

## Short Communication

# The case of *Lepidothrix*, *Lepidotrix* and *Neolepidothrix*: the importance of the original literature in taxonomic decisions

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## Abstract

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The generic name *Neolepidothrix* Paclt, 2009 was proposed as a replacement name for *Lepidothrix* Bonaparte, 1854 (Aves), on ground of preoccupation by “*Lepidothrix*” Menge, 1854 (Thysanura). However, a careful analysis of the original publications reveals that Menge used the spelling *Lepidotrix*. Therefore the two names are not homonyms and they remain valid for their respective taxa. The name *Lepidothrix* Bonaparte, 1854 is here declared a nomen protectum, taking precedence over the nomen oblitum *Lepidothrix* Agassiz, 1846.

## Introduction

Paclt (2009) drew attention to the alleged homonymy of two genus-group names, *Lepidothrix* Bonaparte, 1854 and “*Lepidothrix*” Menge, 1854, currently in use in birds and in thysanurans, respectively. Paclt (2009) affirmed that *Lepidothrix* Bonaparte, 1854 and “*Lepidothrix*” Menge, 1854 are homonyms, that the former was published later and that “*Lepidothrix*” Menge, 1854 is in prevailing usage in the thysanuran literature. He concluded that *Lepidothrix* Bonaparte, 1854 was preoccupied by “*Lepidothrix*” Menge, 1854. Following the provisions of the International Code of Zoological Nomenclature (hereafter the Code, ICZN, 1999) in case of homonyms without synonyms (Art. 60.3), Paclt proposed the genus name *Neolepidothrix* as a replacement name for *Lepidothrix* Bonaparte, 1854. However, after a careful analysis of the original publications it appears that Paclt based his action on unsupported claims and uncorrect assumptions.

### 1. Bonaparte’s name is senior to Menge’s name

Bonaparte (1854b: 316) established the new genus name *Lepidothrix* for two species of manakins (Pipridae), previously included in *Pipra* Linnaeus, 1758. Bonaparte included in the new taxon the species “*cyaneocapilla*, Wagl. (*herbacea*, Spix, fæm.)” (i.e. *Pipra cyanocapilla*

Hahn, 1826) and “*isidorii*, Sclater” (i.e. *Pipra isidorei* P. L. Sclater, 1852), without selecting a type species. The type species was subsequently designated by Gray (1855: 147), who selected “*Pipra cyanocapilla*, Wagl.” (i.e. *Pipra cyanocapilla* Hahn, 1826, currently a junior synonym of *Pipra coronata* Spix, 1825, see Hellmayr, 1929: 17). Bonaparte’s name was published in a revision of the Volucres Anisodactyli that appeared in the August (11th) issue, volume 2 of *Ateneo Italiano*, a short-lived journal published in Italian in Paris in 1853–1854. The exact publication date of the August issue is not known, although Richmond (1917: 573) affirmed that the issues were published on the 15th of the month. The 11th issue was received by the Académie des Sciences in Paris on or before 28 August and recorded in the Académie proceedings (Anonymous, 1854c: 444). It is worth mentioning that the manuscript name “*Lepidothrix* Schiff.” was listed by Bonaparte (1854a) in a general classification of birds published earlier in the same year in the *Annales des Sciences Naturelles, Zoologie*. A reprint was presented by the author to the Académie des Sciences in Paris on or before 29 May and recorded in the Académie proceedings (Anonymous, 1854a: 1031), and the journal issue received by the Académie des Sciences in Paris on or before 26 June and recorded in the Académie proceedings (Anonymous, 1854b: 1156). However, in that publication “*Lepidothrix* Schiff.” is a *nomen nudum* and not available.

