Diptera genus-group names. Part V: Pierre-Justin-Marie Macquart. *Zootaxa* **4172**(1): 211 pp.
- Evenhuis, N.L., Pape, T. & Ziegler, J.** 2026. Nomenclatural studies toward a world list of Diptera genus-group names. Part VIII: Hermann Loew. *Zootaxa* **5749**, 231 pp.
- Fabricius, J.C.** 1787. *Mantissa insectorvm sistens species nuper detectas adiectis synonymis, observationibus, descriptionibus, emendationibus*. Tome II. C.G. Proft, Hafniae [= Copenhagen]. [2] + 382 pp.
- García, M. & Casal, O.H.** 1967. *Toxorhynchites* (*Lynchiella*) *cavalerii*, nueva especie bromelícola de la República Argentina (Diptera, Culicidae). *Physis* **26**(73): 435–441.
- Gordon, R.M. & Evans, A.M.** 1922. Mosquitoes collected in the Manáos Region of the Amazon. *Annals of Tropical Medicine and Parasitology* **16**(3): 315–338, 1 pl.
- International Commission of Zoological Nomenclature (ICZN)** 1999. *International code of zoological nomenclature*. International Trust for Zoological Nomenclature, London. xxix + 306 pp.
- Knab, F.** 1907. A new species of *Megarhinus*. *The Canadian Entomologist* **39**(2): 50–51.
- Knab, F.** 1913. A new bromelicolous *Megarhinus* (Diptera; Culicidae). *Insector Menstruus* **1**(3): 35–36
- Lahille, F.** 1904. Notes sur la classification des moustiques. *Actas y Trabajos del Segundo Congreso Médico Latino-Americano* (Buenos Aires) **2**: 71–96 + “1 tableau.”
- Le Peletier, A.L.M. & Audinet-Serville, J.G.** 1828. Entomologie, ou histoire naturelle des crustacés, des arachnides et des insectes, pp. 345–833. In: *Encyclopédie méthodique. Histoire naturelle*. Tome dixième [concl.]. Agasse, Paris.
- Lima, A.C.** 1931. Sobre as especies de *Megarhinus* do Brasil (Diptera: Culicidae). *Memórias do Instituto Oswaldo Cruz* **25**(4): 307–315, 2 pls.
- Loew, F.** 1862. Monographs of the Diptera of North America. Part I. *Smithsonian Miscellaneous Collections* **6**(1): xxiv + 221 pp.
- Lutz, A. & Neiva, A.** 1913. Contribuições para a biologia das megarininas com descrições de duas especies novas. *Memórias do Instituto Oswaldo Cruz* **5**(2): 129–141.
- Lynch Arribálzaga, F.** 1891. Dipterologia Argentina. *Revista del Museo de la Plata* **2**: 131–174, 5 pls.
- Macquart, P.J.M.** 1838. *Insectes diptères nouveaux ou peu connus*. Tome premier.—1^{re} partie. Roret, Paris. Pp. 5–221, 25 pls.
- Meigen, J.W.** 1818. *Systematische Beschreibung der bekannten europäischen zweiflügeligen Insecten*. Erster Theil. Aachen. xxxvi + 332 pp. + [1] pp., 11 pls.
- Palma, J.D. & Galvão, A.** 1969. *Lynchiella rizzoi* sp. n., toxorinquitíneo bromelícola do Estado de Goiás (Diptera, Culicidae). *Revista Goiana de Medicina* **15**(1–2): 3–13.

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- Peryassú, A.G.** 1908. *Os culicídeos do Brasil*. Instituto de Manguinhos, Rio de Janeiro. vi + 409 pp.
- Rafinesque, C.S.** 1820. Fishes of the River Ohio. *Western Review and Miscellaneous Magazine* **3**(4): 244–252.
- Röder, V. von.** 1885. Dipteren von der Insel Portorico. *Stettiner Entomologische Zeitung* **46**: 337–349.
- Robineau-Desvoidy, J.-B.** 1827. Essai sur la tribu des culicidés. *Mémoires de la Société d'Histoire Naturelle, Paris* **3**: 390–413, pl. 10.
- Shannon, R.C. & Del Ponte, E.** 1928. Los culicidos en la Argentina. *Revista del Instituto Bacteriológico de Buenos Aires* **5**(1)[1927]: 29–140.
- Theobald, F.V.** 1901. *A monograph of the Culicidae or mosquitoes*. Volume 1. British Museum (Natural History), London. xviii + 424 pp.
- Theobald, F.V.** 1906. A new *Megarhinus*. *Entomologist* **39**(522): 241.
- Theobald, F.V.** 1907. *A monograph of the Culicidae or mosquitoes*. Volume 4. British Museum (Natural History), London. xix + 639 pp.
- Walker, F.** 1848. *List of the specimens of dipterous insects in the collection of the British Museum*. Part 1. British Museum, London. Pp. 1–229.
- Wiedemann, C.R.W.** 1820. *Diptera exotica*. Sectio I. Antennis multiarticulatis. [Edition 1]. No publisher given, Kilae [= Kiel]. xix + 38 pp.
- Wiedemann, C.R.W.** 1828. *Aussereuropäische zweiflügelige Insekten. Als Fortsetzung des Meigenschen Werkes*. Erster Theil. Schulz, Hamm. xxxii + 608 pp., 7 pls.
- Williston, S.W.** 1900. Supplement [part]. *Biologia Centrali-Americana. Zoologia-Insecta-Diptera* **1**: 217–248.