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Seasonality of RIFA mating flights.

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This project is a cooperative effort by the USDA, ARS; J.L. Knapp, Citrus REC, IFAS, University of Florida, Lake Alfred; and R.H. Cherry, Everglades REC, IFAS, University of Florida, Belle Glade, FL. Flight traps were placed over 10 red imported fire ant, Solenopsis invicta Buren, mounds in Belle Glade, Lake Alfred, and Gainesville, Florida. All of the mounds monitored were located within the same acre and were occupied by single-queen colonies.

A trap, consisting of a wire frame, screen cone, cake pan, plastic dome, tiedown, and fluid preservative, was placed over a fire ant mound with a minimum of disturbance. The traps were emptied weekly, and the number and sex of the alate fire ants determined. When a colony moved from under the trap, the trap was moved to the new mound.

The traps were monitored from January 1991 to March 1993, for over 2-full years (Fig. 1, 2, 3). Seasonal flight patterns were basically similar, which was contrary to expectations. Flights in Belle Glade were predicted to be uniform over the entire year.

Data representing several dates from each location are given in detail to show the variation in sexual production among the 10 mounds monitored at each location. The sex ratio of the mounds

sampled was highly skewed to male production with Belle Glade, Lake Alfred, and Gainesville yielding 97.3%, 86.6%, and 88.4% total males, respectively. This predominance of male production is unlike any sex ratios previously reported for RIFA. The variations in sex-ratio shown by individual mounds in this study are consistent with previous studies.

Table 1. Comparison of mating flight trap collections by weekly intervals

	Belle Glade	Lake Alfred	Gainesville
weeks without flights	59	67	60
weeks with flights	52	48	55
<10 alates/flight	8	5	10
10-100 alates/flight	17	27	14
100-1000 alates/flight	23	12	17
>1000 alates/flight	8	4	14
Total females	715	1955	5645
Total males	25330	12625	42860
Total alates	26045	14580	48505

