

THE HAIRY MAGGOT BLOW FLY *CHRYSOMYA RUFIFACIES* (MACQUART)¹ CONFIRMED IN ARIZONA

Donald L. Baumgartner
Northwest Mosquito Abatement District
147 West Hintz Road
Wheeling, IL 60090

(Accepted for publication April 15, 1986)

ABSTRACT

A museum collection and recent trappings for blow flies confirm the presence of *Chrysomya rufifacies* (Macquart) in Arizona. The implication of this new distribution is discussed.

Key Words: *Chrysomya rufifacies*, distribution, Arizona.

J. Entomol. Sci. 21(2): 130-132 (April 1986)

INTRODUCTION

Recently, four Old World *Chrysomya* Robineau-Desvoidy blow fly species have become established in the New World (Baumgartner and Greenberg 1984). Three of these are spreading throughout South America while the fourth, *Chrysomya rufifacies* (Macquart), initially reported from Costa Rica, is now found throughout most of Central America (ref. cit.). In 1980, this species was first collected in the continental United States (Texas, Gagné et al. 1982) and to date is known from 13 Texas counties (Gagné et al. 1982; Richard and Ahrens 1983). In 1982, *Chrysomya* larvae (species near *rufifacies*) were recovered from a live dog in Tucson, Arizona (Richard and Ahrens 1983). Although *C. rufifacies* is expected to expand its range over much of the southwestern U. S. (Baumgartner and Greenberg 1984), no other state records are known. I now report new records of *C. rufifacies* adults from 2 Arizona counties, confirming its presence and establishment in this state.

MATERIALS AND METHODS

During April 1985, I conducted a blow fly survey in central Arizona, netting flies between 1000 and 1400 hrs on aged (1 - 2 days) fish and beef liver at 5 locations and at 4 different elevations in 4 counties (Maricopa, Pinal, Pima, Coconino). In addition, I had the opportunity to examine: a collection of blow flies (n = 152) netted in April, June, and October 1982 by Mr. L. Nichols of Patagonia (Santa Cruz Co.), AZ; a collection (n = 1018) netted May 1983 by Mr. F. Fritz, Sun City, AZ; and a loan of calliphorids from Utah State University. All flies were sorted and identified, with the presence or absence of *C. rufifacies* given below.

RESULTS AND DISCUSSION

One female *C. rufifacies* netted on 24 June 1983 was among the lot of blow flies collected by Nichols in Patagonia. I also examined a female *C. rufifacies* in

¹ Diptera: Calliphoridae

the Utah State University Collection from Sycamore Canyon, AZ, June 1982. The 1985 Arizona collections yielded one female *C. rufifacies* of 466 (0.2%) blow flies collected in Phoenix. *Chrysomya rufifacies* was not among 1018 blow flies collected in Sun City, 192 blow flies from a site 24 km S. Flagstaff, 597 flies from Oak Creek Canyon, 612 flies from 40 km S. Phoenix, or 176 flies from Catalina State Park, although other blow flies such as *Cochliomyia macellaria* (Fabricius), *Lucilia sericata* (Meigen), *Lucilia cuprina* (Shannon), and *Phormia regina* (Meigen), which also prefer higher temperatures, were in the lots. These collections suggest that *C. rufifacies* is an established part of the Arizona blow fly fauna, but may be rare, patchy in distribution, and/or populations may fluctuate seasonally. *Chrysomya rufifacies* was absent in southern Texas traps in March 1982 but was present in April and May, concurrent with increased captures of *C. macellaria* (Richard and Ahrens 1983).

The impact of *C. rufifacies*' immigration into the United States is as yet unknown. In Australia, this species is the main secondary myiasis-producer (O'Flynn 1982), and in India (Chaudhuri 1961) and Hawaii (Shishido and Hardy 1969), and in India (Chaudhuri 1961) and Hawaii (Shishido and Hardy 1969) it behaves more like a primary myiasis fly. In the Americas, 5 myiasis cases (due to a species near *C. rufifacies*) from the U. S. (Gagné et al. 1982; Richard and Gerrish 1983; Richard and Ahrens 1983) and 1 from Mexico (Gagné et al. 1982) have been reported to date. There is some concern that this fly may replace *Cochliomyia hominivorax* (Coquerel), which formerly inhabited the U. S. (Schmidt and Kunz 1985). Evidently, more intensive surveys and investigations are required to assess *C. rufifacies*' myiasis potential in North America and its interactions with the endemic fauna.

New Records of C. rufifacies in Arizona

Santa Cruz Co., Sycamore Canyon, Ruby Road., 11-13:VI:1982, W. J. Hanson leg., Utah State Univ., 1♀; Sta. Cruz Co., Patagonia, eusynanthropic site (eu), 24:VI:1983, L. W. Nichols leg., 1♀; Maricopa Co., Phoenix, 320 m, eu, fish & liver baits, 14:IV:1985, D. Baumgartner leg., 1♀.

Negative Records in Arizona

Maricopa Co., Sun City, eu, 6-15:V:1983, 1018 blow flies collected; Pinal Co., 40 km S. Phoenix, 15:IV:1985, 612 flies; Pima Co., Catalina St. Pk., 730 m, asynanthropic site, 15:IV:1985, 176 flies; Coconino Co., Oak Creek Canyon, 1675 m, hemisynanthropic site (hemi), 16:IV:1985, 597 flies; Coconino Co., 24 km S. Flagstaff, 1980 m, hemi, 16:IV:1985, 192 flies.

The terms "eusynanthropic," "hemisynanthropic," and "asynanthropic" describe the fly's synanthropy or association with man; by extension these terms are used to describe the fly's habitat. Thus, eusynanthropic refers to dense human settlements, hemisynanthropic to isolated dwellings, and asynanthropic to areas devoid of human habitation. The *C. rufifacies* specimens from Patagonia and Phoenix are deposited at the U. S. National Museum, Washington.

ACKNOWLEDGMENTS

I am grateful to Mr. L. W. Nichols, Patagonia, and Mr. R. Fritz, Sun City, Arizona, for their gift calliphorid specimens. Dr. W. Hanson, Utah State University graciously loaned me their Nearctic Calliphoridae for identification.

LITERATURE CITED

- Baumgartner, D. L., and B. Greenberg. 1984. The genus *Chrysomya* (Diptera: Calliphoridae) in the New World. *J. Med. Entomol.* 21: 105-13.
- Chaudhuri, R. P. 1961. Blowfly *Chrysomya rufifacies* Macquart infestation in sheep in India. *Sci. & Cult.* 27: 447-48.
- Gagné, R. J., R. R. Gerrish, and R. D. Richard. 1982. Correspondence. *Entomol. Soc. Am. Newsletter* 5: 9.
- O'Flynn, M. A. 1982. The blowflies of Queensland, *Queensl. Agric. J.* vii-x.
- Richard, R. D., and E. H. Ahrens. 1983. New distribution record for the recently introduced blow fly *Chrysomya rufifacies* (Macquart) in North America. *Southwest. Entomol.* 8: 216-18.
- Richard, R. D., and R. R. Gerrish. 1983. The first confirmed field case of myiasis produced by *Chrysomya* sp. (Diptera: Calliphoridae) in the continental United States. *J. Med. Ent.* 20: 685.
- Schmidt, C. D., and S. E. Kunz. 1985. Reproduction of *Chrysomya rufifacies* (Macquart) in the laboratory. *Southwest. Entomol.* 10: 163-66.
- Shishido, W. H., and D. E. Hardy. 1969. Myiasis of new-born calves in Hawaii. *Haw. Entomol. Soc. Proceed.* 20: 435-38.
-