

# Forpini and Toutini, two new family-group names for Neotropical parrotlets and parakeets (Psittaciformes: Arinae)

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ABSTRACT: Molecular phylogenetic studies have documented the existence of four major clades within the Neotropical radiation of parrots, parrotlets, parakeets, and macaws (Arinae). A recent review applied the names 'Forpini' Brereton, 1964, and 'Amoropsittacini' Brereton, 1964 to two of these clades. We show that Brereton (1964) does not contain descriptions or diagnoses that satisfy Article 13.1.1 of the ICZN Code (1999) and that the two names are therefore unavailable. To remedy this, we formally make family-group names available for the two relevant clades.

KEYWORDS: Psittaciformes, Psittacidae, Arinae, phylogeny, new tribes.

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Phylogenetic analyses of multi-locus DNA data sets provide strong evidence that the South American parrots, parrotlets, parakeets, and macaws (Arinae G.R. Gray, 1840 (1825)) form a single clade, comprising four major subclades (reviewed by Schodde *et al.*, 2013). Subsequent phylogenetic studies have corroborated these findings with larger data sets and increased taxonomic sampling (Schweizer *et al.*, 2014; Provost *et al.*, 2018; Selvatti *et al.*, 2022; Smith *et al.*, 2023).

Schodde *et al.* (2013) recognized the four clades as separate tribes: Arini, Androglossini Sundevall, 1872, 'Forpini' Brereton, 1964<sup>1</sup> and 'Amoropsittacini' Brereton, 1964<sup>1</sup>. The latter two names were introduced by Brereton (1964) as 'Forpidae' (p. 509) and 'Amoropsittidae' (p. 512) for a group of parrotlets and parakeets comprising the genera *Amoropsittaca*, *Forpus*, *Psilopsiagon* and *Bolborhynchus*. Brereton (1964) did not realise that in different parts of his paper he used two different names for the same taxonomic group. Schodde *et al.* (2013) emended the name 'Amoropsittidae' to 'Amoropsittacini'. The name is based on *Amoropsittaca* Richmond, 1915, a genus now considered a junior subjective synonym of *Psilopsiagon* Ridgway, 1912 (e.g., Dickinson & Remsen, 2013; Gill *et al.*, 2023).

## NOMENCLATURE

Schodde *et al.* (2013) considered both 'Forpini' Brereton, 1964 and 'Amoropsittacini' Brereton, 1964, to be available and valid. They noted that because Table 5 in Brereton (1964) included descriptive characters of Forpidae, the family-group name is available (Article 13.1.1; ICZN, 1999). In addition, they stated that because 'Amoropsittacini' refers to the same taxon, the descriptive characters in Table 5 also make this name available. Schodde *et al.* (2013) further

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<sup>1</sup> This work was dated as 1963 and listed as such by Bock (1994) and Schodde *et al.* (2013). However, the two volumes of *Proceedings of the International Ornithological Congress*, 13, were not actually distributed until 1964.

pointed out that, despite the fact that in Brereton (1964) both family-group names refer to the same taxon (i.e., are synonyms), the two names are valid if the type genera are included in separate family-groups, as in their paper. These two names were subsequently used as valid by Provost *et al.* (2018) and Smith *et al.* (2023).

To be available, every new name published after 1930 must be accompanied by a description or definition that states in words characters that are purported to differentiate the taxon (Article 13.1.1; ICZN, 1999: 17) or be accompanied by a bibliographic reference to such a published statement (Article 13.1.2) or be proposed expressly as a new replacement name (*nomen novum*) for an available name (Article 13.1.3).

In Table 5 of Brereton (1964: 509), the characters of the four component genera of Forpidae (i.e., *Amoropsittaca*, *Forpus*, *Psilopsiagon* and *Bolborhynchus*) are letter- and symbol-coded, with their legend presented on the previous page. While a diagnosis of Forpidae could be formed by writing these character states as phrases or as full sentences, the letter- and symbol-coded data as presented in Table 5 do not constitute a description or diagnosis *in words*. Therefore, Table 5 in Brereton (1964) does not meet the provisions in the Code (*contra* Schodde *et al.*, 2013).

The only statement about ‘Forpidae’ in Brereton (1964) that might resemble a diagnosis or description appears on page 515: “It was perhaps the nomadic seed-eaters that found a way via grassland across the Antarctic Continent to South America, to produce there the family Forpidae”. This statement deals with the purported ancestors of ‘Forpidae’, not ‘Forpidae’ itself, and thus does not constitute a diagnosis or description of ‘Forpidae’.

