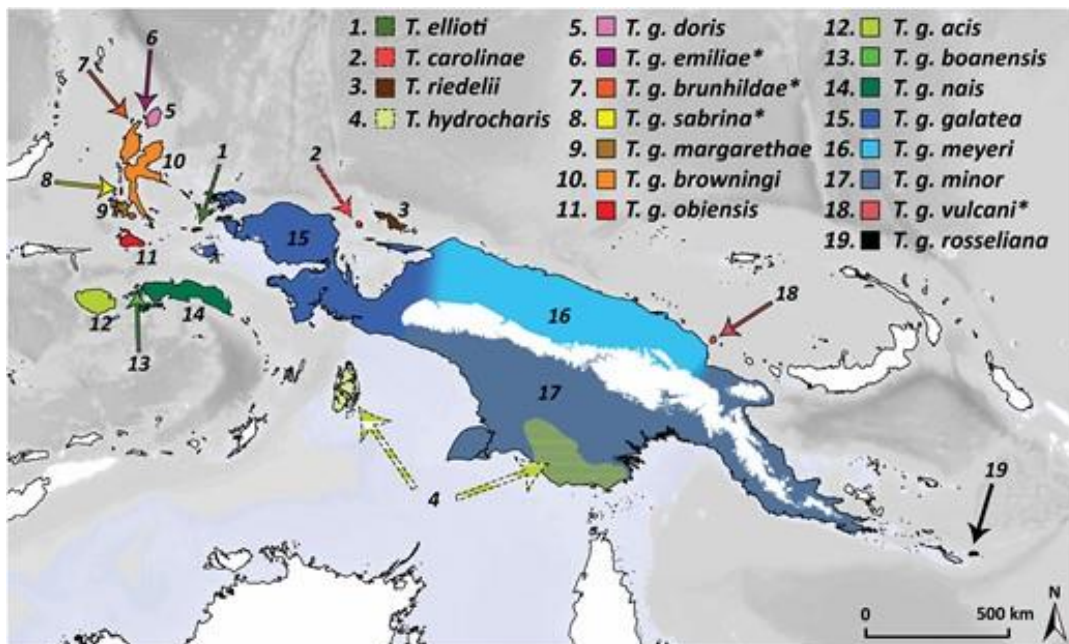


Alcedinidae: taxonomic revision of Common Paradise-Kingfisher *Tanysiptera galatea*

Taxonomic revisions on the basis of data presented in [Sin et al. 2022](#)

Among the taxonomically confusing groups within the Halcyonidae are the Paradise-Kingfishers of the genus *Tanysiptera* Vigors, 1825, which comprise nine species distributed from north-east Australia through New Guinea to Wallacea. They are characterized by having elongated central tail feathers, unlike other kingfishers, with variable amounts of blue and black on their upperparts and head. The genus can be divided into two main groups based on coloration (orange vs. white) of the underparts, and molecular work has shown that the white-bellied Paradise-Kingfishers are monophyletic ([Andersen et al., 2018](#); [McCullough et al., 2019](#)). The core white-bellied Paradise-Kingfishers constitute a taxonomically challenging radiation of 19 taxa, ascribed to five species in Avilist v1, 15 of which are included as subspecies under the Common Paradise-Kingfisher *Tanysiptera galatea*. The other four species in the complex are separated from the Common Paradise-Kingfisher based on plumage coloration. All taxa in the species complex are insular and parapatric, with the exception of the Little Paradise-Kingfisher, *Tanysiptera hydrocharis*, which is sympatric but does not interbreed with *Tanysiptera galatea minor* in Papua New Guinea. Here, we propose revising the species limits of Common Paradise-Kingfisher from one to six species.

Despite the highly conserved plumage features within many of these complexes, molecular work has revealed their rapid diversification across Australasia and revealed the presence of genomic divergence among insular taxa, even those separated by short water gaps ([Andersen et al., 2013, 2015](#)). Genomic differentiation has been described between the elevationally separated but similarly plumaged Yellow-bellied Kingfisher, *Syma torotoro* and Mountain Kingfisher *Syma megarhyncha* from Papua New Guinea, highlighting that gene flow can be limited even after secondary contact. Given that such convoluted evolutionary histories are prevalent across kingfishers, we can expect diversity to be high and cryptic in other understudied kingfisher lineages.



