

Notes on the Distribution of *Culex (Melanoconion)* Mosquitoes
in Northeastern Argentina (Diptera: Culicidae)

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ABSTRACT. Systematic and distribution data are provided for 9 species of *Culex (Melanoconion)* collected in the provinces of Chaco, Corrientes and Santa Fe in northeastern Argentina during 1978-1980. *Culex ocoosa* Dyar and Knab 1919 and *plectoporpe* Root 1927 are recorded for the first time from this area. Brief discussions, including preliminary arbovirus data, of *ocossa* and *delpontei* Duret 1969 are presented.

INTRODUCTION

This report provides systematic and distributional information on *Culex (Melanoconion)* species from collections of adults made in northeastern Argentina. The field collection records are as follows:

May 1978 - Santa Fe Province: C. J. Mitchell², T. P. Monath²,
M. S. Sabattini³ and R. Pauli⁴

February 1979 - Santa Fe Province: C. J. Mitchell, M. S. Sabattini,
J. Dafner³, S. G. Bowen² and R. Pauli

February 1980 - Santa Fe Province: M. S. Sabattini and J. Dafner

April 1980 - Chaco and Corrientes Provinces: C. J. Mitchell, R. Roverano⁵,
T. P. Monath, M. S. Sabattini and J. Dafner

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The collections were made primarily with CDC light traps (LT) supplemented with CO₂ but also with chicken- and rodent-baited traps. The sites in Chaco and Corrientes provinces were generally situated in lowland areas near or along margins of rivers, large open swamps, lakes, and ponds. The sites in Santa Fe Province were in a transitional area characterized by open, luxuriant grassland, pasture, cultivated fields of cereal crops, and a mosaic of open native forest of thorny trees and shrubs between the pampa and espinal vegetational zones. The collections were made at elevations ranging from near sea level to less than 100 m.

Prior to our final specific determination, female specimens from these collections were pooled by the junior author for virus isolation attempts. The final identification to species was based on the examination of the terminalia of male specimens and the cibarial armature of remaining females. The 9 species of *Melanoconion* identified were: *ocossa* Dyar and Knab 1919, *delpontei* Duret 1969, *pedroi* Sirivanakarn and Belkin 1980, *clarki* Evans 1924, *albinensis* Bonne-Wepster and Bonne 1920, *plectoporpe* Root 1927, *oedipus* Root 1927, *bastagarius* Dyar and Knab 1906, and *pilosus* Dyar and Knab 1906. Among these, *ocossa* and *plectoporpe* represent new records for Argentina. Specimens from Chaco province were also tentatively identified as ? *idottus* Dyar 1920 but could not be determined as the nominate species with certainty. These new records bring to 23 the number of species of *Melanoconion* documented from that country.

Although no individually reared specimens with association of all stages (male, female, larva and pupa) were available, a rigorous attempt was made to provisionally associate female specimens with the corresponding males. External adult characters and the types of female cibarial armature (Sirivanakarn, 1978) enabled accurate identification of the females of 7 species: *ocossa*, *delpontei*, *pedroi*, *clarki*, *albinensis*, *bastagarius*, and *pilosus*. Females of *plectoporpe*, *oedipus*, and ? *idottus* were either not suitable or not available for such association.

Species of *Melanoconion* from northeastern Argentina

(1) *Cx. (Mel.) ocossa*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, Resistencia, IV-9-80, LT, 3 ♀ with slides of cibarial armatures (1A, B, C), 7 ♂ (pinned); 1 de Mayo Dept.: swamp at Rio Tragadero nr. Antequera, IV-8-80, LT, 1 ♂ with slide of genitalia (51).

(2) *Cx. (Mel.) delpontei*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, Resistencia, IV-9-80, LT, 7 ♀ with slides of cibarial armatures (2A, B; 29A, B, C, D, E), 1 ♂ with slide of genitalia (34-A); brick factory nr. Rio Negro Bridge, IV-7 to 9-80, LT, 7 ♀ with slides of cibarial armatures (6A, B, C, D; 12A, B, C); Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 8 ♂ with slides of genitalia (25A, B, C, D, E; 35P, Q R); 1 de Mayo Dept.: swamp at Rio Tragadero nr. Antequera, IV-8-80, LT, 1 ♂ with slide of genitalia (49).

CORRIENTES PROVINCE: General Paz Dept.: Rincon de Vences, IV-4-80, LT, 1 ♂ with slide of genitalia (39C).

SANTA FE PROVINCE: Las Colonias Dept.: Escuela Granja, Esperanza, II-19-80, LT, 1 ♂ with slide of genitalia (112); Arroyo Cuculu, II-19-80, LT, 1 ♂ with slide of genitalia (104); between Rio Salado and La Nicolina Ranch nr. Esperanza, II-22-79, LT, 3 ♂ with slides of genitalia (62, 63, 64); along Rio Salado across from Remanso Park, Esperanza, II-18-79, LT, 1 ♂ with slide of genitalia (65); San Justo Dept.: Bollini property, San Justo, V-5-78, LT, 4 ♂ with slides of genitalia (55, 56, 57, 58).

(3) *Cx. (Mel.) pedroi*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 1 ♂ with slide of genitalia (37A).

(4) *Cx. (Mel.) clarki*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 1 ♂ with slide of genitalia (35G); brick factory nr. Rio Negro Bridge, Resistencia, IV-7-80, LT, 1 ♂ with slide of genitalia (36B); Rio Negro Bridge, Resistencia, IV-9-80, LT, 1 ♀ (pinned).