The name ‘Amoropsittidae’, as used by Brereton (1964), does not appear in his Table 5 but the main text includes the statement: “Similarly, this scheme requires the independent evolution of scratching over the wing for the family Amoropsittidae if its affinities are not truly with the Platycercoidea” (p. 512). This denotes a possible analogous similarity (homoplasy) to another group of parrots rather than a description or definition that states in words characters that are purported to differentiate the taxon.

Further on, Brereton (1964: 515) mentioned that “This family of four known genera has the characteristics of an advanced family of the Platycercoidea, and in this respect it is thoroughly anomalous zoogeographically”. The first part of this sentence describes the general similarity of ‘Amoropsittidae’ to other groups of parakeets within Platycercoidea (in which Brereton included his ‘Amoropsittidae’), and does not mention the relevant characters, while the second part describes its biogeography. Neither of these statements refer to characters that are purported to differentiate the taxon ‘Amoropsittidae’.

Brereton (1964: 515) further stated that ‘Amoropsittidae’ “show some signs of primitiveness in their retention of the ambiens and furcula, the limited development of the postsquamosal fossa, and their narrow wings. The skull of *Amoropsittaca* is very similar to that of *Neophema*.” This comprises a statement about the supposed plesiomorphic state of some of the characters of ‘Amoropsittidae’ and a statement about the similarity of *Amoropsittaca* to another taxon. Again, these statements do not include characters that are *purported to differentiate* the taxon ‘Amoropsittidae’.

We conclude that the names ‘Forpidae’ Brereton, 1964 and ‘Amoropsittidae’ Brereton, 1964 fail to meet Article 13.1.1 (ICZN, 1999) and are not available. For the sake of completeness, we point out that in Schodde *et al.* (2013), the two names ‘Forpini’ and ‘Amoropsittacini’ were accompanied by a diagnosis and a statement about the relevant type genera, but not by a statement that these were new names, so therefore the names were not validated in that work. To make family-group names available under Article 13.1.2 (ICZN, 1999) and Article 16.1 (ICZN, 1999: 19), we propose:

### Forpini new tribe

Diagnosis: differs from all other members of Psittaciformes by the combination of (i) size very small; (ii) tail stumpy or round; (iii) plumage uniform green; (iv) cere naked; (v) remiges usually blue and sometimes back blue, sexually dimorphic to varying degrees; (vi) temporal fossa moderately deep and well-defined and moderately muscled; (vii) auditory meatus part-closed posteriorly and crescentic; (viii) orbital ring incompletely ossified, with prefrontal extension vestigial; (ix) furcula absent; (x) musculus ambiens absent; (xi) uropygial gland well-developed; (xii) head-preening indirect, by foot over wing (Schodde *et al.*, 2013: 594; see also Brereton, 1964: 509; Smith, 1975: 23).

Type genus, by original designation: *Forpus* Boie, 1858.

Contents: genus *Forpus* (seven to nine species, *sensu* Dickinson & Remsen, 2013; Gill *et al.*, 2023).

ZooBank LSID for new tribe: FE44B3CF-6A93-4BEC-A8C6-095FF8BE0132

### Toutitini new tribe

Diagnosis: differs from all other members of Psittaciformes by the combination of (i) size small; (ii) tail short and acute to round; (iii) plumage green; (iv) cere naked; (v) temporal fossa shallow, ill-defined, and weakly muscled; (vi) auditory meatus part-closed posteriorly and crescentic; (vii) orbital ring incompletely ossified, with prefrontal extension vestigial; (viii) furcula present; (ix) musculus ambiens present; (x) uropygial gland well developed; (xi) head-preening indirect, by foot over wing (Schodde *et al.*, 2013: 594; see also Brereton, 1964: 509; Smith, 1975: 23).

Type genus, by original designation: *Touit* G.R. Gray, 1855.

Contents: *Touit* (eight species), *Psilopsiagon* Ridgway, 1912 (two species), *Bolborhynchus* Bonaparte, 1857 (three species) and *Nannopsittaca* Ridgway, 1912 (two species) (*sensu* Dickinson & Remsen, 2013; Gill *et al.*, 2023). In view of the paraphyly of both *Psilopsiagon* and *Bolborhynchus* (see Smith *et al.*, 2023), it is likely that a future revision of Toutitini will result in different genus limits.

ZooBank LSID for new tribe: 88EC3442-571E-4BB5-BD14-77531E8411E2

Comment: We choose not to re-use or validate the *nomen nudum* ‘Amoropsittacini’ based on an unused junior subjective synonym, but select *Touit* as the type genus because of its status as the oldest and most speciose genus in the clade.

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