

## CHECKLIST OF THE DIPTERA OF NIUE ISLAND

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*Abstract.* A checklist of 64 species of Diptera found on Niue Island is presented. Of these, 42 are new species records and 13 are new family records for the island.

The island of Niue (19°02'S, 169°52'W; an autonomous government administered by New Zealand) is a 258 km<sup>2</sup> emerged atoll consisting of a limestone base. Much of the island is uncleared forest, with elevations ranging from sea level to 75 m. Inhabitants of the island are clustered mainly in and around Alofi, the political center, and in 13 other small villages scattered around the island. Niue's relative isolation from surrounding island groups (Fiji and Tonga to the west, Samoa to the north, and the Cook Islands and the Tuamotu Archipelago to the east and southeast) makes it an interesting subject for zoogeographical analysis.

The Diptera fauna of Niue has not been surveyed in detail previously. Records of Diptera from Niue occur in only a few scattered articles (Belkin 1962, Wheeler & Kambysellis 1966, Given 1967, Drew 1975, Huang 1977). Of these, Given (1967) gives the best account to date of Diptera found on the island (20 taxa in 12 families, with 13 determined to species). Belkin (1962) and Huang (1977) record 4 species of Culicidae, Drew (1975) gives records of 2 *Dacus* (Tephritidae) found on the island, and Wheeler & Kambysellis (1966) give a list of Drosophilidae of Samoa including 3 species found on Niue. In all, 26 taxa in 13 families have previously been recorded.

This paper gives a list of all species previously recorded, with additional records derived from the collections of Diptera by N.L.H. Krauss made during 1978 and 1979. A total of 649 specimens from the Krauss collections (housed in the Bishop Museum) were examined. Eleven of the 26 species previously recorded from Niue were not seen in this study. Some of the 11 may include material previously recorded as "Undetermined sp." that have been identified to species herein (see below under species concerned for details). Of the species previously recorded from Niue, *Sarcophaga dux* Thomson and *Drosophila nasuta* Lamb (both recorded in Given 1967) are most probably misidentifications (see under Sarcophagidae and Drosophilidae below for more detailed information). A total of 64 taxa in 26 families are identified here as occurring on Niue. Of these, 42 are new species records and 13 are new family records for the island.

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## CHECKLIST OF NIUE DIPTERA

Species of Diptera listed below that were recorded previously are indicated by the author's initial(s) in brackets: Belkin (1962) [B], Wheeler & Kambyzellis (1966) [WK], Given (1967) [G], Drew (1975) [D], and Huang (1977) [H]. Those species and/or families marked with an asterisk (\*) are new records for the island. Those species marked with a dagger (†) were not seen in this study. Species in italics are either junior synonyms or misidentifications.

**\*AGROMYZIDAE**

1. \*Phytoliriomyza sp.

**\*ASTEIIDAE**

2. \*Asteia sp.

**CALLIPHORIDAE**

3. \*Stomorhina discolor (Fabricius)
4. †Undetermined sp. [G]

This may be No. 3 above.

**\*CERATOPOGONIDAE**

5. \*Dasyhelea sp.
6. \*Forcipomyia sp.
7. \*Stilobezzia sp.

**CHLOROPIDAE**

8. \*Cadrema pallida (Loew)
9. \*Gampsocera decussata Bezzi
10. \*Gaurax sp.

**CULICIDAE**

11. †Aedes (Stegomyia) aegypti (Linnaeus) [H]
12. Ae. (Stg.) cooki Belkin [B]
13. †Culex (Culex) quinquefasciatus Say [H]
14. †Cx. (Cux.) sitiens Wiedemann [H]

**DOLICHOPODIDAE**

15. \*Chrysosoma patellifer Thomson
  16. †Chrysosoma sp. [G]
- This may be No. 15 above.
17. \*Condylostylus sp.