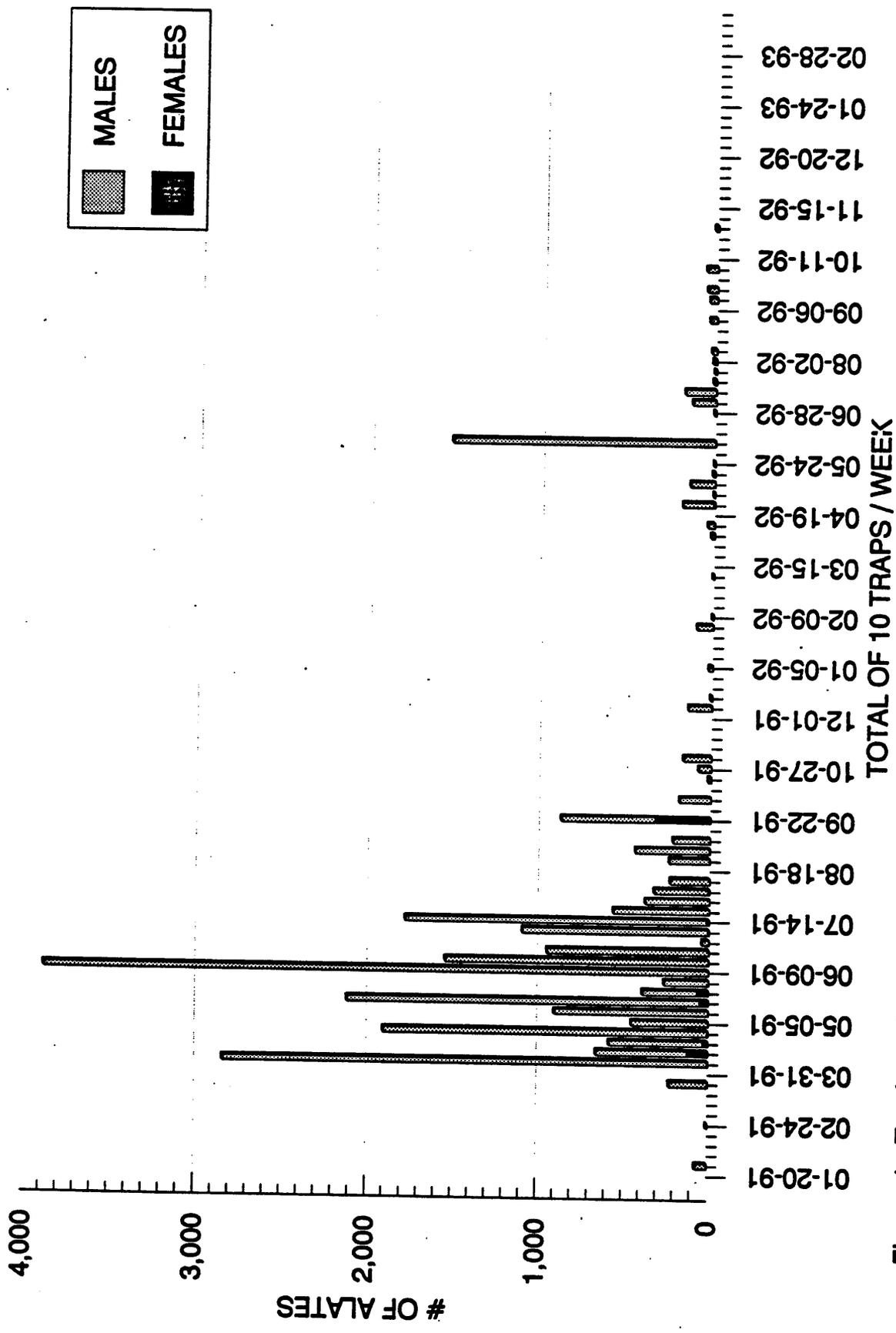


Figure 1. Total numbers of RIFA alates captured in flight traps from Belle Glade, Palm Beach Co., FL.

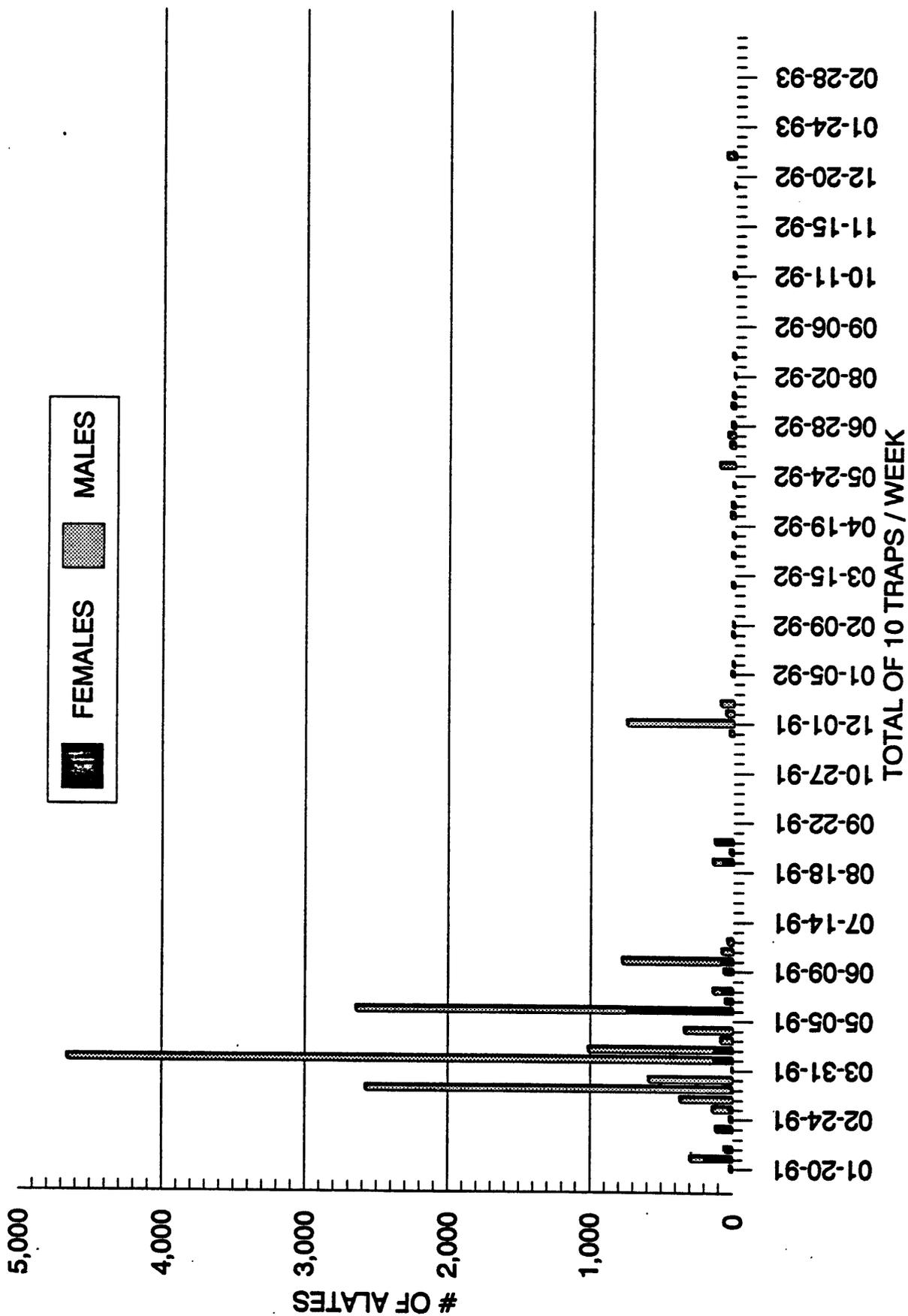


Figure 2. Total numbers of RIFA alates captured in flight traps from Lake Alfred, Polk Co., FL.

