Naming segregates from the 

*Columba*–*Streptopelia* pigeons following 
DNA studies on phylogeny

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In their pigeon phylogeny reconstructed through mtDNA analysis, Johnson *et al.* (2001) identified, within the monophyletic Old World *Columba/Streptopelia* lineage, four clades: two match the classical taxonomy of Old World *Columba* and most *Streptopelia* (clade A) respectively. The other two, sister to each other, represent in one line (clade C) *chinensis* and *senegalensis*, conventionally placed with little dispute in *Streptopelia*, and in the other (clade B) two species whose generic attribution has recently fluctuated according to different authors: *mayeri* (*Columba, Nesoenas*) and *picturata* (*Streptopelia, Columba*). Depending on which analysis is performed, clades B and C are sister either to Clade A (‘classic’ *Streptopelia*) or to Old World *Columba*, i.e. the three-way split was perhaps c.7–8 million years ago (based on the molecular clock used by Johnson *et al.* 2001), and could not be adequately resolved by the data. New World *Columba* split off earlier, leading Johnson *et al.* (2001) to re-assign them to a separate genus *Patagioenas* Reichenbach, 1853. K. P. Johnson (in litt. 2005) has emphasised that his paper cannot be considered a definitive molecular phylogeny for the *Columba/Streptopelia*, as an important tranche of African *Columba* was not included, namely *delegorguei, iriditorques, malherbii, larvata* and *simplex*. The two last-named species have often been placed in their own genus, *Aplopelia*, which Goodwin (1983) considered close in morphology to *picturata* (Malagasy or Madagascan Turtle Dove), and one might add also in voice (as described by Goodwin 1983 and Sinclair *et al.* 1993 for *larvata*).

In their taxonomic discussion Johnson *et al.* (2001) opted for a conservative interpretation, suggesting simply transferring *mayeri* (Mauritius Pink Pigeon) from *Columba/Nesoenas* to *Streptopelia*. However, given that the age of initial diversification within Old World *Columba* is similar to the split between clades B and C, it might be appropriate to group the four species in B and C within one genus. Alternatively, as the lines diverged rapidly, *mayeri/picturata* could be assigned to one genus and *senegalensis/chinensis* another. A third option, that the entire *Columba/Streptopelia* complex could, as sister to *Patagioenas*, be treated as a single large genus *Columba* with three or four subgenera, is unwieldy and would result in a far greater number of name changes.

The oldest valid name for any of the four species in clades B and C is *Stigmatopelia* Sundevall, created for *senegalensis* in 1872 (Sundevall 1872, Salvadori 1893). Sundevall also created *Spilopelia* for *chinensis* (whose races were at that time treated as three species) on the same page of the same work, but
Stigmatopelia has line precedence. In the two-genus option, mayeri and picturata would come under Nesoenas Salvadori, 1893, which was created for mayeri and has page precedence over the same author’s Homopelia for picturata (Salvadori 1893). Trocaza Bonaparte, 1854, might be considered the oldest available name on the basis of Shelley’s (1883) re-designation of the genus to include only mayeri; Shelley pointed out that the type species Columba trocaz does not exhibit the diagnostic feature (first primary shorter than fifth), leaving only mayeri within the definition. However, the fact remains, Bonaparte’s error notwithstanding, that trocaz is the type species, making Trocaza a junior synonym of Columba, and in any case nomenclaturally invalid.

In voice and plumage, as well as mtDNA, mayeri and picturata, are close (pers. obs.). In addition to mtDNA, Johnson et al. (2001) discussed their striking vocal resemblance. Picturata has been little studied behaviourally, but McKelvey (1976) reported a mixed pair with mayeri, thereby suggesting a close affinity. The uniform dark back, somewhat contrasting rump and tail, and paler head are shared characters (see, e.g., Sinclair & Langrand 1998), albeit much more emphasised in mayeri, which is a larger bird, approximately double the mass of picturata (Johnson et al. 2001). They do not phenotypically resemble Spotted Dove S. chinensis or Palm Dove S. senegalensis. These two, whilst not particularly similar to each other in appearance, do share a character that differs from other Columba/Streptopelia pigeons: distinctly bifurcated feathers in the display plumage on the neck (Salvadori 1893). Goodwin (1983) considered chinensis and senegalensis to form an isolated pair within Streptopelia as defined by him. He commented that, in addition to sharing the bifurcated feathers, they both lacked an ‘excitement cry’, and their song-calls (‘advertising coo’), although dissimilar to each other, are unlike any other Streptopelia. Goodwin also noted that picturata (not then thought to be related) had ‘more or less bifurcated’ neck feathers, i.e. a hint of the character fully developed in S. chinensis and S. senegalensis. He considered picturata so anomalous that he did not include it in his putative relationship tree for the genus, and he was also uncertain where to place mayeri, including it within Columba in the 1967 edition of his work, but restoring Nesoenas in 1983, following McKelvey’s observations (1976) recording behaviour rather more like Streptopelia than Columba. Gibbs et al. (2001), following Sibley & Monroe (1990), placed picturata with mayeri in Columba.

Here I propose that in order to formally recognise the particularities of these four species, mayeri and picturata be united in Nesoenas, with chinensis and senegalensis in Stigmatopelia. Further studies may well be desirable to further elucidate their relationships, and these would be best conducted in Mauritius, where all four species are now present sympatrically—the two Nesoenas native (Mourer-Chauviré et al. 1999), the two Stigmatopelia introduced, chinensis long ago (c.1781: Cheke 1987) and senegalensis recently (1995: Jones 1996), but now well established (pers. obs. 2003). Picturata was long thought to have been introduced to the Mascarenes (Jones 1987, Johnson et al. 2001), although Cheke (1987)
considered the matter open. However, subfossil material from all three islands now demonstrates it to be native (Mourer-Chauviré et al. 1999), albeit perhaps subject to supplementary introduction from Madagascar (Cheke 1987).

As *Stigmatopelia* has not appeared in recent synonymies it may be appropriate to re-cite it, as follows:

*Stigmatopelia* Sundevall 1872.
Methodi naturalis avium disponendarum tentamen, p.100.
*Columba senegalensis* Linnaeus, 1766.
*Stigmatopelia senegalensis* (Linnaeus, 1766).

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References:


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