Muscicapidae: split *Myophonus caeruleus* (Blue Whistling Thrush) into two species

Background

Whistling thrushes of the genus *Myophonus* are a group of terrestrial muscicapid species. Their plumage is typically dark blue or brown; many species also display brighter, iridescent spots which create a spangled appearance, as well as bright blue patches on forecrown and lesser coverts. Whistling thrush species vary in bill structure and size, with the most wide-ranging, polytypic Blue Whistling Thrush *M. caeruleus* being the largest member of the megadiverse family Muscicapidae.

Table 1: AviList v2025 taxonomy of the Blue Whistling Thrush

Common name	**Scientific name and authority**	**Range**
Blue Whistling Thrush	***Myophonus caeruleus***	
	Myophonus caeruleus caeruleus (Scopoli, 1786)	western China (Sichuan); winters to southern China and northern Indochina
	Myophonus caeruleus flavirostris (Horsfield, 1821)	foothill and montane forest of Java
	Myophonus caeruleus temminckii (Vigors, 1831)	central Asia to northern India, Pakistan, southeastern Tibet, and Myanmar
	Myophonus caeruleus eugenei (Hume, 1873)	northeastern Assam to southern Myanmar, northern Thailand, southwestern China, and Indochina
	Myophonus caeruleus dichrorhynchus (Salvadori, 1879)	southern Thai-Malay Peninsula and Sumatra
	Myophonus caeruleus crassirostris (Robinson, 1910)	northern Thai-Malay Peninsula

Current taxonomy reflects that the Blue Whistling Thrush has six subspecies (*caeruleus*, *flavirostris*, *eugenei*, *temminckii*, *crassirostris* and *dichrorhynchus*). The nominate *M. c. caeruleus* consistently differs from all other taxa in having a smaller, all-dark bill and higher-pitched vocalizations. I propose that *M. caeruleus* (Blue Whistling Thrush) should be split into two species, *M. caeruleus* (monotypic) and *M. flavirostris* (including *eugenei*, *temminckii*, *crassirostris*, and *dichrorhynchus*), based on the marked differences in vocalizations and morphology. In fact, nominate *M. c. caeruleus* most closely resembles Taiwan Whistling-Thrush *M. insularis* both phenotypically and bioacoustically.

Note that no genetic data is available.

Figure 1A. Profile of *Myophonus caeruleus* taxa from left to right, top to bottom; *caeruleus*, *temminckii*, *eugenei*, *crassirostris*, *dichrorhynchus*, and *flavirostris*

Morphology

- The differences in bill colouration and structure is outstanding. Apart from colouration, *caeruleus* also has a noticeably shorter and finer bill than all yellow-billed taxa (Figures 2–4).
- Delacour (1942) remarked that "The differences in the size and the thickness of bill and legs in the two birds are very striking in living specimens and lead one to believe, as I long did, that they represent two separate species". However, I suspect that the occurrences of intermediates between black-billed (*caeruleus*) and yellow-billed taxa may have been overstated. The intermediate bill colouration of juvenile *caeruleus* might have misled scholars in classification.
    - A series of specimens collected by Weigold in western Sichuan, China, were identified as intermediates between black-billed and yellow-billed by Streseman, who stated that intermediate-looking birds predominated pure forms in the area. Current evidence does not support that statement as all individuals photographed in Sichuan can clearly be assigned to subspecific identity, with fledgling and juvenile *caeruleus* consistently possess yellow in bill. Note that the bill lengths of all birds identified as intermediates by Streseman did not exceed 28 mm, falling well within the range of *M. c. caeruleus* and shorter than the shortest-billed of any yellow-billed taxa (Delacour, 1942).
    - In the immense Macaulay Library collection, I found only a single individual with seemingly intermediate bill colouration photographed in Nan province, Thailand. Structurally, the bird closely resembles *M. c. caeruleus* in having a smallish bill and a relatively short tail (Figures 5 and 6).