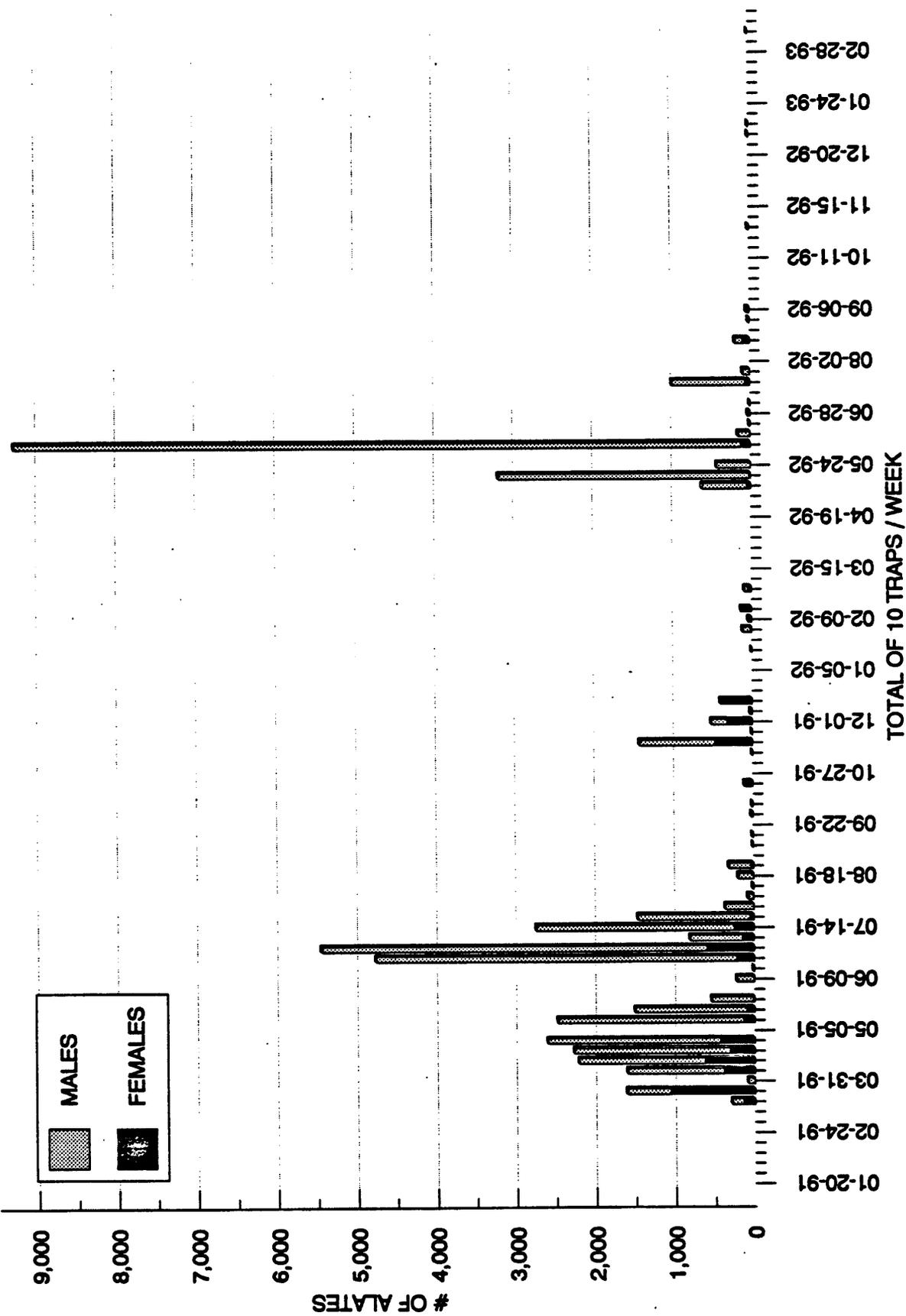


Figure 3. Total numbers of RIFA alates captured in flight traps from Gainesville, Alachua Co., FL.

