Taxonomy and Distribution of Avian Cestodes from the Afrotropical Zoogeographical Region

PhD Dissertation

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Abstract: The aim of the present study is to summarise data on the diversity and distribution of avian cestodes from the Afrotropical Zoogeographical Region and to add new information based on recent samples from Gabon and Ethiopia. Sampling was carried out in the frames of the project *Planetary Biodiversity Inventory: Tapeworms from Vertebrate Bowels of the Earth*, 2008–2017, funded by the National Science Foundation (USA), project leaders J.N. Caira and K. Jensen. In Gabon, the examination of 226 birds belonging to 55 species, 28 families and 9 orders from the vicinity of Franceville, Haut-Ogooué Province, resulted in sampling 32 cestode species of 22 genera and 7 families. From Ethiopia, 74 birds of 43 species, 27 families and 7 orders were studied at two localities – Wondo Genet (Southern Nations, Nationalities and Peoples Region) and Lake Ziway (Oromia Region); 10 cestode species of 9 genera and 5 families were sampled. The taxonomic results include the erection of the new genera *Gibsonilepis* Dimitrova, Mariaux & Georgiev, 2013 (Dilepididae) and *Citrilolepis* Dimitrova, Georgiev, Mariaux & Vasileva, 2019 (Hymenolepididae). Three new species were described: *Pseudangularia gonsalezi* Dimitrova, Mariaux & Georgiev, 2013 (Dilepididae) from the swift *Apus affinis* from Gabon as well as the hymenolepidids *Citrilolepis citrili* Dimitrova, Georgiev, Mariaux & Vasileva, 2019 from *Crithagra citrinelloides* (Fringillidae) and *Passerilepis zimbebel* Dimitrova, Georgiev, Mariaux & Vasileva, 2019 from *Terpsiphone viridis* (Monarchidae), both from Ethiopia. Further 8 species (7 from Gabon and 1 from Ethiopia) were morphologically characterised and recognised as potentially new species; the publication of their descriptions requires additional comparative examinations with the type-series of the most similar congeners. In order to identify the samples of paruterinid cestodes from swifts in Gabon, a taxonomic revision of species of the genus *Notopentorchis* from the Palaeotropical Apodidae and Hemiprocnidae was carried out; it resulted into the validation of *N. micropus* Singh, 1952, contrary to the opinion of Baer (1959) considering it a synonym of *N. javanica*. In the same taxonomic revision, the combination *Notopentorchis caffrapi* (Mokhehle, 1951) Dimitrova, Mariaux & Georgiev, 2017 was proposed for *Sphaeruterina caffrapi* described from *Apus caffer* in the Republic of South Africa. Data on avian cestodes from the Afrotropical Region were found in 161 articles published between 1778 and our days. This information was analysed critically and the data on the taxonomy of parasites and host species was updated. The summarised information includes data on 425 cestode species of 15 families and 3 orders. The order Cyclophyllidea is represented by 416 species of 151 genera and 13 families; other 6 species are recognised as *species incertae sedis*. The most species-rich cestode families in birds in the Afrotropical Region are Davaineidae (119 species), followed by the Hymenolepididae (103), Dilepididae (84) and Paruterinidae (48). As hosts of cyclophyllidean cestodes, 340 species of 26 avian orders have been recorded in the Afrotropical Region. The most species-rich cestode complexes were registered in the orders Charadriiformes (86 species), Passeriformes (68), Galliformes (49), Columbiformes (36), Pelecaniformes (29), Otidiformes (24), Accipitriformes (24) and Anseriformes (20). The comparison of the cestode species

complexes registered in the avian orders in the Afrotropical Region demonstrated the lack of species similarity or very low levels of species similarity between them.