AviList v2025 taxonomy:

English name	Scientific name and authority	Range
Common Paradise-Kingfisher	<i>Tanysiptera galatea</i>	
	<i>Tanysiptera galatea emiliae</i> (Sharpe, RB, 1871)	Rau (northern Moluccas)
	<i>Tanysiptera galatea doris</i> (Wallace, AR, 1862)	Morotai (northern Moluccas)
	<i>Tanysiptera galatea browningi</i> (Ripley, SD, 1983)	Halmahera (northern Moluccas)
	<i>Tanysiptera galatea brunhildae</i> (Jany, E, 1955)	Doi (Moluccas)
	<i>Tanysiptera galatea margarethae</i> (Heine, F, 1860)	Bacan (northern Moluccas)
	<i>Tanysiptera galatea sabrina</i> (Gray, GR, 1861)	Kayoa (northern Moluccas)
	<i>Tanysiptera galatea obiensis</i> (Salvadori, AT, 1877)	central Moluccas (Obi and Bisa)
	<i>Tanysiptera galatea acis</i> (Wallace, AR, 1863)	Buru (southern Moluccas)
	<i>Tanysiptera galatea boanensis</i> (Mees, GF, 1964)	Boano (Moluccas)
	<i>Tanysiptera galatea nais</i> (Gray, GR, 1861)	southern Moluccas (Ambon, Manipa, Seram, Manawoka, and Gorong)
	<i>Tanysiptera galatea galatea</i> (Gray, GR, 1859)	northwestern New Guinea and Raja Ampat Islands (off western New Guinea)
	<i>Tanysiptera galatea meyeri</i> (Salvadori, AT, 1889)	northern New Guinea (Mamberamo River to Jimi River Valley)
	<i>Tanysiptera galatea minor</i> (Salvadori, AT; d'Albertis, LM, 1875)	southern New Guinea (Digul River to Kumusi River) and Darnley Island
	<i>Tanysiptera galatea vulcani</i> (Rothschild, LW; Hartert, EJO, 1915)	Manam Island (off Papua New Guinea)
	<i>Tanysiptera galatea rosseliana</i> (Tristram, HB, 1889)	Rossel (Louisiade Archipelago, off southeastern New Guinea)

Birds of the World, matching AvIList taxonomy:

<https://birdsoftheworld.org/bow/species/copkin1/cur/introduction>

Proposed taxonomic revision for AvIList v2026

Morotai Paradise-Kingfisher	<i>Tanysiptera doris</i>	
	<i>Tanysiptera doris doris</i> (Wallace, AR, 1862)	Morotai (northern Moluccas)
	<i>Tanysiptera doris emiliae</i> (Sharpe, RB, 1871)	Rau (northern Moluccas)
Halmahera Paradise-Kingfisher	<i>Tanysiptera margarethae</i>	
	<i>Tanysiptera margarethae margarethae</i> (Heine, F, 1860)	Bacan (northern Moluccas)
	<i>Tanysiptera margarethae browningi</i> (Ripley, SD, 1983)	Halmahera (northern Moluccas)
	<i>Tanysiptera margarethae brunhildae</i> (Jany, E, 1955)	Doi (Moluccas)
	<i>Tanysiptera margarethae sabrina</i> (Gray, GR, 1861)	Kayoa (northern Moluccas)
Obi Paradise-Kingfisher	<i>Tanysiptera obiensis</i> (Salvadori, AT, 1877)	central Moluccas (Obi and Bisa)
Amboyna Paradise-Kingfisher	<i>Tanysiptera nais</i>	
	<i>Tanysiptera nais nais</i> (Gray, GR, 1861)	southern Moluccas (Ambon, Manipa, Seram, Manawoka, and Gorong)
	<i>Tanysiptera nais acis</i> (Wallace, AR, 1863)	Buru (southern Moluccas)
	<i>Tanysiptera nais boanensis</i> (Mees, GF, 1964)	Boano (Moluccas)
Papuan Paradise-Kingfisher	<i>Tanysiptera galatea</i>	
	<i>Tanysiptera galatea galatea</i> (Gray, GR, 1859)	northwestern New Guinea and Raja Ampat Islands (off western New Guinea)
	<i>Tanysiptera galatea meyeri</i> (Salvadori, AT, 1889)	northern New Guinea (Mamberamo River to Jimi River Valley)
	<i>Tanysiptera galatea minor</i> (Salvadori, AT; d'Albertis, LM, 1875)	southern New Guinea (Digul River to Kumusi River) and Darnley Island
	<i>Tanysiptera galatea vulcani</i> (Rothschild, LW; Hartert, EJO, 1915)	Manam Island (off Papua New Guinea)
Rossel Paradise-Kingfisher	<i>Tanysiptera rosseliana</i> (Tristram, HB, 1889)	Rossel (Louisiade Archipelago, off southeastern New Guinea)