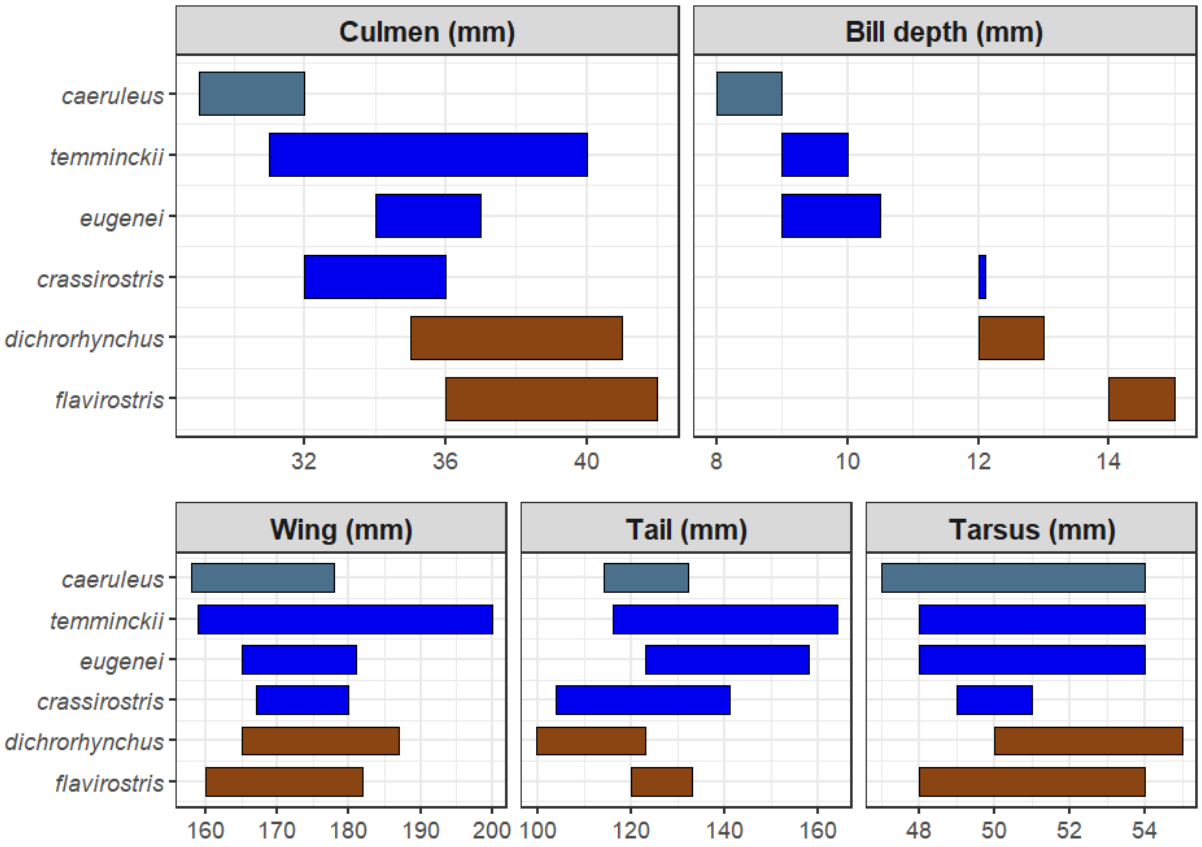

Figure 2. Morphometric ranges (mm) given in Delacour (1942), with additional data on wing and tail lengths of *crassirostris* and *dichrorhynchus* given in Wells (2007). Note that neither of the two sources state the sample sizes nor mean numbers.

Figure 3. From left to right: *flavirostris, caeruleus, eugenei, dichrorhynchus, temminckii*, and *M. robinsoni* (Malayan Whistling Thrush) specimens in British Natural History Museum (James Eaton).

Figure 4. From left to right: *caeruleus*, *caeruleus*, *eugeni*, and *temminckii* specimens in British Natural History Museum (James Eaton).

Figure 5. An individual with intermediate bill colouration, photographed at Doi Phu Kha National Park, Nan province, Thailand on 1st February 2025 (https://ebird.org/checklist/S211466355).

Figure 6. Another angle of the same individual as in Figure 5. Note the small, fine bill, and the relatively short tail.

Bioacoustics

Vocalizations are not mentioned in the comprehensive accounts on Blue Whistling Thrush taxa by Delacour (1942) who suggested the extensive intergradation between black-billed and yellow-billed birds.

It is evident that *M. c. caeruleus* has a consistently different call-note from yellow-billed birds, leading to speculation that they could constitute separate species (Round, 2012). Figure 7 shows that the main part of its typical whistle is approximately 1 kHz higher than those of other taxa.

Songs of *caeruleus* contain melodious, pinched, rich phrases, consistently encompassing a higher and wider frequency range, with the main part of the sonogram being as high-pitched as above 7 kHz (Figure 8). Call-notes and songs of *caeruleus* fall in the more similar frequency ranges to the respective vocalizations of *M. insularis* (Taiwan Whistling-Thrush) (Figures 17 and 18).