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Berendt started the publication of a multivolume treatise on the organisms preserved in Baltic amber. Berendt was able to publish only the first part in 1845 and prepared the manuscript of the second part in collaboration with Kock. After Berendt's untimely death in 1850, Menge supplied several notes to the manuscript of the second part and published it in 1854 (Koch & Berendt, 1854). In a note to a new species of thysanuran Menge described two additional new genera, *Lepidion* and *Lepidotrix* (not *Lepidothrix*!). The second part of Berendt's work was recorded as published in the *Börsenblatt für den deutschen Buchhandel* issue dated 18 October (Anonymous, 1854d: 1762).

According to Art. 21.3 of the Code, the availability of a name must date from "the earliest day on which the work is demonstrated to be in existence". Hence, Bonaparte's name is available from 28 August 1854, predating Menge's name by almost two months, *contra* Paclt (2009).

## 2. *Lepidothrix* Bonaparte and *Lepidotrix* Menge are not homonyms

The names *Lepidothrix* Bonaparte, 1854 and *Lepidotrix* Menge, 1854 differ in a letter and according to the Art. 56.2 of Code they are deemed to be not homonyms, *contra* Paclt (2009).

## 3. *Lepidothrix* "Menge" Silvestri (1912) is an unjustified emendation

The genus name *Lepidotrix* Menge, 1854 has been regularly used in the entomological literature since its creation (e.g. Ander 1942; Paclt 1967; Sturm & Machida 2001). The name was emended to *Lepidothrix* by Silvestri (1912: 49). According to Art. 33.2.3, this action was an unjustified emendation and the genus name *Lepidothrix* Silvestri, 1912 is automatically an objective junior synonym of *Lepidotrix* Menge, 1854. This point was clarified by Carpenter (1992).

## 4. The spelling *Lepidothrix* is not in prevailing usage

The Art. 33.2.3.1 of the Code prescribes that emendations in prevailing usage must be maintained. However, that case does not apply here. Indeed, even a cursory survey of the thysanuran literature reveals that both spellings were in use in recent years (*Lepidotrix*: e.g. Sturm & Machida 2001; Grimaldi 2001; Giribet 2004; Carapelli 2006; Zrzavý 2008; *Lepidothrix*: e.g. Wygodzinsky 1961; Sturm 1998; Sturm & Mendes 1998; Engel 2006), and no claims of prevailing usage can be made.

Although not mentioned by Paclt (2009), the genus name *Lepidothrix* Bonaparte, 1854 is predated by *Lepidothrix* Agassiz, 1846. However, Agassiz's name was introduced as an unjustified emendation of *Lepitrix* Le Peletier de Saint-Fargeau & Serville, 1828 (currently in use for a genus of Scarabeidae Melolonthinae Hopliini

beetles, with the emended spelling *Lepithrix*, see Dalla Torre, 1915). *Lepidothrix* Bonaparte, 1854 was used as the valid name in at least 25 works by at least 10 authors in the last 50 years over a span of at least 10 years (Prum 1992; Endler & Thery 1996; Thery 1997; Brumfield & Braun 2001; Ridgely & Greenfield 2001; Hilty 2002; Dagleish & Price 2003; Heindl & Winkler 2003; Snow 2004; Cheviron et al. 2005; Ryder & Durães 2005; Engel 2006; Greeney 2006; Restall et al. 2006; Sousa 2006; Tori et al. 2006; Durães et al. 2007; Loiselle et al. 2007; Rego et al. 2007; Schulenberg et al. 2007; Blendinger et al. 2008; Buitron-Jurado 2008; Hidalgo et al. 2008; Mallet-Rodrigues 2008; Anciães et al. 2009; Vanderhoff & Grafton 2009), while Agassiz's name has never been used as a valid name since its creation, and *a fortiori* since 1899. The requirements of Art. 23.9.1.1 and 23.9.1.2 of the Code are met and in accordance with Art. 23.9.2 the name *Lepidothrix* Bonaparte, 1854 is here regarded as valid, qualifying as a *nomen protectum*, and deemed to have precedence over *Lepidothrix* Agassiz, 1846, qualifying as a *nomen oblitum*.