Reasons for taxonomic revision:

Vocalisations

There are pronounced differences in vocalisations (fig 1), with no overlap noted between the proposed taxa. Eight vocal parameters were analysed in the [Sin et al. 2022](#) study and the vocal diagnosability of taxa with a sample size of at least three was assessed using the Isler criterion (Isler et al. 1998) – Isler diagnosability was defined as two taxa which have at least one vocally diagnosable trait (fig. 1). The application of this criterion leads to the recommendation that the Common Paradise-Kingfishers should be split into at least six species (Table 1).

Additionally, playback experiments undertaken by JAE in the field of all proposed Indonesian species - Morotai, Halmahera, Obi, Amboyna and Papuan - do back-up proposed taxonomic re-arrangement. Taxa showed strong responses to songs from their own (proposed) species, flying to the source with agitated replies. Conversely, birds did not respond (including by changing posture) when songs from other (proposed) species were played to them.

Note that Rossel Paradise-Kingfisher was not included in the field experiments.

Morotai Paradise-Kingfisher *T. doris*: <https://macaulaylibrary.org/asset/616087638>

Halmahera Paradise-Kingfisher *T. margarethae*: <https://macaulaylibrary.org/asset/613342355>

Obi Paradise-Kingfisher *T. obiensis*: <https://macaulaylibrary.org/asset/182363>

Amboyna Paradise-Kingfisher *T. nais*: <https://macaulaylibrary.org/asset/640089059>

Papuan Paradise-Kingfisher *T. galatea*: <https://macaulaylibrary.org/asset/204011071>

Rossel Paradise-Kingfisher *T. rosseliana*: <https://xeno-canto.org/620994>

The spectrograms show that several 'Common Paradise-Kingfisher' taxa have vocalisations that are of greater distinctiveness from one another than other species of *Tanysiptera*.

The taxon *galatea* vocalisations are remarkably consistent across the length of New Guinea, spanning over 2,200km, for example: <https://macaulaylibrary.org/asset/640045786> and <https://macaulaylibrary.org/asset/42746151>, despite this latter recording being from an offshore island, Batanta.