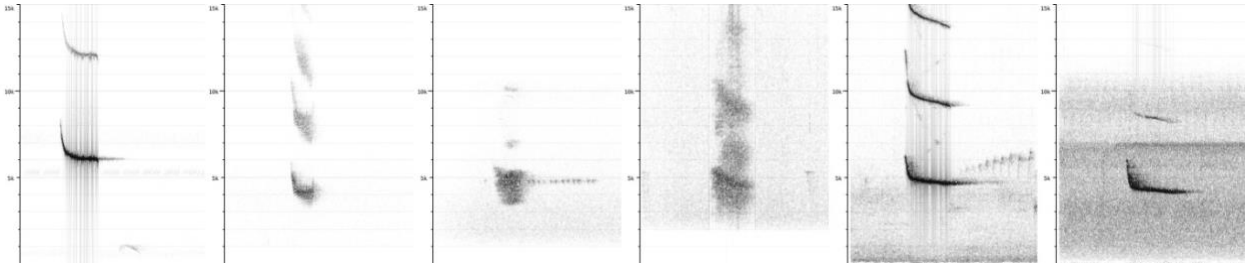

Figure 7. Sonograms of typical whistle calls of *M. caeruleus* taxa retrieved from xeno-canto database. From left to right: *caeruleus*, *temminckii*, *eugenei*, *crassirostris*, *dichrorhynchus*, and *flavirostris*.

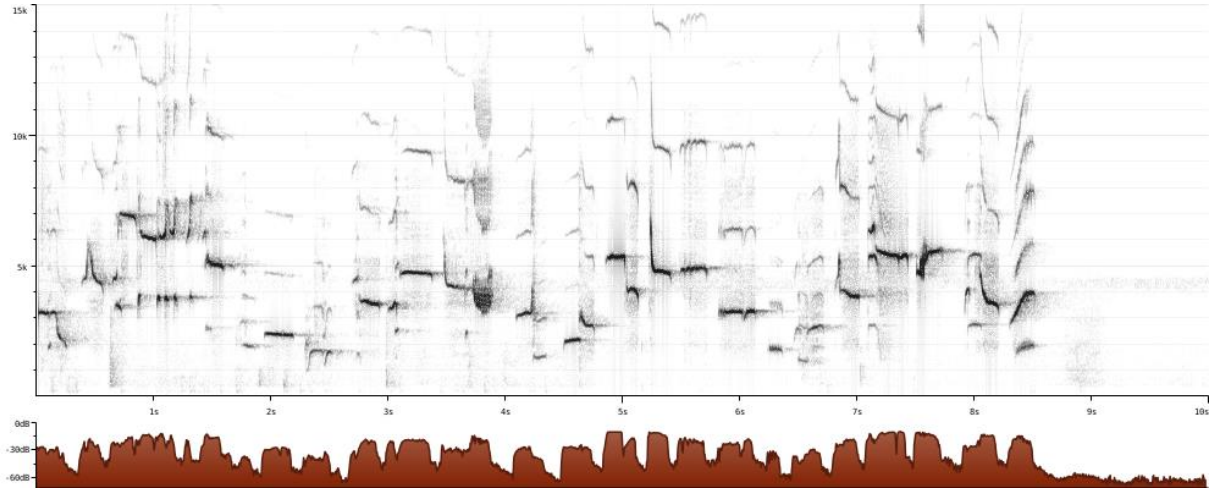

Figure 8. Song of *caeruleus* sensu stricto (https://xeno-canto.org/879327).

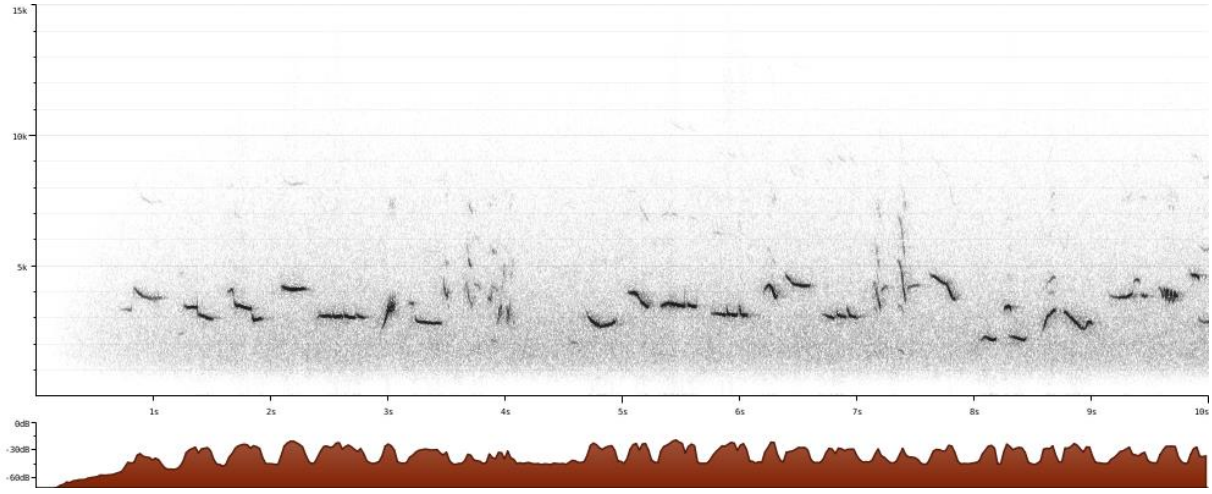

Figure 9. "Fluty" song of *temminckii* (https://xeno-canto.org/179947).

