

of Florida), 6 *P. videns* males per trap per night were also captured in sticky traps baited with this blend formulated in Conrel® fibers in a tobacco field more than 100 m from the nearest high concentration of goldenrod.

Although these data are preliminary the results indicate that this blend of C₁₄ and C₁₆ aldehydes is an effective sex attractant for male *P. videns*. However, inasmuch as *H. virescens* males were captured in traps baited with these lures at low population levels, it is probable that the 48:12:16:24 ratio of these aldehydes is not the precise ratio released by calling *P. videns* females. More importantly, because *P. videns* males were not attracted to traps baited with *H. virescens* females, this blend does not accurately represent the volatile sex pheromone released by calling *H. virescens* females. Subsequent analyses have, in fact, indicated that the actual pheromone blend of *H. virescens* contains 2 additional components and different ratios of the components used in the blend that is attractive to *P. videns* males. Mention of a commercial or proprietary product does not constitute an endorsement by the USDA.—P. E. A. TEAL, J. R. MCLAUGHLIN, J. H. TUMLINSON, AND R. R. RUSH, Insect Attractants, Behavior, and Basic Biology Research Laboratory, Agric. Res. Serv., USDA, Gainesville, FL 32604 USA.

EARLY-SEASON PARASITIZATION OF FALL ARMYWORM (LEPIDOPTERA: NOCTUIDAE) LARVAE IN MISSISSIPPI—Fall armyworm, *Spodoptera frugiperda* (J. E. Smith), larvae were collected from whorl-stage corn during an extensive survey conducted in the eastern half of Mississippi from 26 April through 1 June 1979. These larvae were reared on a wheat germ based diet in the laboratory as part of a procedure for analyzing the early-season phenology of fall armyworm populations (Hogg, D. B., H. N. Pitre, and R. E. Anderson. 1982. Environ. Ent. 11: 705-10). Herein we report parasitoids recovered and rates of larval parasitization.

Five parasitoid species from four families were reared from fall armyworm (Table 1). We divided the area included in the survey into four geographic regions to identify latitudinal differences in parasitization. Region 1 includes the coastal district, the southernmost area in the state; 52 larvae were reared from collections made between 26 April and 9 May in 2 counties (Pearl River and Stone). Region 2 includes the south-central and southeast districts; 169 larvae were reared from collections made between 9 and 30 May in 4 counties (Covington, Jones, Newton, and Smith). Region 3 includes the central and east-central districts; 296 larvae were reared from collections made between 9 May and 1 June in 4 counties (Attala, Clay, Oktibbeha, and Winston). Region 4 includes the north-central and northeast districts; 121 larvae were reared from collections made between 16 May and 1 June in four counties (Alcorn, Lee, Marshall, and Tippah). Percent parasitization was calculated using the total number of fall armyworm larvae reared from each region. Larvae ranging from 2nd to 6th instar were collected in each region. Collections were not made concurrently in all the regions, due to latitudinal variation in phenology of the fall armyworm populations. However, there was overlap in collection dates among all the regions except for the 2 extremes.

Two parasitoid species, *Apanteles marginiventris* (Cresson) and

TABLE 1. PARASITIZATION OF FALL ARMYWORM LARVAE COLLECTED IN 4 GEOGRAPHIC REGIONS OF MISSISSIPPI.

Family and species	% Larvae Parasitized			
	1*	2	3	4
Braconidae				
<i>Apanteles marginiventris</i>	1.9	4.7	13.9	1.7
Eulophidae				
<i>Euplectrus platyhypenae</i>	—	—	0.3	0.8
Ichneumonidae				
<i>Campoletis flavicincta</i>	—	—	23.0	29.8
<i>Ophion flavidus</i>	9.6	1.8	—	—
Tachinidae				
<i>Archytas marmoratus</i>	1.9	6.5	2.0	6.6
Total	13.4	13.0	39.2	38.9

*1 = coastal district, 2 = south-central and southeast districts, 3 = central and east-central districts, 4 = north-central and northeast districts.

Archytas marmoratus (Townsend), were taken in all 4 regions. Parasitization by *A. marmoratus* varied little among regions, whereas parasitization by *A. marginiventris* was greatest in region 3. The 2 ichneumonids, *Campoletis flavicincta* (Ashmead) and *Ophion flavidus* (Brulle), were geographically isolated in this survey. However, *O. flavidus* was reared from fall armyworm larvae taken in Oktibbeha Co. (region 3) during May, 1978 (D. B. Hogg, unpubl. data). Although *C. flavicincta* was not found in regions 1 or 2, this species accounted for the highest parasitization rate in regions 3 and 4. Only 2 larvae were parasitized by *Euplectrus platyhypenae* Howard. Total parasitization by all species was remarkably consistent within the 2 southern regions and within the 2 northern regions, but increased 3-fold from south to north.

We did not take larval stage structure into account when calculating parasitization; therefore, the figures in Table 1 are rough estimates. Nevertheless, the results of our survey suggest that larval parasitization may be important to the early-season dynamics of fall armyworm populations in Mississippi, and that parasitoid species composition and parasitization rate can vary latitudinally in the state.

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