## Conclusion

Hence, the genus name *Lepidothrix* Bonaparte, 1854 is the valid name for a manakin genus, *Lepidotrix* Menge, 1854 remains the valid name for the thysanuran taxon and the genus name *Neolepidothrix* Paclt, 2009 becomes a junior objective synonym of *Lepidothrix* Bonaparte, 1854.

This case well exemplifies the critical role of accessing the original publications in taxonomic decisions.

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## References

- Agassiz, L. 1846. Nomenclatoris Zoologici Index Universalis. Soloduri.
- Anciães, M., Durães, R. R., Cerqueira, M. C., Fortuna, J. R., Sohn, N., Cohn-Haft, M. & Farias, I. P. 2009. Diversidade de piprídeos (Aves: Pipridae) amazônicos: seleção sexual, ecologia e evolução. – Oecologia Brasiliensis 13: 165–182.
- Ander, K. 1942. Die Insektenfauna des baltischen Bernsteins nebst damit verknüpften zoogeographischen Problemen. – Lunds Universitets Årsskrift, s. n., 38 (4): 1–83.
- Anonymous. 1854a. Bulletin bibliographique. – Comptes Rendus de l'Académie des Sciences 38 (23): 1029–1032.
- Anonymous. 1854b. Bulletin bibliographique. – Comptes Rendus de l'Académie des Sciences 38 (26): 1154–1159.
- Anonymous. 1854c. Bulletin bibliographique. – Comptes Rendus de l'Académie des Sciences 39 (9): 442–444.
- Anonymous. 1854d. Erschienene Neuigkeiten des deutschen Buchhandels. – Börsenblatt für den deutschen Buchhandel und die mit ihm vermandten Geschäftszweige 21 (131): 1761–1762.