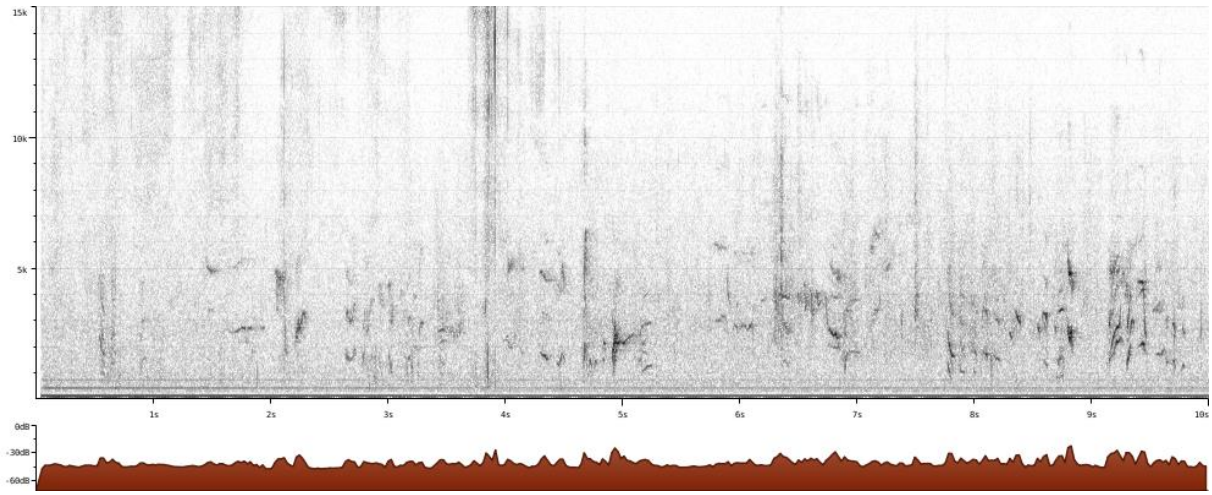

Figure 10. “Scratchy” song of *temminckii* (https://xeno-canto.org/114776).

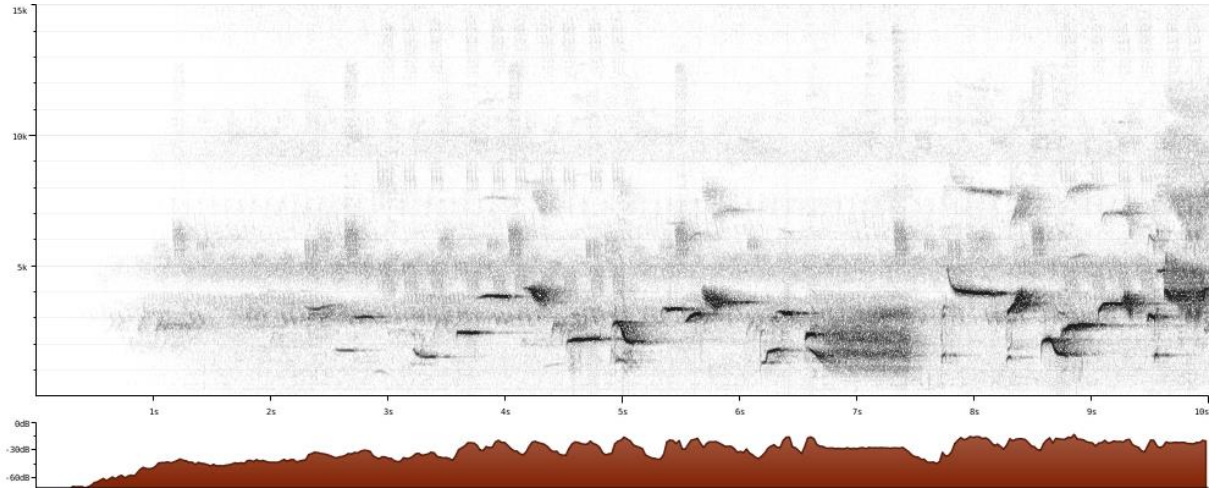

Figure 11. “Fluty” song of *eugenei* (https://xeno-canto.org/191578). “Scratchy” songs on Macaulay Library from the highest summit of Thailand are presumed to belong to this taxon.

