



Niltavinae, a new taxon of Old World flycatchers (Aves: Muscicapidae)

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The relationships among Old World chats and flycatchers (Muscicapidae) have recently been clarified in two independent molecular phylogenetic studies (Sangster *et al.* 2010, Zuccon & Ericson 2010). Both studies recovered a well-supported clade of predominantly blue flycatchers of the genera *Niltava*, *Cyornis*, *Eumyias* and *Cyanoptila*, some species traditionally included in the genus *Rhinomyias* and one species traditionally included in *Ficedula* (*F. monileger*). The family-group name Niltavinae Sangster, Alström, Forsmark & Olsson, 2010, was introduced for this clade (Sangster *et al.* 2010). Unfortunately, our description of the new taxon Niltavinae did not include a diagnosis (*sensu* ICZN article 13.1.1) and thus inadvertently made this name unavailable for nomenclatural purposes (Zuccon 2011). The supplementary data associated with our original paper included evidence by which the taxon Niltavinae can be diagnosed: a 1 base pair (bp) deletion in the ornithine decarboxylase gene, as shown in Figure S1 in the online version (doi:10.1016/j.ympev.2010.07.008), but this was not mentioned in the printed version of our paper. Given that Niltavinae Sangster, Alström, Forsmark & Olsson, 2010 represents a *nomen nudum*, and the clade for which this name was intended thus remains unnamed, we here provide the following description:

Niltavinae new subfamily

Type genus: *Niltava* Hodgson, 1837.

Diagnosis. The taxon Niltavinae is diagnosed as monophyletic on the basis of a molecular phylogeny (Sangster *et al.* 2010). Niltavinae differs from all other Muscicapidae (*sensu* Sangster *et al.* 2010) by an unambiguous synapomorphic deletion of 1 bp (Sangster *et al.* 2010: Figure S1), corresponding to nucleotide position 64 in intron 7 of the nuclear ornithine decarboxylase gene of *Gallus gallus bankiva* Temminck (GenBank accession number EF552724) and position 61 in intron 7 of the nuclear ornithine decarboxylase gene of *Taeniopygia guttata* (Vieillot) (GenBank accession number FJ408650).

Most members of Niltavinae have blue upperparts, either in both sexes [most species of *Eumyias*, some races of *Cyornis tickelliae* Blyth, *C. rufigastra* (Raffles), *C. turcosus* Brüggeman] or in males only [all *Niltava*, most species of *Cyornis*, both species of *Cyanoptila* Blyth]. Therefore, blue upperpart colouration may be a synapomorphy of the clade. Blue colouration is not present (presumably lost) in two species of *Anthipes* [*A. monileger* (Hodgson), *A. solitaris* (Stadius Muller)], one species of *Eumyias* [*E. additus* (Hartert)] and at least five species of *Cyornis* [*C. poliogenys* Brooks, *C. sanfordi* Stresemann, *C. umbratilis* (Strickland), *C. olivaceus* Hume, *C. ruficauda* (Sharpe)]. Except for *C. poliogenys* and *C. sanfordi*, all the species of Niltavinae that lack blue colouration were formerly placed in other genera (*Ficedula*, ‘*Rhinomyias*’), underscoring the difficulty of defining higher taxa of Muscicapidae on the basis of morphology. Nevertheless, compared to the various chat genera, tarsi and toes are much smaller in Niltavinae. Bill width of most species of Niltavinae (including *Anthipes monileger*) is greater than in *Ficedula*. Most have proportionately longer tails, larger size, and simpler plumage patterns than in most dichromatic *Ficedula*. Dichromatic males usually have shining blue patches on forehead, carpal area, and/or elsewhere, but usually lack white supercilia, wing and/or tail patches which are common among *Ficedula*. Underparts in Niltavinae are usually rufous, bluish, or blackish on breast, and whitish on lower underparts.

Included taxa: In addition to the type genus, Niltavinae includes all species of *Anthipes* Blyth, 1847, *Cyornis* Blyth, 1843, *Cyanoptila* Blyth, 1847 and *Eumyias* Cabanis, 1850 (*sensu* Sangster *et al.* 2010).

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Literature cited

- Blyth, E. (1843) Mr. Blyth's monthly report for December meeting, 1842, with addenda subsequently appended. *Journal of the Asiatic Society of Bengal*, 12, 925–1011.
- Blyth, E. (1847) Notices and descriptions of various new or little known species of birds, Part II. *Journal of the Asiatic Society of Bengal*, 16, 118–157.
- Cabanis, J. (1850) *Museum Heineanum. Verzeichniss de ornithologischen Sammlung des Oberamtmann Ferdinand Heine, auf Gut St. Burchard vor Halberstadt*, 1. Theil, de Singvögel. Frantz, Halberstadt, 233 pp.
<https://doi.org/10.5962/bhl.title.112135>
- Hodgson, B.H. (1837) Indication of a new genus of Insectores, tending to connect the Sylviadae and Muscicapidae. *India Review*, 1, 650–652.
- International Commission on Zoological Nomenclature. (1999) *International Code of Zoological Nomenclature*. Fourth Edition. The International Trust for Zoological Nomenclature, Padova, XXIX + 306 pp.
- Sangster, G., Alström, P., Forsmark, E. & Olsson, U. (2010) Multi-locus phylogenetic analysis of Old World chats and flycatchers reveals extensive paraphyly at family, subfamily and genus level (Aves: Muscicapidae). *Molecular Phylogenetics and Evolution*, 57, 380–392.
<https://doi.org/10.1016/j.ympev.2010.07.008>
- Zuccon, D. (2011) Taxonomic notes on some Muscicapidae. *Bulletin of the British Ornithologists' Club*, 131, 196–199.
- Zuccon, D. & Ericson, P.G.P. (2010) A multi-gene phylogeny disentangles the chat-flycatcher complex (Aves: Muscicapidae). *Zoologica Scripta*, 39, 213–224.
<https://doi.org/10.1111/j.1463-6409.2010.00423.x>