NEWSPAPERS PRESENT ENTOMOLOGY TO THE PUBLIC

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The classic cartoon depiction of an entomologist as a rotund male figure dressed in khaki shirt, shorts and pith helmet chasing bugs with a butterfly net has done little to foster respect for the discipline of entomology. Yet, neither cartoons stressing eccentricity nor the seemingly peculiar affinity of entomologists for everything creepy and crawly can deny the important scientific contributions made by entomologists in agriculture, plant, animal and public health. Although the general public may perceive some insects as beautiful (e.g., butterflies) or beneficial (e.g., lady beetles), the general public does not perceive insects as important; thus, appreciation is limited (Wiggins 1983). In a survey of urban dwellers, Byrne et al. (1984) reported that 38% of people

disliked insects outdoors, 84% disliked them when seen indoors, females disliked insects more than males, but negative views decreased with increasing education.

Public opinion about arthropods in general, and tolerance of urban pests in particular, are important to entomologists for several reasons. Practically, implementation of programs advocating tolerance of low numbers of pests such as in urban IPM programs will be difficult if the public views insects with disgust (Byrne et al. 1984). Professionally, the status, recognition and resulting remuneration to entomologists are directly related to public perception and opinion. Therefore, examining the underlying reasons for current public opinion is of interest to entomologists. Hall & Hall (1986) posed two questions addressing the underlying causes of the current suboptimal status of entomology: "Have we allowed ourselves as entomologists to become eccentric?" or "Is the prejudice a result of the small size of insects or the concentrated minds of the devotees"? Kritsky (1983) discussed the difference between news and public relations and advocated the latter by entomologists to improve our image with the public.

While use of electronic media continues to increase, newspapers remain an important information source and influence public opinion. We surveyed newspaper articles to determine the perspectives of entomology that journalists might offer the general public. Thirty to 50% (132) of the newspaper articles on arthropods found in 50 reputable national and international newspapers from 1990-1996 were selected by author LRM when noticed at random while perusing the newspapers for security-related articles. Articles varied in length from a paragraph to several pages and 34% had associated graphics. Twenty-four articles were from the New York Times, Los Angeles Times - 16, Washington Post and Chicago Tribune - 12, Boston Globe, Philadelphia Inquirer and Miami Herald - 7, Washington Times, Denver Post and Arizona Republic - 6, Columbus Dispatch, Houston Chronicle and Wall Street Journal - 5, and the rest from miscellaneous newspapers. Numbers of articles by year were 1990 = 18, '91 = 11, '92 = 11, '93 = 14, '94 = 25, '95 = 44, and '96 = 9. Articles were read and categorized according to the biased, best judgement by the first and second authors into 5 categories and 8 subject headings (Table 1). Undoubtedly, other entomologists with different experience and background would have categorized and rated the articles differently. We followed our own bias derived from 20+ years of experience in research and extension in ecology, behavior and IPM of insects and mites associated with forests, orchards, nurseries and landscapes.

The category ranking by number of articles (Table 1) was public interest > medical > ecology/environment > control > evolution. The subject ranking (Table 1) was biology/behavior > human health > events > taxonomy/biodiversity > pesticides > biotechnology > biological control. Many articles, presented as interesting stories, dealt with general scientific issues using insects as models or general biology or behavior of groups of insects such as pests of garden plants. As a result the public interest/biology-behavior area had 26 articles. The second highest category/subject area (20 articles) was medical-human health. Public interest/event which concerned such topics as the publishing of a book on biodiversity by E. O. Wilson and the receipt of the Nobel Prize by E. Lewis was the third highest category/subject area (13 articles). All other category/subject area classifications had less than one third as many articles.

Twenty-five articles concerned insects in general and mentioned more than one species or group (Table 2). Fruit flies, killer bees and mosquitoes were the subject matter of 11-14 articles each (Table 2) and made up the majority of the medical-human health articles. A wide variety of other species or groups of insects, spiders or ticks were the subjects of the rest of the articles (Table 2). The Science section of the New York Times accounted for 9 outstanding articles of the 133 surveyed and were written

TABLE 1. NUMBER OF ARTICLES IN FIVE CATEGORIES AND EIGHT SUBJECT AREAS AS CLASSIFIED BY THE AUTHORS.

	Subjects								
Categories	Pesticides	Biotechnology	Event	Biological Control	Human/ Animal Health	Taxonomy/ Biodiversity	Biology/ Behavior	Miscellaneous	Total
Ecology/ Environment	2	2	0	2	1	6	7		20
Medical	2	1	1	0	20	0		1	25
Evolution		1	1	0	0	4	6		12
Control	6	3	2	6	0	0	3		20
Public Interest	1	3	13	1	5	3	26	3	55
Total	11	10	17	9	26	13	42	4	132

TABLE 2. NUMBER OF ARTICLES ON SPECIFIC ARTHROPOD GROUPS, FAMILIES OR SPECIES. ARTICLES WERE TALLIED IN SEPARATE NAMES IF THEIR SUBJECT MATTER WAS MEANINGFULLY DIFFERENT AS FOR EXAMPLE "KILLER BEES" VS "HONEY BEES".

Arthropod	Number of Articles
Insects in general (about >1 species)	25
Fruit fly	14
Mosquito	11
Killer bees	11
Flea	6
Cockroach	6
Spider	6
Bees/wasps	5
Butterfly	4
Ant	4
Honey bees	4
Fire ants	4
Gypsy moth	4
Beetle	4
Caterpillars	3
Lampyridae	2
Termite	2
Black fly (Simuliidae)	2
Wooly adelgid	2
Grasshopper/Katydid	2
Scale	1
Scorpion Fly	1
Aphid	1
Mormon cricket	1
Dung beetle	1
Fly parasitoid	1
Mayfly	1
Tick	1
Syrphid fly	1

by N. Angier or C. K. Yoon. These long, in-depth and highly technical articles accompanied by excellent graphics discussed such subjects as dung beetle ecology, fruit fly pheromone behavior, male katydid choral rivalry, and insect adaptation to single twigs.

Many articles (34%) had accompanying graphics that varied from a technical explanation of fruit fly genetic code (Kolata 1993), to Texas entomologist Spider Bob (Limieux 1994) with tarantula spiders on his face. Many were excellent color photographs or high quality line drawings.

Article titles were often a play on words. Some of the more clever ones were: "Pest Peeves", "No web of deceit", "Park rangers aflutter over butterfly poachers", "Don't bug me: Ticking off the pests of summer", and "The itsy bitsy aerobatic architects' aerodynamic answer".

While we did not survey articles found in less reputable newspapers, we were pleasantly surprised at the general high quality content of the articles and the excellent graphics. Despite the play on word titles, some negative use of insects for sensationalism, a few factual errors and the occasional presentation of entomologists as eccentric (Spider Bob, insects for food), the newspaper articles surveyed were of high quality and portrayed entomology and science in a reasonably good light. True, the glass may be viewed as half full or half empty; however, it appears that newspapers are presenting all sides of entomology to the public and should be used more often by the profession to communicate with the public.

Summary

A survey of 132 articles representing 30-50% of the total in 50 reputable newspapers from 1990-1996 indicated that newspapers are presenting the many faces of entomology to the public, and often with quality and excellence. Human interest stories on the unusual biology and behavior of arthropods and the impact of arthropods on human health were the subjects most reported. Newspapers should be used more by entomologists to improve the perception of their discipline in the eyes of the general public.

Acknowledgments

We thank J. H. Frank, J. Capinera and P. Mizell for helpful comments on an earlier draft of the manuscript. This is University of Florida Agricultural Experiment Station Journal Series No. R-06047.

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