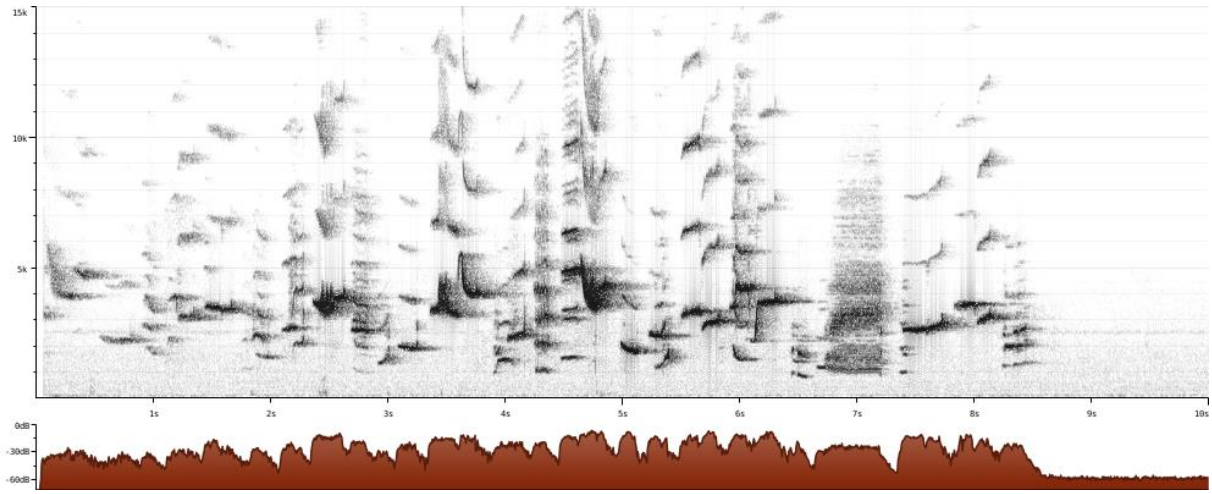

Figure 12. Song of *crassirostris* (https://xeno-canto.org/484968). This appears to be the only available recording of this taxon.

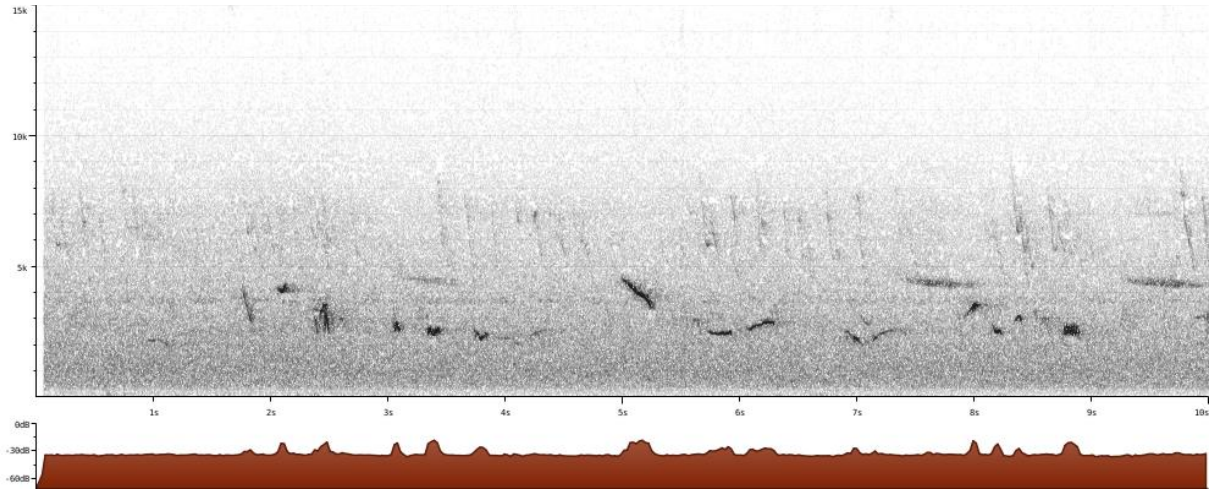

Figure 13. Song of *flavirostris* (https://xeno-canto.org/204102).