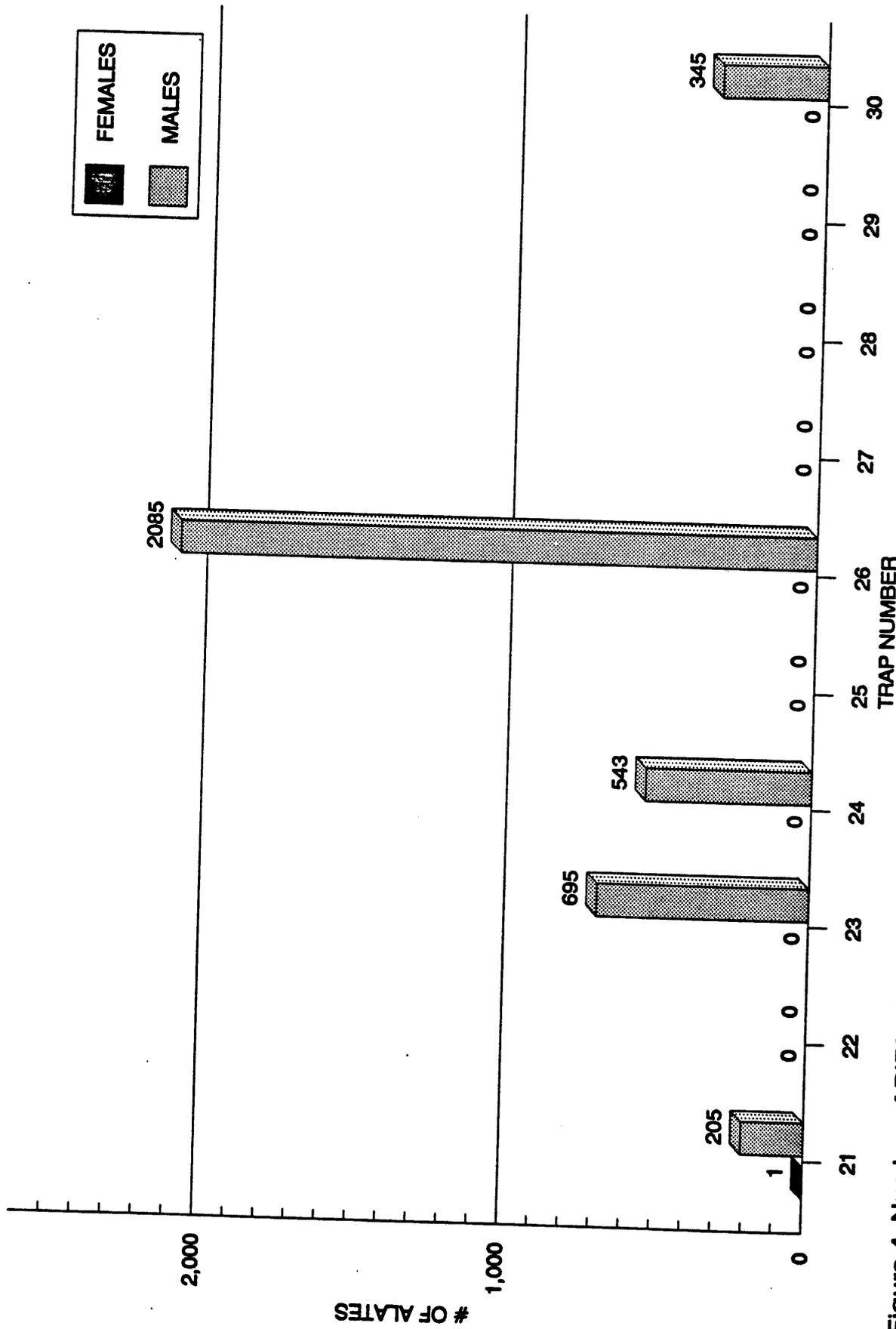


Figure 4. Number of RIFA alates in each trap from Belle Glade during the week of June 9, 1991.