(5) *Cx. (Mel.) albinensis*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, Resistencia, IV-9-80, LT, 2 ♂ with slides of genitalia (34B, 41C); Rio Negro Bridge, W of Resistencia, IV-10-80, 2 ♂ with slides of genitalia (35F, N); brick factory nr. Rio Negro Bridge, IV-7-80, LT, 1 ♂ with slide of genitalia (36E), 1 ♀ with slide of cibarial armature (8A); Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 1 ♂ genitalia slide only (37B); 1 de Mayo Dept.: swamp at Rio Tragadero nr. Antequera, IV-8-80, LT, 1 ♂ with slide of genitalia (52).

CORRIENTES PROVINCE: General Paz Dept.: estero nr. Rincon de Vences, IV-6-80, LT, 1 ♂ with slide of genitalia (40B); San Cosme Dept.: Paso de la Patria, IV-3-80, LT, 2 ♂ with slides of genitalia (44, 45).

SANTA FE PROVINCE: Vera Dept.: Vera, II-25-80, LT, 1 ♂ with slide of genitalia (136); Las Colonias Dept.: marsh, Esperanza, II-15-80, LT, 1 ♂ with slide of genitalia (140).

(6) *Cx. (Mel.) plectoporpe*⁶

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 2 ♂ with slides of genitalia (37B, D), IV-9-80, 1 ♂ with slide of genitalia (41A).

⁶as illustrated by Rozeboom and Komp (1950, Fig. 67)

(7) *Cx. (Mel.) oedipus*

SANTA FE PROVINCE: San Justo Dept.: Bollini property, San Justo, V-8-78, LT, 1 ♂ with slide of genitalia (54).

(8) *Cx. (Mel.) bastagarius*

CHACO PROVINCE: San Fernando Dept.: brick factory nr. Rio Negro Bridge, Resistencia, IV-7-80, LT, 2 ♂ with slides of genitalia (36C, D); Rio Negro Bridge, W of Resistencia, IV-10-80, 1 ♂ with slide of genitalia (35K); I de Mayo Dept.: swamp at Rio Tragadero nr. Antequera, IV-8-80, LT, 1 ♂ with slide of genitalia (50).

CORRIENTES PROVINCE: General Paz Dept.: 5 km W of Rincon de Vences, IV-5-80, LT, 1 ♂ with slide of genitalia (48).

(9) *Cx. (Mel.) pilosus*

CHACO PROVINCE: San Fernando Dept.: Rio Negro Bridge, W of Resistencia, IV-10-80, LT, 4 ♂ with slides of genitalia (35G, J, L, M).

CORRIENTES PROVINCE: General Paz Dept.: farm 14 km W of Rincon de Vences, IV-6-80, LT, 1 ♂ with slides of genitalia (40E); estero nr. Rincon de Vences, IV-6-80, LT, 2 ♂ with slides of genitalia (40C, D); Rincon de Vences, IV-4-80, LT, 2 ♂ with slides of genitalia (39A, B); 5 km W of Rincon de Vences, IV-5-80, LT, 1 ♂ with slide of genitalia (38A); San Cosme Dept.: Paso de la Patria, IV-3-80, LT, 1 ♂ with slide of genitalia (46).

SYSTEMATIC NOTES

(1) *Cx. (Mel.) ocosa*

Cx. (Mel.) ocosa and *panocossa* form a distinct group. Dyar (1923, 1928) interpreted the 2 nominal taxa as *aikenii* Aiken and Rowland 1906. Belkin (1970) resurrected *ocossa* and *panocossa* as valid species and relegated *aikenii* to *nomen dubium*. Differences in the male genitalia of the 2 valid species were shown by Belkin, Heinemann and Page (1970). *Ocosa* has been found from Panama to Ecuador and southern Brazil (Sirivanakarn, in prep.), whereas *panocossa* has been recorded from Panama, Costa Rica, Mexico and Jamaica.

Cx. (Mel.) ocosa is similar in appearance to *paraerybda* Komp 1936 but lacks narrow pale bands on the hindtarsomeres. It also resembles *delpontei* but can be readily distinguished from it by the presence of 2 usually conspicuous dark spots on the pleura (postspiracular and pleural apophysial areas). The female cibarial armature of *ocossa* contains 30 or more narrow teeth.

Adults of *ocossa* are readily collected at or near bodies of water with *Pistia* spp. (water lettuce) beds in which the larvae and pupae are also found.

The ecology and medical importance have been reviewed (Galindo and Adames 1973, Galindo and Grayson 1971). Several isolates of Western equine encephalomyelitis (WEE) virus have been obtained from this species from Chaco and Corrientes Provinces.

(2) *Cx. (Mel.) delpontei* Duret

This species was described from specimens from Argentina and Paraguay, incorrectly recorded by Duret (1953, 1954) as *paraerybda*, the type locality of which is Juan Diaz, Panama. The specimens lacked both the pale bands on the hindtarsomeres and the dark spots on the pleura typical of *paraerybda* and *ocossa*. Despite the lack of associated reared material, the authors feel the identification of females of *delpontei* is accurate on the basis of external characters and association with males in the collections. The female cibarial armature contains 20-24 relatively coarse teeth and an irregular row of minute spicules posterior to the teeth. Numerous isolates of Venezuelan equine encephalomyelitis (VEE) group virus have been obtained from this species from Chaco and Corrientes Provinces.

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