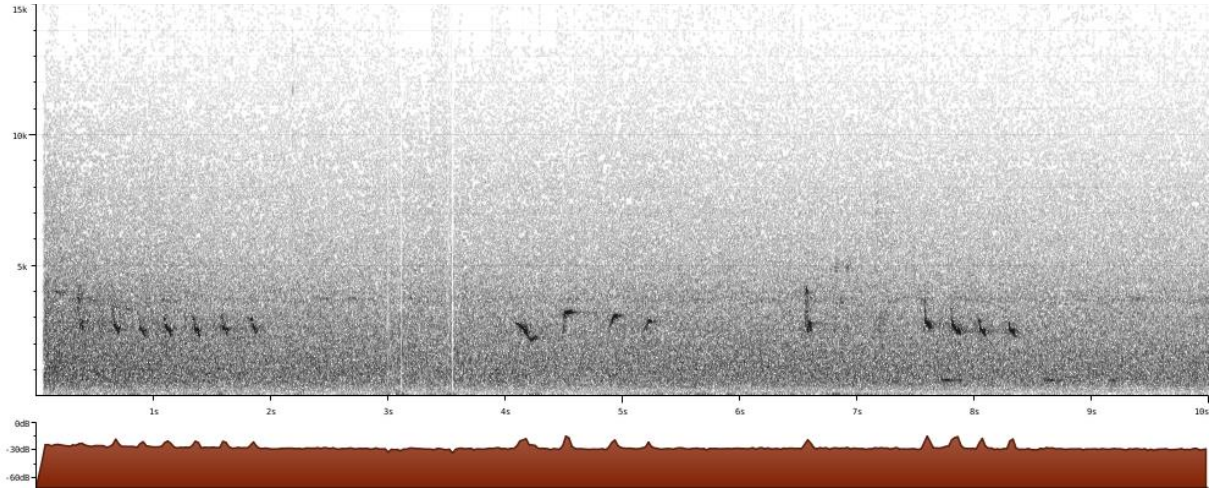

Figure 14. Song of *flavirostris* (https://xeno-canto.org/204102), presumably the same bird as Figure 13.

Ecology

M. c. caeruleus in wintering grounds appear to show very little or no association with limestones or rocky streams, whereas all yellow-billed taxa (including the partially migratory *M. c. temminckii*) seem to prefer such habitats year-round.

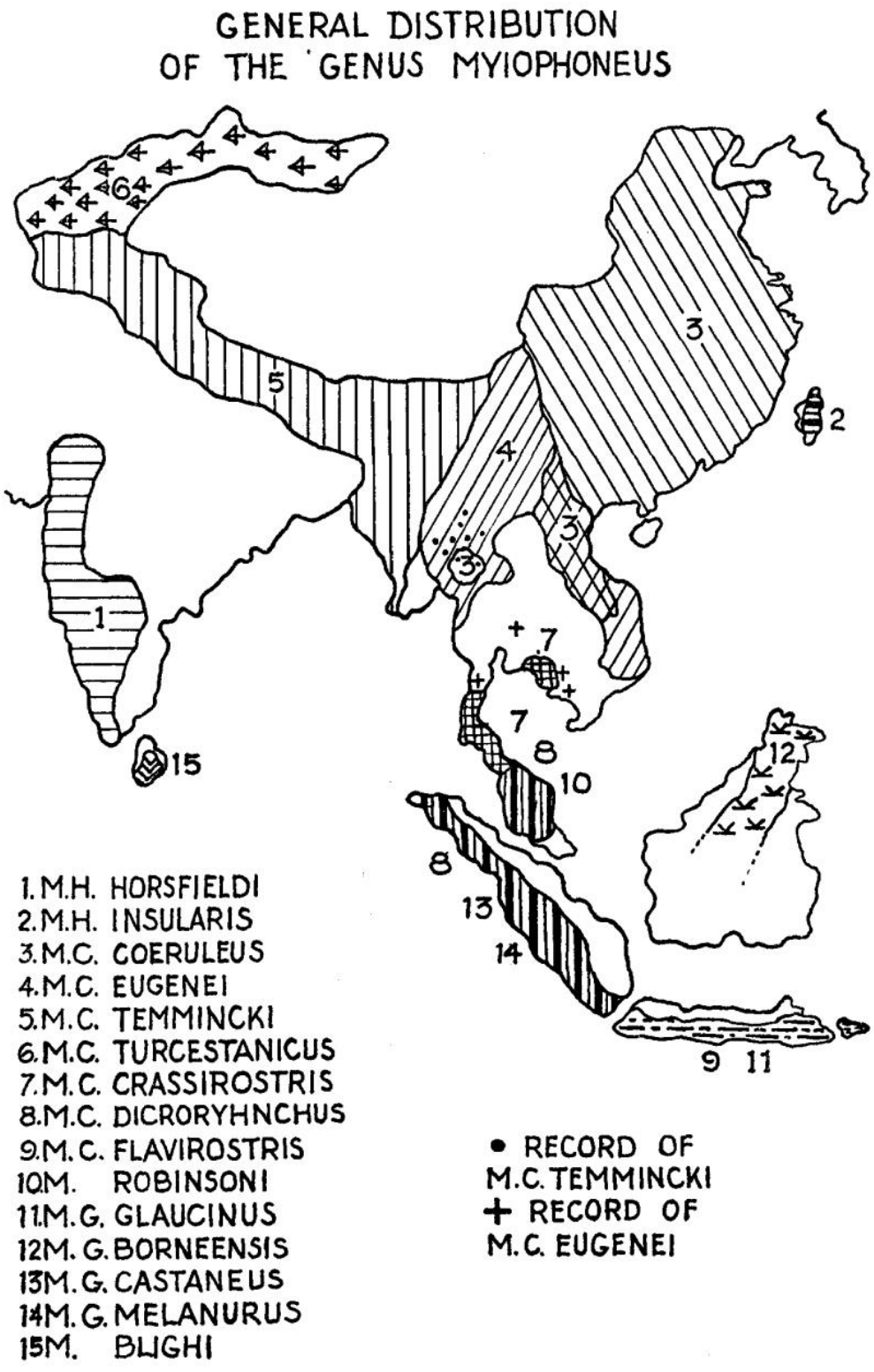

Figure 15. Distribution of whistling thrushes *Myophonus* spp. drawn in Delacour (1942). Note that *M. c. turcestanicus* is synonymized with *M. c. temminckii* in AviList Checklist.