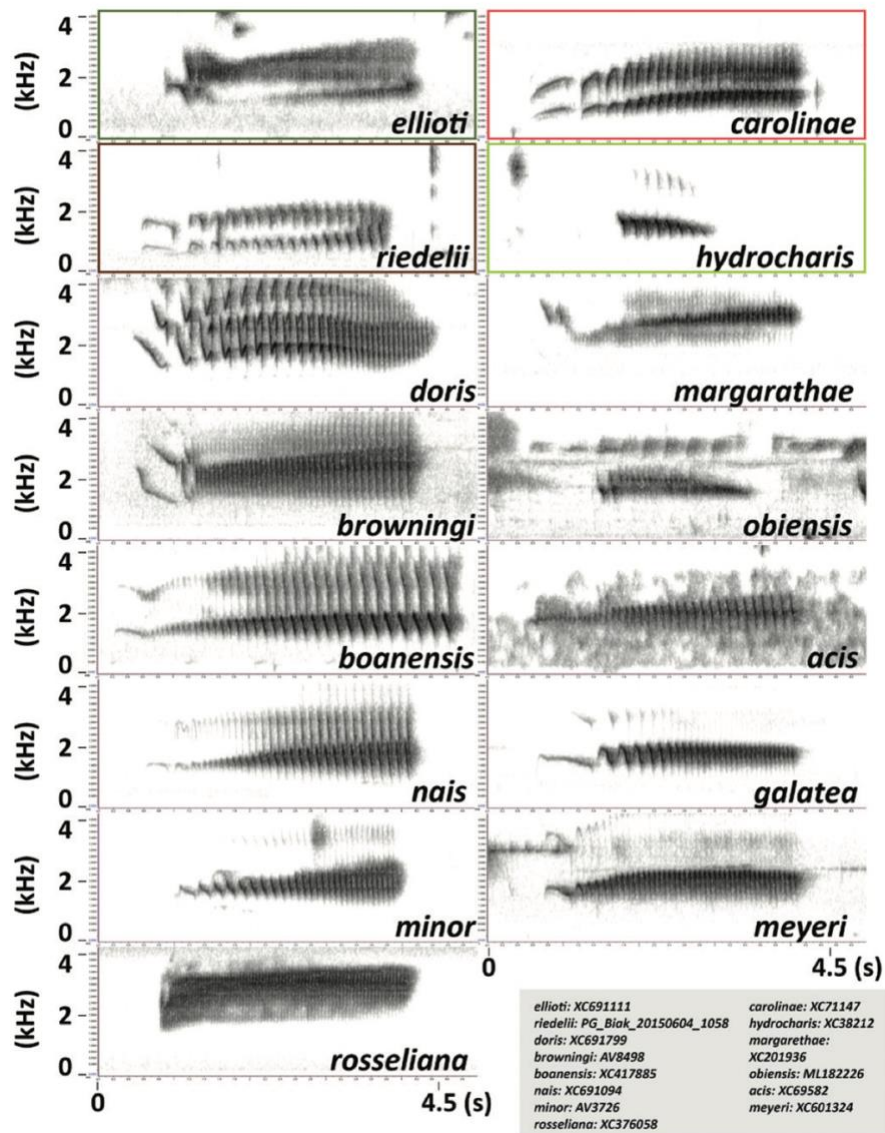


Figure 1 (bioacoustic comparison - from [Sin et al 2022](#))

Table 1: Results of pairwise diagnosability test for eight vocal parameters of *Tanysiptera* kingfishers with sample size of at least three. Vocal parameters include: (1) centre frequency; (2) frequency bandwidth of introductory note; (3) ratio of frequency bandwidths between second note and last note; (4) ratio of durations between second note and last note; (5) duration of introductory note; (6) shape of second note; (7) total number of notes; and (8) position of note with lowest centre frequency. Table from [Sin et al. 2022](#).

Pairwise comparisons	1	2	3	4	5	6	7	8	Total
T. boanensis vs T. nais									0
T. boanensis vs T. carolinae						X			1
T. carolinae vs T. galatea						X			1
T. carolinae vs T. nais						X			1
T. carolinae vs T. riedelii						X			1
T. doris vs T. minor			X						1
T. galatea vs T. minor			X						1
T. minor vs T. riedelii				X					1
T. boanensis vs T. galatea			X	X					2
T. boanensis vs T. minor			X	X					2
T. browningi vs T. carolinae	X					X			2
T. browningi vs T. minor			X	X					2
T. carolinae vs T. hydrocharis						X		X	2
T. carolinae vs T. minor	X					X			2
T. doris vs T. galatea			X			X			2
T. galatea vs T. nais			X	X					2
T. galatea vs T. riedelii			X	X					2
T. hydrocharis vs T. obiensis			X			X			2
T. hydrocharis vs T. riedelii			X					X	2
T. minor vs T. nais			X	X					2
T. nais vs T. riedelii			X	X					2
T. boanensis vs T. browningi			X	X		X			3
T. boanensis vs T. doris			X	X		X			3
T. boanensis vs T. riedelii			X	X			X		3
T. browningi vs T. doris			X	X		X			3
T. browningi vs T. galatea			X	X		X			3
T. carolinae vs T. doris	X		X			X			3
T. doris vs T. nais			X	X		X			3
T. doris vs T. riedelii			X	X		X			3
T. hydrocharis vs T. nais			X				X	X	3
T. minor vs T. obiensis			X	X				X	3

T. boanensis vs T. hydrocharis			X	X			X	X	4
T. boanensis vs T. obiensis			X	X		X		X	4
T. browningi vs T. obiensis			X		X	X		X	4
T. browningi vs T. riedelii	X	X	X			X			4
T. carolinae vs T. obiensis	X		X			X		X	4
T. doris vs T. obiensis				X	X	X		X	4
T. galatea vs T. hydrocharis				X	X		X	X	4
T. galatea vs T.obiensis			X	X	X			X	4
T. hydrocharis vs T.minor			X	X			X	X	4
T. nais vs T. obiensis		X	X			X		X	4
T. obiensis vs T. riedelii		X	X			X		X	4
T. browningi vs T. hydrocharis				X	X	X	X	X	5
T. browningi vs T. nais	X	X	X	X		X			5
T. doris vs T. hydrocharis				X	X	X	X	X	5
Total number of differences	6	4	32	25	6	26	7	16	

Morphology

Minor plumage difference (fig. 2) - note plumage differences largely involve extent and placement of electric blue tones, while tail pattern (which is flashed, spread and raised during display and courtship) differs in all taxa. Also included are photos are three other species that also occur in the region, that despite minor plumage differences have long been considered separate species, however, [Anderson et al. 2018](#) showed that Numfor, Biak and 'Common' Paradise-Kingfishers are a monophyletic group.