- Blendinger, P. G., Loiselle, B. A. & Blake, J. G. 2008. Crop size, plant aggregation, and microhabitat type affect fruit removal by birds from individual melastome plants in the upper Amazon. – *Oecologia* (Berlin) 158: 273–283.
- Bonaparte, C. L. 1854a. Conspectus Systematis Ornithologiae. – *Anales des Sciences Naturelles*. 4e série, Zoologie 1 (3): 105–152.
- Bonaparte, C. L. 1854b. Conspectus Volucrum Anisodactylorum. – *Ateneo Italiano* 2 (11): 311–321.
- Brumfield, R. T. & Braun, M. J. 2001. Phylogenetic relationships in bearded manakins (Pipridae: *Manacus*) indicate that male plumage color is a misleading taxonomic marker. – *Condor* 103: 248–258.
- Buitron-Jurado, G. 2008. Foraging behavior of two species of manakins (Pipridae) in mixed-species flocks in Yasuni, Ecuador. – *Ornitología Neotropical* 19: 243–253.
- Carapelli, A., Nardi F., Dallai R. & Frati F. 2006. A review of molecular data for the phylogeny of basal hexapods. – *Pedobiologia* 50 (2): 191–204.
- Carpenter, F. M. 1992. Treatise on Invertebrate Paleontology, Part R, Arthropoda 4, vol. 3&4: Superclass Hexapoda. Geological Society of America & University of Kansas, Boulder, Colorado & Lawrence, Kansas.
- Cheviron, Z. A., Hackett, S. J. & Capparella, A. P. 2005. Complex evolutionary history of a neotropical lowland forest bird (*Lepidothrix coronata*) and its implications for historical hypotheses of the origin of neotropical avian diversity. – *Molecular Phylogenetics and Evolution* 36: 338–357.
- Dalgleish, R. C. & Price, R. D. 2003. Four new species of Myrsidea (Phthiraptera: Menoponidae) from manakins (Passeriformes: Pipridae). – *Journal of the New York Entomological Society* 111: 167–173.
- Dalla Torre, K. W. 1915. Hopliini. – *Coleopterorum Catalogus* 20: 339–385.
- Durães, R., Loiselle, B. A. & Blake, J. G. 2007. Intersexual spatial relationships in a lekking species: Blue-crowned manakins and female hot spots. – *Behavioral Ecology* 18: 1029–1039.
- Endler, M. S. & Théry, M. 1996. Interacting effects of lek placement, display behavior, ambient light and color patterns in three neotropical forest-dwelling birds. – *American Naturalist* 148: 421–452.
- Engel M. S. 2006. A note on the relic silverfish *Tricholepidion gertschi* (Zygentoma). – *Transactions of the Kansas Academy of Science* 109 (3/4): 236–238.
- Giribet, G., Edgecombe, G. D., Carpenter, J. M., D'Haese, C. A. & Wheeler, W. C. 2004. Is Ellipura monophyletic? A combined analysis of basal hexapod relationships with emphasis on the origin of insects. – *Organisms, Diversity & Evolution* 4: 319–340.
- Gray, G. R. 1855 Catalogue of the genera and subgenera of birds contained in the British Museum. British Museum, Printed by order of the Trustees, London.
- Greeney, H. F. 2006. A blue-crowned manakin *Lepidothrix coronata* successfully defends its nest from *Labidus* army ants. – *Cotinga* 25: 85–86.
- Grimaldi, D. 2001. Insect evolutionary history from Handlirsch to Hennig, and beyond. – *Journal of Paleontology* 75 (6): 1152–1160.
- Heindl, M. & Winkler, H. 2003. Vertical lek placement of forest-dwelling manakin species (Aves, Pipridae) is associated with vertical gradients of ambient light. – *Biological Journal of the Linnean Society* 80: 647–658.
- Hellmayr, C. E. 1929. Catalogue of birds of the Americas and the adjacent islands. Oxyuruncidae, Pipridae, Cotingidae, Rupicolidae, Phitomidae. Field Museum of Natural History Publication, Zoological Series XIII (6): 1–258.
- Hidalgo, J. R., Ryder, T. B., Tori, W. P., Durães, R., Blake, J. G. & Loiselle, B. A. 2008. Nest architecture and placement of three manakin species in lowland Ecuador. – *Cotinga* 29: 57–61.
- Hilty, S. L. 2002. Birds of Venezuela. Helm Field Guide, London.
- I.C.Z.N. 1999. International Code of Zoological Nomenclature, 4th edition. The International Trust of Zoological Nomenclature. The Natural History Museum, London.
- Kock, C. L. & Berendt, G. C. 1854. Die im Bernstein befindlichen organischen Reste der Vorwelt. Erster Band. II. Abtheilung: Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteran der Vorwelt. Nicolaischen Buchhandlung, Berlin.