Conclusion

The Tropical Asian RAG supports the recognition of the black-billed *caeruleus* as a monotypic species, rendering the nomenclatural change on all other *M. caeruleus* taxa (yellow-billed) to *M. flavirostris*. There is no evidence supporting the existence of any intergradation zone between black-billed and yellow-billed birds as traditionally believed. It can also be argued that there are more similarities between *M. caeruleus* sensu stricto and its geographically closest congener Taiwan Whistling Thrush *M. insularis*, a single-island endemic species, in bill structure, bill colouration (Figure 16), and the high frequency range of vocalizations (Figures 17 and 18).

Figure 16. Profile of *M. c. caeruleus* and Taiwan Whistling-Thrush *M. insularis*

Figure 17. Sonogram of a typical whistle call of *M. insularis* retrieved from Macaulay Library. The frequency range is similar to that of nominate *M. c. caeruleus*, being distinctly higher-pitched than all yellow-billed *M. caeruleus* taxa (see Figure 7).

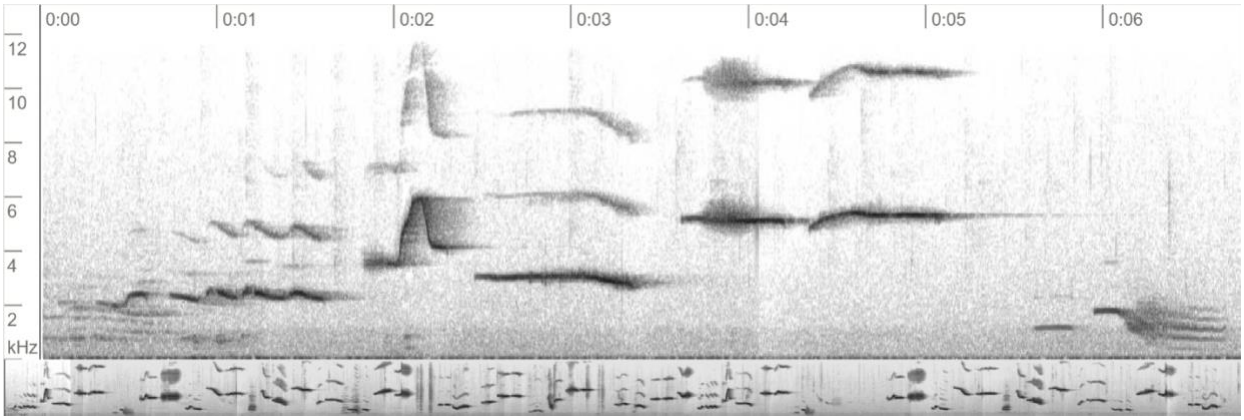

Figure 18. Song of *M. insularis* retrieved from Macaulay Library also falls in the similar frequency range to that of *M. c. caeruleus* (see Figure 8).

Possible English common names mentioned by James Eaton for the monotypic *M. caeruleus* include Chinese, Black-billed, and Soprano Whistling Thrush. The latter name, Soprano Whistling Thrush, is preferred by me as it encapsulates the high and melodic repertoire of the taxon. I recommend Large-billed Whistling Thrush for *M. flavirostris* to reflect the difference in bill structure from all other taxa including *caeruleus* and the similarly yellow-billed Malayan Whistling Thrush *M. robinsoni*.

Future studies should investigate the area where multiple taxa occur in close proximity, particularly between *crassirostris* and *dichrorhynchus*, the two resident yellow-billed taxa inhabiting the Thai-Malay Peninsula.

Possible alternative treatment

Split *Myophonus caeruleus* into three species, *M. caeruleus* (monotypic), *M. temminckii* (including *eugenei* and *crassirostris*), and *M. flavirostris* (including *dichrorhynchus*). The differences between the two yellow-billed subspecies-groups are detailed as follows:

Morphology

- Among yellow-billed taxa, *dichrorhynchus* and *flavirostris* have longer and thicker bills than the three more northerly distributed taxa. *flavirostris* has the thickest bill with no overlap with any other taxa. The thinnest-billed *dichrorhynchus* also surpass the thickest-billed *temminckii* and *eugenei* in bill depth (Figure 2).
- The three northern yellow-billed taxa *temminckii*, *eugenei*, and *crassirostris* are on average longer-tailed than the black-billed *caeruleus* and the two southern yellow-billed *dichrorhynchus* and *flavirostris* (Figure 2).