**DROSOPHILIDAE**

18. \*Drosophila (Drosophila) sulphurigaster bilimbata Bezzi (=Drosophila nasuta Lamb [G], misidentification).  
Specimens recorded in Given (1967) as *D. nasuta* key to this species using Bezzi's (1928) key. Wheeler's (1981) catalog of Drosophilidae lists *D. nasuta* as occurring in the Seychelles, Madagascar, and central Africa; hence, records of *D. nasuta* from the Pacific should be considered misidentifications.
19. \*D. (Scaptodrosophila) bryani Malloch

20. †*D. (S.) marjoryae* Harrison [WK]  
 21. \**D. (Sophophora) sp. nr kikkawai* Burla  
 22. \**Leucophenga sp. nr samoensis* Harrison  
 23. †*Liodrosophila pallidipennis* (Harrison) [WK]  
 24. *Microdrosophila (Microdrosophila) convergens* (Malloch) [WK]  
 25. \**Mycodrosophila sp. nr gratiosa* (de Meijere)  
 26. \**Paramycodrosophila pictifrons* (Malloch)
- \*EMPIDIDAE**  
 27. \**Drapetis sp.*
- \*EPHYDRIDAE**  
 28. \**Nostima sp.*  
 29. \**Psilopa irregularis* Malloch
- LAUXANIIDAE**  
 30. *Homoneura acrostichalis* de Meijere [G]  
 31. \**Trigonometopus semibrunnea* Malloch  
 32. *Trypaneoides caniventris* Bezz  
 33. \**Nr Euprosopomyia sp.*
- \*LONCHAEIDAE**  
 34. \**Lonchaea (Carpolonchaea) nigritella* Malloch  
 35. \**L. (Lonchaea) uniseta* Malloch
- \*MILICHIIDAE**  
 36. \**Desmometopa m-nigrum* (Zetterstedt)
- MUSCIDAE**  
 37. \**Atherigona (Acritochaeta) orientalis* Schiner (= *Atherigona trilineata* Stein [G])  
 38. \**Dichaetomyia vicaria* (Walker) (= *Dichaetomyia rufa* Stein [G])  
 39. \**Musca autumnalis* De Geer  
 40. *M. domestica* Linnaeus [G]  
 41. *M. sorbens* Wiedemann [G]  
 42. \**Muscina stabulans* (Fallén)
- PHORIDAE**  
 43. *Megaselia scalaris* (Loew) [G]
- \*PIPUNCULIDAE**  
 44. \**Pipunculus vitiensis* Bezzi
- PLATYSTOMATIDAE**  
 45. *Pseudorichardia flavitarsis* Macquart [G]  
 46. *Scholastes bimaculata* Hendel [G]
- SARCOPHAGIDAE**  
 47. \**Boettcherisca peregrina* (Robineau-Desvoidy) (= *Sarcophaga dux* Thomson [G], misidentification)

The major character differentiating *Boettcherisca* from other closely related genera in this area is the hairy propleura. Specimens of *B. peregrina* from Niue have a hairy pro-

pleura; *Sarcophaga dux* [now known as *Parasarcophaga (Liosarcophaga) dux* (cf. Hardy 1981: 397)] does not have a hairy propleura. Otherwise, the 2 are almost identical. Because of this, I surmise that the identification of *Sarcophaga dux* in Given (1967) is most probably a misidentification.

48. †Undetermined sp. [G]

**\*SCATOPSIDAE**

49. \*Swammerdamella albimana Edwards

**\*SCIARIDAE**

50. \*Bradysia sp.

**\*SEPSIDAE**

51. \*Parapaleosepsis sp.

**\*SPHAEROCERIDAE**

52. \*Leptocera (Coproica) ferruginata Stenhammer

53. \*L. (Leptocera) curvinervis Stenhammer

54. \*L. (Limosina) puerula (Rondani)

55. \*L. (Poecilosomella) angulata (Thomson)

56. \*L. (P.) punctipennis (Wiedemann)

**SYRPHIDAE**

57. †Undetermined sp. [G]

**STRATIOMYIDAE**

58. Cephalochrysa maxima (Bezzi) (=Microchrysa maxima Bezzi [G])

59. †Chromatopoda annulipes Walker [G]

**\*TACHINIDAE**

60. \*Undetermined sp.

**TEPHRITIDAE**

61. Dacus (Bactrocera) kirki Froggatt [D]

62. \*D. (B.) obscurus Malloch

63. D. (B.) passiflorae Froggatt [D]

One of the 3 taxa above was recorded in Given (1967) as *Dacus* sp.

64. \*Euphranta (Staurella) sp. nr flavina (Hering)

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