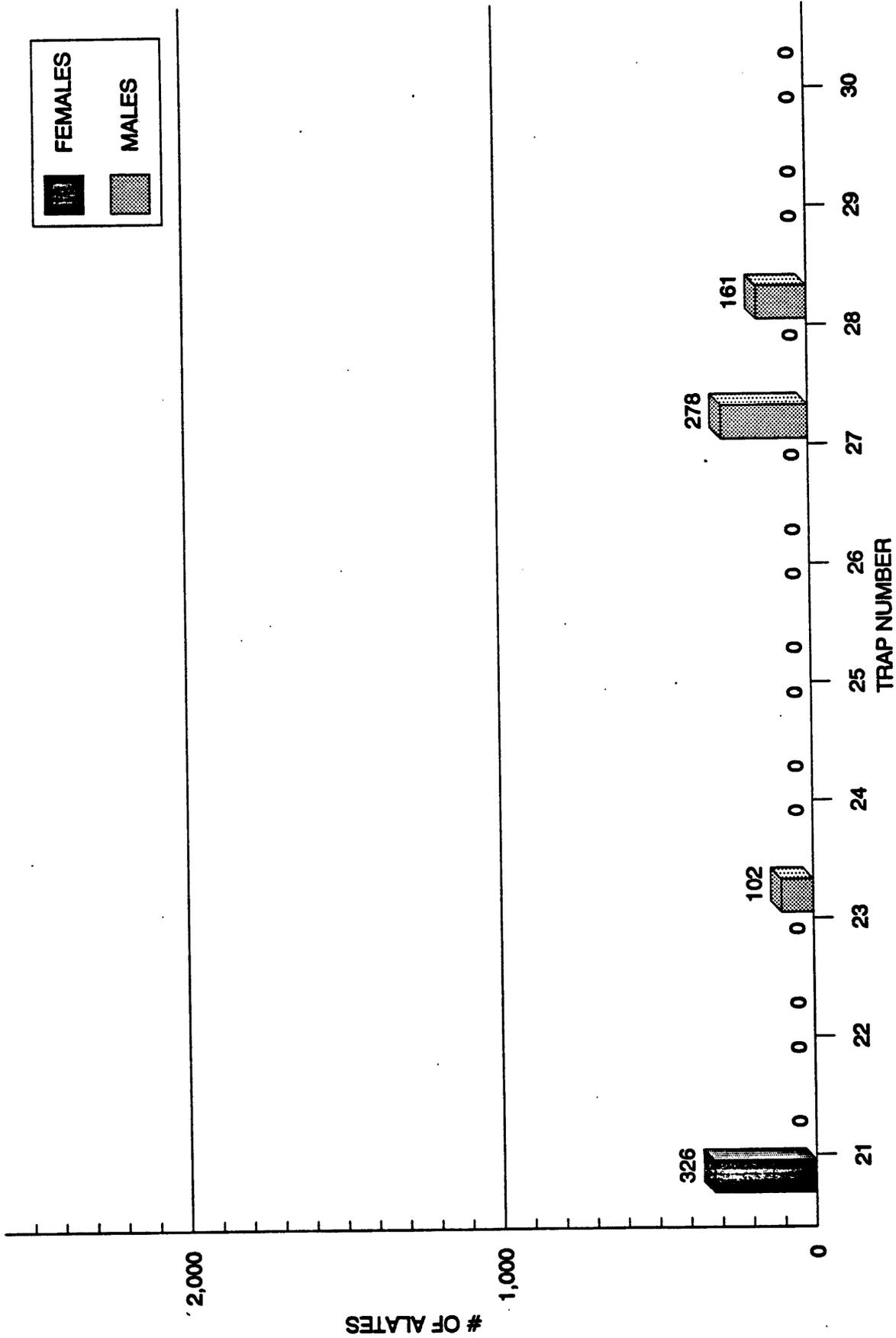


Figure 5. Number of RIFA alates in each trap from Belle Glade during the week of September 22, 1991.