- Considerable differences between the parapatric *crassirostris* and *dichrorhynchus* in shape, tail length, bill structure (less massive with nail curved in *crassirostris* rather than hooked), overall colouration and pattern (brighter blue and distinctly spangled in *crassirostris*) without any report of intergradation (Wells, 2007) (see Figure 1).

Bioacoustics

- *M. c. temminckii*, *eugenei*, and *crassirostris* emit noticeably coarser and more condensed whistle than the black-billed *caeruleus* and the more southerly distributed yellow-billed *dichrorhynchus* and *flavirostris* (Figure 7). The former three taxa also regularly give harsh single-note calls, recalling the two northern White-crowned Forktail taxa *Enicurus leschenaulti sinensis* and *E. l. indicus*. I cannot find this call-type in other Blue Whistling Thrush taxa on any database.

- *M. c. dichrorhynchus* and *flavirostris* consistently deliver a much more plaintive whistle than the preceding yellow-billed taxa. The calls closely resemble *caeruleus* sensu stricto but raspier, longer and lower-pitched with a steeper drop at the start (Figure 7).

- Songs of *temminckii*, *eugenei*, and *crassirostris* are made up of varied, piercing fluty notes, with the main parts barely exceeding 6 kHz, and/or complex scratchy phrases (Figures 9–12).

- Songs of *flavirostris* are composed of rather monotonous, well-spaced, fluty notes lower-pitched than those of the preceding groups (Figures 13 and 14). I cannot find songs of *dichrorhynchus* on any online database.

Ecology

- Mainland taxa occur from plains to at least 3000 masl (Robson, 2008), with the exception being *dichrorhynchus* that barely reaches the montane ecotone above 1500 masl where its smaller congener Malayan Whistling Thrush *M. robinsoni* occurs (Bakewell, Lim, Sah, & Muin, 2010; Wells, 2007).

- The supposed divide between the parapatric *crassirostris* and *dichrorhynchus* (proposed here as parts of separate species) north and south of the Kangar-Pattani Line respectively (see Figure 15) mirrors the biogeographic patterns observed in a number of other closely related bird species; e.g., Great and Malaysian Eared Nightjars *Lyncornis macrotis* and *temminckii*, Blue-eared and Black-eared Barbets *Psilopogon cyanotis* and *duvaucelii*, White-browed and Sunda Scimitar Babblers *Pomatorhinus schisticeps* and *bornensis*.

References

1. Bakewell, D. N., Lim, K., Sah, S., & Muin, M. A. (2010). Malaysian Whistling Thrush *Myophonus robinsoni*—field identification, distribution and conservation concerns. BirdingASIA(14), 23–29.
2. Delacour, J. (1942, April). The Whistling Thrushes (Genus *Myiophoneus*). The Auk, 59(2), 246-264. doi:10.2307/4079555
3. Robson, C. (2008). A Field Guide to the Birds of Thailand and South-east Asia. New Holland Publishers (UK) Ltd.
4. Round, P. D. (2012, January). Checklist of Thai Birds, revised January 2012. Thailand: Bird Conservation Society of Thailand (BCST) Records Committee.
5. Wells, D. R. (2007). The Birds of the Thai-Malay Peninsula, Volume Two: Passerines. London: Christopher Helm, an imprint of A&C Black Publishers Ltd.

Appendix

Tropical Asia RAG also advocates for updating some of the ranges of Blue Whistling Thrush taxa. In the table below, we detail these suggestions:

Scientific name and authority	**Range (as per AviList v2025)**	**Revised range**
Myophonus caeruleus caeruleus (Scopoli, 1786)	western China (Sichuan); winters to southern China and northern Indochina	central and eastern China; winters to southern China and Indochina
Myophonus caeruleus flavirostris (Horsfield, 1821)	foothill and montane forest of Java	
Myophonus caeruleus temminckii (Vigors, 1831)	central Asia to northern India, Pakistan, southeastern Tibet, and Myanmar	central Asia to northern India, Pakistan, southeastern Tibet, and Myanmar; winters to northern Thailand
Myophonus caeruleus eugenei (Hume, 1873)	northeastern Assam to southern Myanmar, northern Thailand, southwestern China, and Indochina	northeastern Assam to southern Myanmar, northern, western and northeastern Thailand,

		southwestern China, and Indochina
Myophonus caeruleus dichrorhynchus (Salvadori, 1879)	southern Thai-Malay Peninsula and Sumatra	
Myophonus caeruleus crassirostris (Robinson, 1910)	northern Thai-Malay Peninsula	southeastern Thailand, southern Cambodia, and northern Thai-Malay Peninsula