**Appendix 1**

Species that occurred inside mixed-species flocks from the highlands of Costa Rica and their relative abundance and proportion of occurrence inside flocks.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Small** | | **Average** | | **Large** | |
| **Average No. ind/flock** | **Occurrence (%)** | **Average No. ind/flock** | **Occurrence (%)** | **Average No. ind/flock** | **Occurrence (%)** |
| Trogonidae |  |  |  |  |  |  |
| *Trogon collaris* | NA | NA | NA | NA | 1.3 | 10 |
| Semnornitidae |  |  |  |  |  |  |
| *Semnornis frantzii* | NA | NA | 1 | 2.2 | 1.7 | 10 |
| Picidae |  |  |  |  |  |  |
| *Dryobates villosus* | NA | NA | 1 | 6.5 | 1.5 | 6.7 |
| Tityridae |  |  |  |  |  |  |
| *Pachyramphus versicolor* | NA | NA | 1 | 4.3 | NA | NA |
| Tyrannidae |  |  |  |  |  |  |
| *Platyrinchus mystaceus* | NA | NA | 1 | 2.2 | NA | NA |
| *Mionectes olivaceus* | 1 | 2 | 1 | 2.2 | NA | NA |
| *Elaenia frantzii* | 1.1 | 15.7 | 1.5 | 30.4 | 1.4 | 26.7 |
| *Mitrephanes phaeocercus* | NA | NA | 2 | 2.2 | NA | NA |
| *Empidonax flavescens* | NA | NA | NA | NA | 1.5 | 6.7 |
| *Pseudocolaptes lawrencii* | 1 | 5.9 | 1 | 13 | 1.5 | 26.7 |
| Furnariidae |  |  |  |  |  |  |
| *Thripadectes rufobrunneus* | NA | NA | 1 | 2.2 | 1 | 10 |
| *Premnoplex brunnescens* | 1 | 2 | 1.5 | 4.3 | 1 | 16.7 |
| *Margarornis rubiginosus* | 1.8 | 64.7 | 1.9 | 80.4 | 2.7 | 90 |
| Vireonidae |  |  |  |  |  |  |
| *Vireo carmioli* | 1.3 | 7.8 | 1 | 15.2 | 1.1 | 30 |
| Ptiliogonatidae |  |  |  |  |  |  |
| *Phainoptila melanoxantha* | 2 | 5.9 | 1.4 | 21.7 | 1.4 | 16.7 |
| Troglodytidae |  |  |  |  |  |  |
| *Henicorhina leucophrys* | 1.4 | 19.6 | 1.3 | 26.1 | 1.4 | 60 |
| Turdidae |  |  |  |  |  |  |
| *Myadestes melanops* | NA | NA | NA | NA | 1 | 3.3 |
| *Turdus plebejus* | 1.3 | 15.7 | 1.4 | 28.3 | 1.4 | 46.7 |
| Fringillidae |  |  |  |  |  |  |
| *Chlorophonia callophrys* | 1.5 | 3.9 | 1.3 | 13 | 1.4 | 23.3 |
| Cardenallidae |  |  |  |  |  |  |
| *Piranga bidentata* | NA | NA | 1 | 2.2 | 2 | 6.7 |
| *Pheuticus tibialis* | NA | NA | NA | NA | 1 | 3.3 |
| *Chlorospingus pileatus* | 4.2 | 82.4 | 3.8 | 91.3 | 3.6 | 93.3 |
| *Chlorospingus flavopectus* | 2.4 | 9.8 | 1.8 | 17.4 | 2.6 | 33.3 |
| Passerellidae |  |  |  |  |  |  |
| *Arremon brunneinucha* | NA | NA | 1 | 2.2 | NA | NA |
| *Atlapetess tibialis* | 2.4 | 41.2 | 2.3 | 43.5 | 2.1 | 70 |
| Parulidae |  |  |  |  |  |  |
| *Vermivora chrysoptera* | NA | NA | NA | NA | 1 | 3.3 |
| *Oreothlypis gutturalis* | NA | NA | 1.8 | 8.7 | 1.3 | 13.3 |
| *Setophaga fusca* | NA | NA | 2 | 2.2 | 1 | 3.3 |
| *Setophaga virens* | 1 | 2 | NA | NA | NA | NA |
| *Basileuterus melanogenys* | 2 | 19.6 | 1.8 | 37 | 1.9 | 73.3 |
| *Cardellina pusilla* | NA | NA | NA | NA | 1 | 3.3 |
| *Myioborus torquatus* | 1.9 | 17.6 | 1.5 | 54.3 | 1.8 | 66.7 |
| *Thraupidae* |  |  |  |  |  |  |
| *Tangara dowii* | 3.5 | 7.8 | 3.5 | 21.7 | 3.3 | 50 |
| *Diglossa plumbea* | 1.4 | 9.8 | 1.3 | 8.7 | 1 | 26.7 |