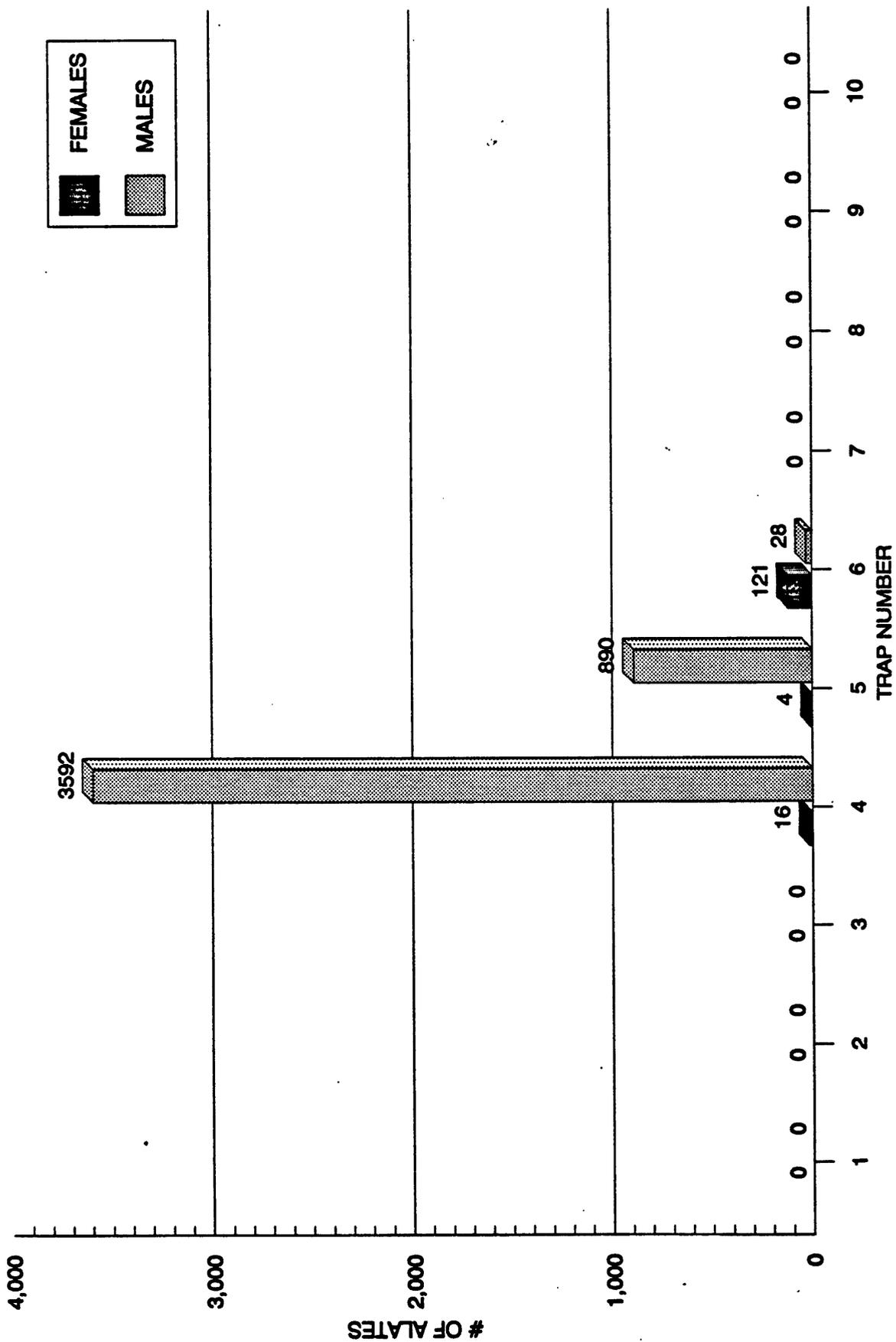


Figure 6. Number of RIFA alates in each trap from Lake Alfred during the week of April 7, 1991.