Obi Paradise-Kingfisher



Halmahera Paradise-Kingfisher



Morotai Paradise-Kingfisher



Amboyna Paradise-Kingfisher



Papuan Paradise-Kingfisher



Rossel Paradise-Kingfisher



Biak PK *T. riedelii*



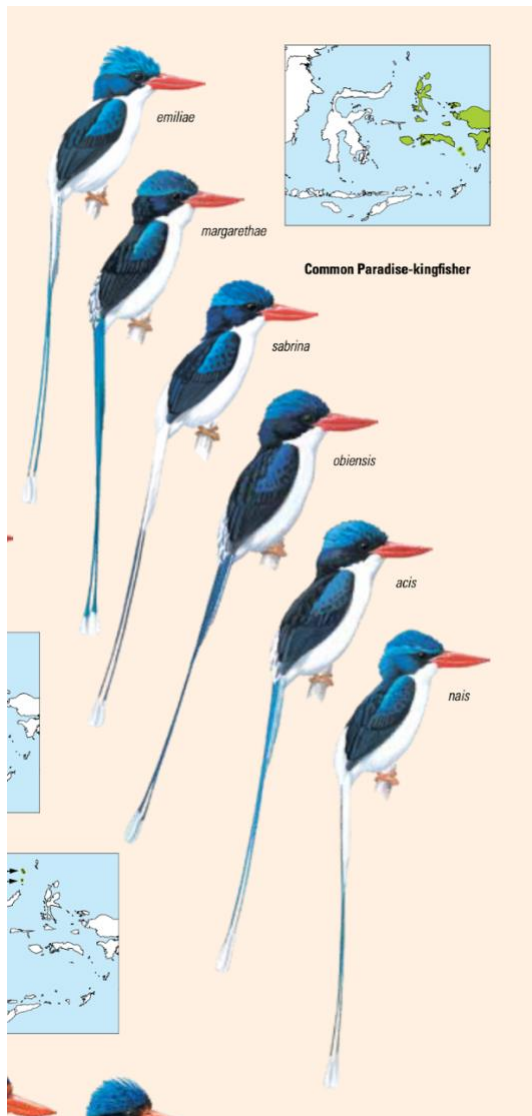
Kofiau PK *T. ellioti*



Numfor PK *T. carolinae*



Figure 2 (photos taken from macaulaylibrary.org)



Common Paradise-kingfisher *Tanysiptera galatea*

L 33–43 cm. Aus. 15 ssp, 10 in region: *doris* (Morotai); *emiliae* (Rau); *browningi* (Halmahera); *margarethae* (Bacan); *brunhildae* (Doi); *sabrina* (Kayoa); *obiensis* (Obi and satellites); *acis* (Buru); *boanensis* (Boano); *nais* (Ambon, Seram, and satellites). Multiple species undoubtedly involved, with bioacoustic differences pointing to at least four species in region (see Voc). Fairly common in primary and secondary forest, <500 m, rarely to 800 m. **ID** (*acis*) Red bill; blue upperparts with brighter crown and wing-coverts; white underparts and rump; long blue tail tipped white; **F** slightly smaller. Ssp *obiensis* darker upperparts; *margarethae* as previous but more intensely blue-scaled rump; *brunhildae* as previous but white outertail; *browningi* as *margarethae* but with hint of cobalt supercilium and blue outertail; *doris* resembles *acis* but has white mantle; *emiliae* as *doris* but with white tail base; *sabrina* as *emiliae* but white mantle patch smaller; *nais* as *acis* but has white outertail and hint of pale-blue supercilium; *boanensis* as *nais* but paler crown. **Imm** brownish upperparts, scaled rufous breast and brown bill. **Voc** Much geographic variation, divided into multiple vocally distinct subspecies groups: In C Mol (*nais*, *boanensis*, *acis*) rapid, ascending but decelerating series of 30-40 tremulous nasal notes increasing in volume, lasting 3-4 s, at 10 n/s, preceded by downslurred introductory note at least in *nais* and *boanensis* but possibly not *acis*. Over most of N Mol (at least *browningi* and *margarethae*) similar but more rapid series (~13 n/s) at roughly constant speed, always preceded by distinct introductory note, *margarethae* possibly always higher-pitched (adjacent *brunhildae* and *sabrina* vocally unknown, but at least *sabrina* may be vocally divergent because of distinct plumage and island isolation). On Obi (*obiensis*) descending rattle, slightly decelerating and tailing off at end, lasting 1–3 sec, at 15 n/s, preceded by two nasal introductory notes. On Morotai (*doris*) series of 10-35 nasal notes, starting out with slow, long, introductory 'beeeo' followed by another 2-3 hesitant notes, rising and then levelling in pitch, continuously accelerating to a final flat trill of ~15 n/s, fading in the end, lasting 3-3.5 s in total (adjacent *emiliae* vocally unknown but probably similar).