- Le Peletier de Saint-Fargeau, A. L. M., & Serville, J. G. 1828. *Lepitrix*. In Latreille, P. A., Le Peletier de Saint-Fargeau, A. L. M., Serville, J. G. & Guérin-Méneville, F. E. 1828. Encyclopédie Méthodique. Histoire Naturelle. Entomologie. Tome X partie 2. Agasse, Paris: p. 381.
- Loiselle, B. A., Ryder, T. B., Durães, R., Tori, W., Blake, J. G. & Parker, P. G. 2007. Kin selection does not explain male aggregation at leks of 4 manakin species. – *Behavioral Ecology* 18: 287–291.
- Mallet-Rodrigues, F. 2008. Taxons de aves de validade questionável com ocorrência no Brasil. IX – Subscines Tyrannoidea. – *Atualidades Ornitológicas* 142: 8–9.
- Menge, A. 1854. *Lepisma argentata*. In Koch, C. L. & Berendt, G. C.: Die im Bernstein befindlichen Crustaceen, Myriapoden, Arachniden und Apteran der Vorwelt. Nicolaischen Buchhandlung, Berlin: p. 117.
- Paclt, J. 1963. Thysanura: fam. Lepidotrichidae, Maindroniidae, Lepismatidae. – *Genera Insectorum* 216: 1–86.
- Paclt, J. 2009. *Neolepidothrix*, a replacement name for *Lepidothrix* Bonaparte (Aves, Pipridae), nec Menge (Insecta, Lepidotrichidae). – *Zoosystematics and Evolution* 85: 161.
- Prum, R. O. 1992. Syringeal morphology, phylogeny, and evolution of the Neotropical manakins (Aves: Pipridae). – *American Museum Novitates* 3043: 1–65.
- Rego, P. S., Araripe, J., Marceliano, M. L. V., Sampaio, I. & Schneider, H. 2007. Phylogenetic analyses of the genera *Pipra*, *Lepidothrix* and *Dixiphia* (Pipridae, Passeriformes) using partial cytochrome b and 16S mtDNA genes. – *Zoologica Scripta* 36: 565–575.
- Restall, R., Rodner, C. & Lentino, M. 2006. Birds of Northern South America. An identification guide. Helm Field Guide, London.
- Richmond, C. W. 1917. Generic names applied to birds during the years 1906 to 1915, inclusive, with addictions and corrections to Waterhouse's 'Index Generum Avium'. – *Proceedings of the United States National Museum* 53: 565–636.
- Ridgely R. S. & Greenfield P. J. 2001. The birds of Ecuador. Helm Field Guide, London.
- Ryder, T. B., & Durães, R. 2005. It's not easy being green: Using molt and morphological criteria to age and sex green-plumage manakins (Aves: Pipridae). – *Ornitología Neotropical* 16: 481–491.
- Schulenberg, T. S., Stotz, D. F., Lane, D. F., O'Neill, J. P. & Parker, T. A. III. 2007. Birds of Peru. Princeton University Press, Princeton.
- Silvestri, F. 1912. Die Thysanuren des baltischen Bernsteins. – *Schriften der Physikalisch-Ökonomischen Gesellschaft zu Königsberg* 53: 42–66.
- Snow, D. W. 2004. Family Pipridae (Manakins). In del Hoyo, J., Elliott, A. & Christie, D. A. (eds). 2004. *Handbook of the Birds of the World*. Vol. 9. Cotingas to Pipits and Wagtails. Lynx Edicions, Barcelona: pp. 110–169.
- Sousa, D. 2006. All the birds of Brazil. Subbuteo Natural History Books.
- Sturm, H. & Machida, R. 2001. Handbuch der Zoologie. Band IV Arthropoda Insecta. Teilband 37. Archaeognatha. Walter de Gruyter, Berlin & New York.
- Sturm, H. & Mendes, L. F. 1998. Two New Species of Nicoletiidae (Zygentoma, "Apterygota," Insecta) in Dominican Amber. – *American Museum Novitates* 3226: 1–11.
- Sturm, H. 1998. Erstnachweis fischchenartiger Insekten (Zygentoma, Insecta) für das Mesozoikum (Untere Kreide, Brasilien). – *Palaeobiodiversity and Palaeoenvironments* 78 (1–2): 135–140.

- Thery, M. 1997. Wing-shape variation in relation to ecology and sexual selection in five sympatric lekking manakins (Passeriformes: Pipridae). – *Ecotropica* 3: 9–19.
- Tori, W. P., Ryder, T. B., Durães, R., Hidalgo, J. R., Loiselle, B. A. & Blake, J. G. 2006. Obtaining offspring genetic material: A new method for species with high nest predation rates. – *Condor* 108: 948–952.
- Vanderhoff, E. N. & Grafton, B. 2009. Behavior of tamarins, tanagers and manakins foraging in a strangler fig (*Ficus* sp.) in Suriname, South America: Implications for seed dispersal. – *Biota Neotropica* 9: 419–423.
- Wygodzinsky, P. 1961. On a surviving representative of the Lepidotrichidae (Thysanura). – *Annals of the Entomological Society of America* 54 (5): 621–627.
- Zrzavý, J. 2008. Four chapters about the monophyly of insect ‘Orders’: A review of recent phylogenetic contributions. – *Acta Entomologica Musei Nationalis Pragae* 48 (2): 217–232.