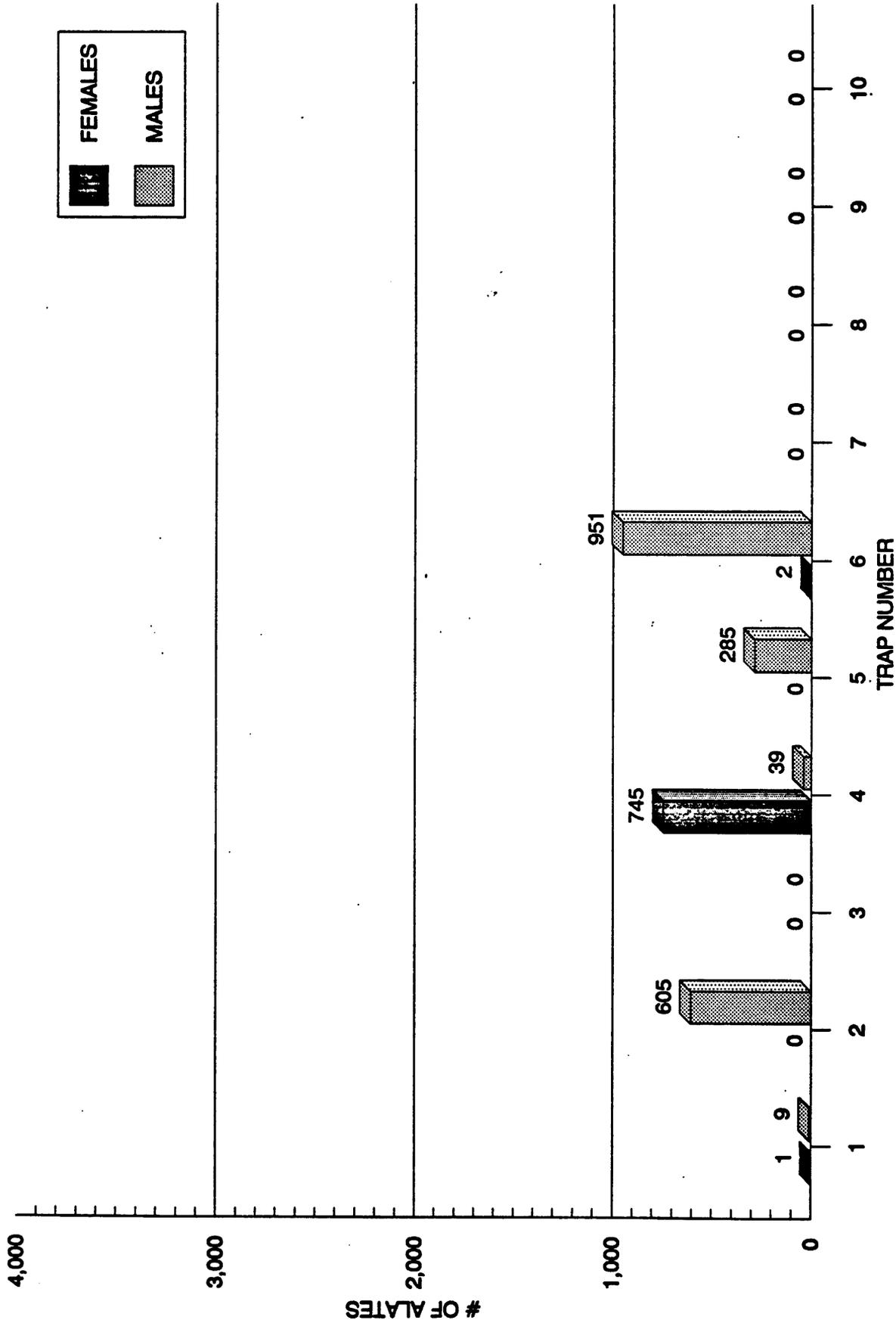


Figure 7. Number of RIFA alates in each trap from Lake Alfred during the week of May 12, 1991.

