**Supplementary Table 2. The seven evolutionary origins of obligate avian brood parasitism and mating systems of related genera.**

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| --- | --- | --- | --- | --- | --- |
| **Origin** | **Taxonomic Group** | **Phylogenetic Clade** | **Related genera within clade** | **Social mating system and parental care in related genera** | **Source** |
| 1 | Black-headed Duck *(Heteronetta atricapilla)* | Stiff-tailed ducks  (Anatidae: Oxyurini) | *Biziura, Nomonyx, Oxyura* | Variable: socially monogamous, polygynous, or promiscuous; genetically monogamous to polygamous. Female-biased parental care | [1],[2] |
| 2 | *Clamator spp.* cuckoos | Malkohas  (Cuculidae: Phaenicophaeni) | *Phaenicophaeus, Dasylophus, Rhamphococcyx* | Socially monogamous, biparental care | [3] |
| 3 | Cuculine cuckoos | Cuculine cuckoos  (Cuculidae: Cuculinae) | Tribe Rhinorthini, Phaenicophaeni | Variable: socially monogamous with biparental care to facultatively and obligately brood parasitic | [3] |
| 4 | Neomorphine cuckoos | New World cuckoos  (Cuculidae: Neomorphinae) | *Morococcyx,*  *Geococcyx, Neomorphus* | Socially monogamous, biparental care | [3] |
| 5 | Honeyguides | Woodpeckers  (Piciformes: Picidae) | Many | Predominantly socially monogamous with biparental care | [4] |
| 6 | Indigobirds | Estrildid finches (Passeriformes: Estrildidae) | Many | Socially monogamous with biparental care | [5], [6] |
| 7 | Cowbirds | Blackbirds  (Passeriformes: Icteridae) | *Agelaius, Dives, Euphagus, Quiscalus* | Predominantly socially monogamous to polygynous with biparental or female-biased parental care | [7] |

Sources:

[1] Livezey, B. C. 1995 Phylogeny and comparative ecology of stiff-tailed ducks (Anatidae: Oxyurini). *The Wilson Bulletin* 107: 214-234.

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[4] Gorman, G. 2014 *Woodpeckers of the world: the complete guide*. London: Christopher Helm.

[5] Sorenson, M. D., Balakrishnan, C. N. and Payne, R. B. 2004 Clade-limited colonization in brood parasitic finches (Vidua spp.). *Systematic Biology* *53*:140-153.

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