Figure 3 (plate and text from Eaton et al 2021 outlying differences of several taxa)

Note: no genetic work available. However, [Anderson et al. 2018](#) showed that Numfor, Biak and 'Common' Paradise-Kingfishers are a monophyletic group, but the latter was only represented by samples from Papua New Guinea – this sampling prevented genetic comparisons within the Common Paradise-Kingfisher complex.

Though there is no vocal data for the taxa *emiliae* (from Rau), *brunhildae* (from Doi), *sabrina* (from Kayoa) and *vulcani* (from Manam island), the inferences for these taxa are made based on proximity to neighbouring land masses and Pleistocene land connections.

Yardstick

The sympatric congener to *galatea*, [Little Paradise-Kingfisher](#) (*Tanysiptera hydrocharis*), is remarkably similar in plumage to Papuan Paradise-Kingfisher, but can be separated by song and size. There is seemingly no obvious niche separating the two either - they are found in the same patches of forest, for example Kiunga in PNG. We argue that the species proposed here within the Common Paradise-Kingfisher complex are more distinct than the sympatric *T. galatea* and *T. hydrocharis* are (based on morphology and bioacoustics) – however, these two sympatric taxa have long been recognized at the species-level.

It is worth noting that the Kofiau Paradise-Kingfisher *T. ellioti*, has a similar plumage to *T. galatea*, but could not be assessed vocally due to limited sample sizes ([Sin et al 2022](#)). This taxon has long been recognized as a monotypic species, but should be re-assessed once more genomic and/or bioacoustic data are available.

In general, we believe that morphology is not particularly pronounced among many generally accepted species within the larger Kingfisher group. See the Collared and Beach Kingfisher complexes, and Pacific small island taxa, many of which have fairly similar 'kek-kek-kek-kek' territorial vocalisations.

Talud Kingfisher is dubiously separable from surrounding Collared Kingfisher taxa, not just by morphology but also vocalisations (and playback experiments show they readily respond to each other, JAE pers obs).

Conclusion

Tropical Asian RAG and Australasian RAG propose that the Common Paradise-Kingfisher *Tanysiptera galatea*, currently recognized as one species with 15 subspecies, should be split into 6 species as follows:

- **Papuan Paradise-Kingfisher, *T. galatea*** (includes subspecies *T. g. galatea*, *T. g. minor*, *Tanysiptera galatea meyeri* Salvadori, 1889 and *T. g. vulcani*)
- **Morotai Paradise-Kingfisher, *T. doris*** Wallace, 1862 (includes subspecies *T. doris doris* and *Tanysiptera doris emiliae*)
- **Halmahera Paradise-Kingfisher *Tanysiptera margarathae*** (includes subspecies *T. m. margarathae* Heine, 1860, *T. m. sabrina*, *T. m. brunhildae* and *T. m. browningi* Ripley, 1983)
- **Obi Paradise-Kingfisher, *T. obiensis*** (monotypic)
- **Amboyna Paradise-Kingfisher, *T. nais*** (includes subspecies *T. n. nais*, *T. n. acis* Wallace, 1863, and *T. n. boanensis* Mees, 1964)
- **Rossel Paradise-Kingfisher, *T. rosseliana*** (monotypic)

This taxonomic proposal is based primarily on bioacoustic evidence from [Sin et al. 2022](#) and the results of playback experiments conducted in the field. Most importantly, the bioacoustic data suggest that the proposed species-level taxa have more distinct vocalizations than other traditionally recognized species in the genus (for example the Numfor Paradise-Kingfisher, *T. carolinae* and Biak Paradise-Kingfisher, *T. riedelii*) which have long been recognized as species-level on the basis of plumage differences.