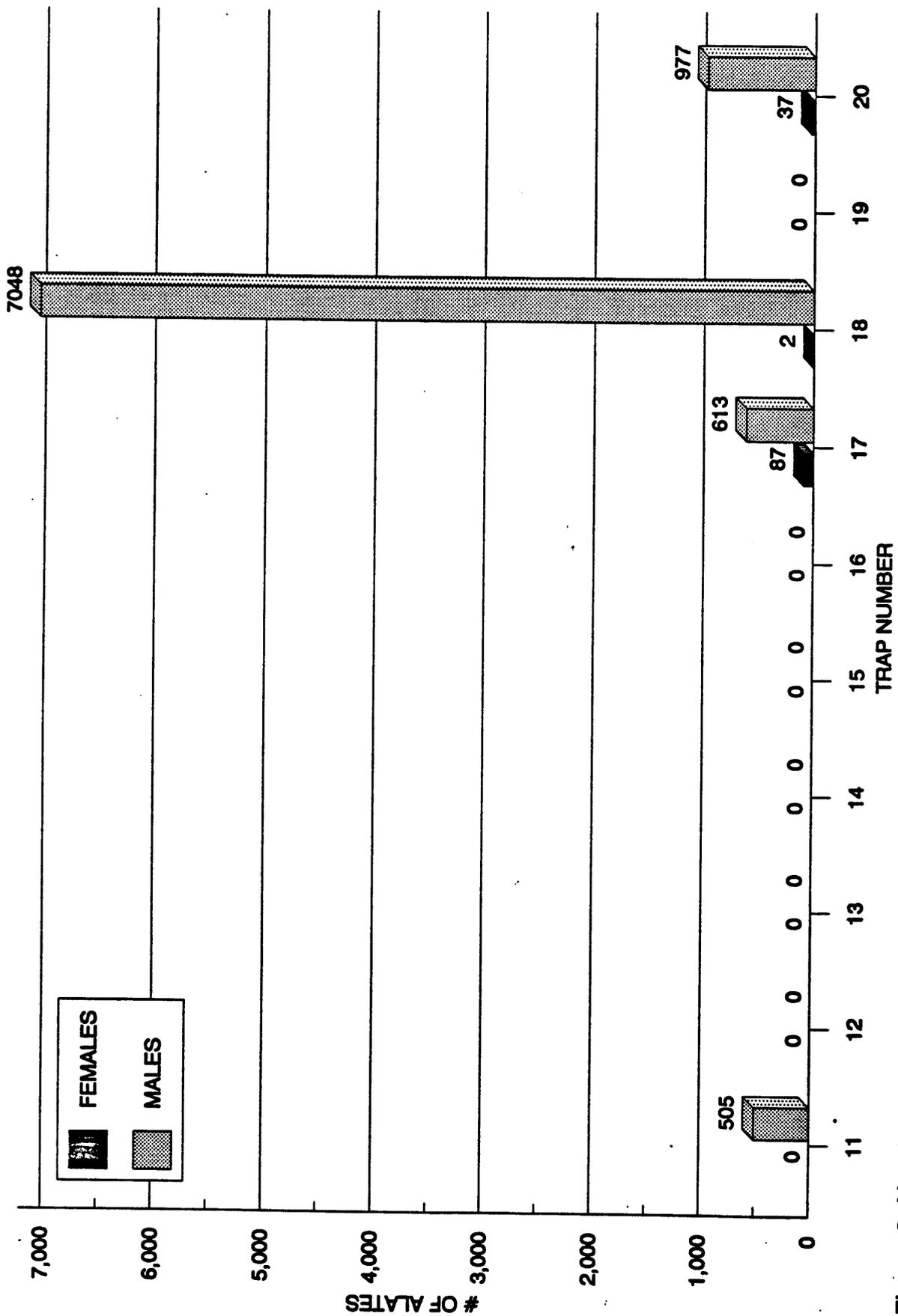


Figure 8. Number of RIFA alates in each trap from Gainesville during the week of June 7, 1992.

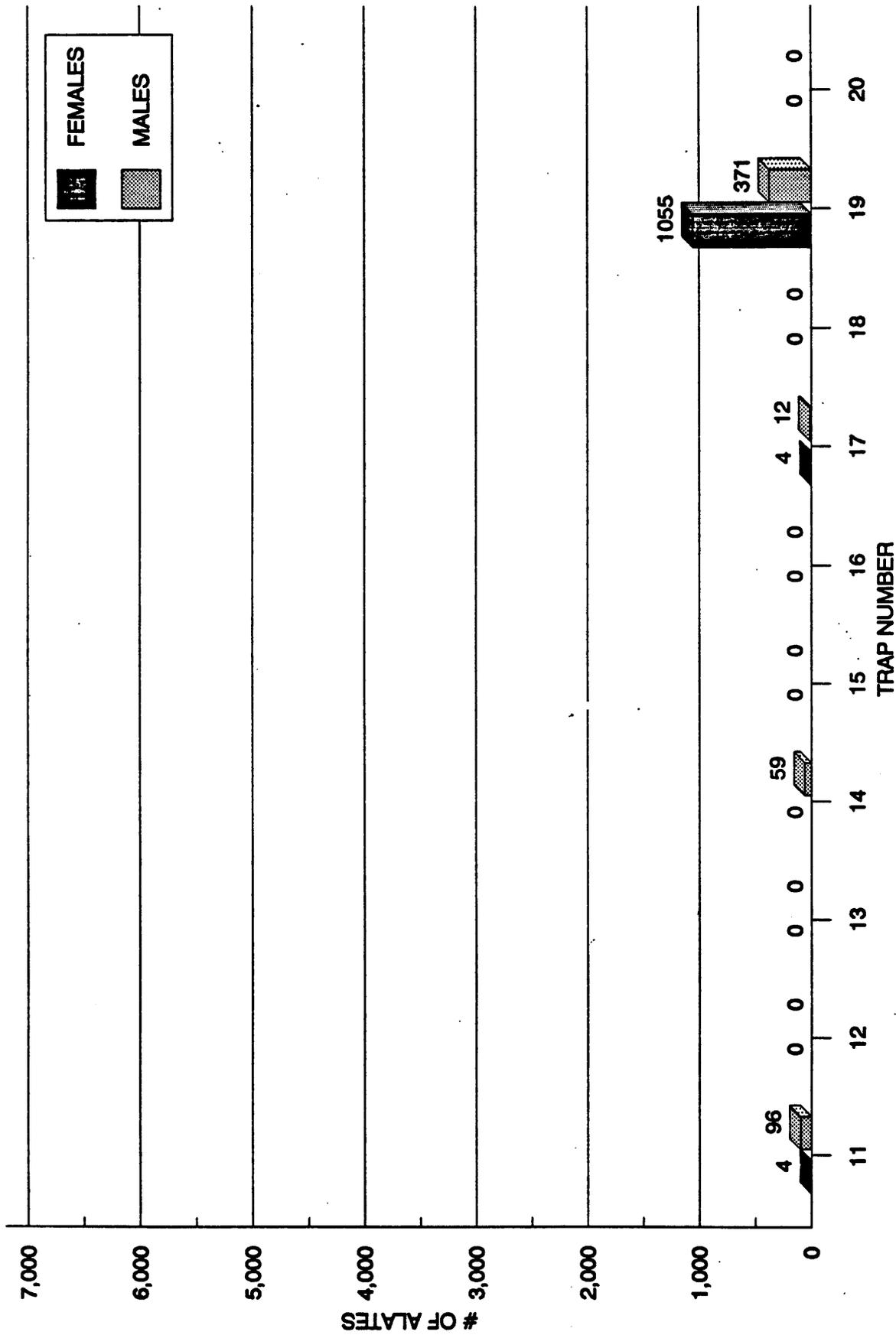


Figure 9. Number of RIFA alates in each trap from Gainesville during the week of March 24, 1991.