

Entomological societies in Latin America

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THE TASK FACING entomologists worldwide, but especially in the tropics, is staggering. The tropics contain the bulk of insect species but few taxonomists to classify them (Oliver 1988). Worse, tropical ecosystems are being destroyed at an alarming rate (Dourojeanni 1990). Even in the economic arena of entomology, which receives almost all of the scientific resources dedicated to entomology in the tropics, the chore is great. Economic entomologists in the tropics have many more different crops to protect with many more species of pests attacking each crop than do their colleagues in temperate zones. Some important pests in the tropics have not even been described to species.

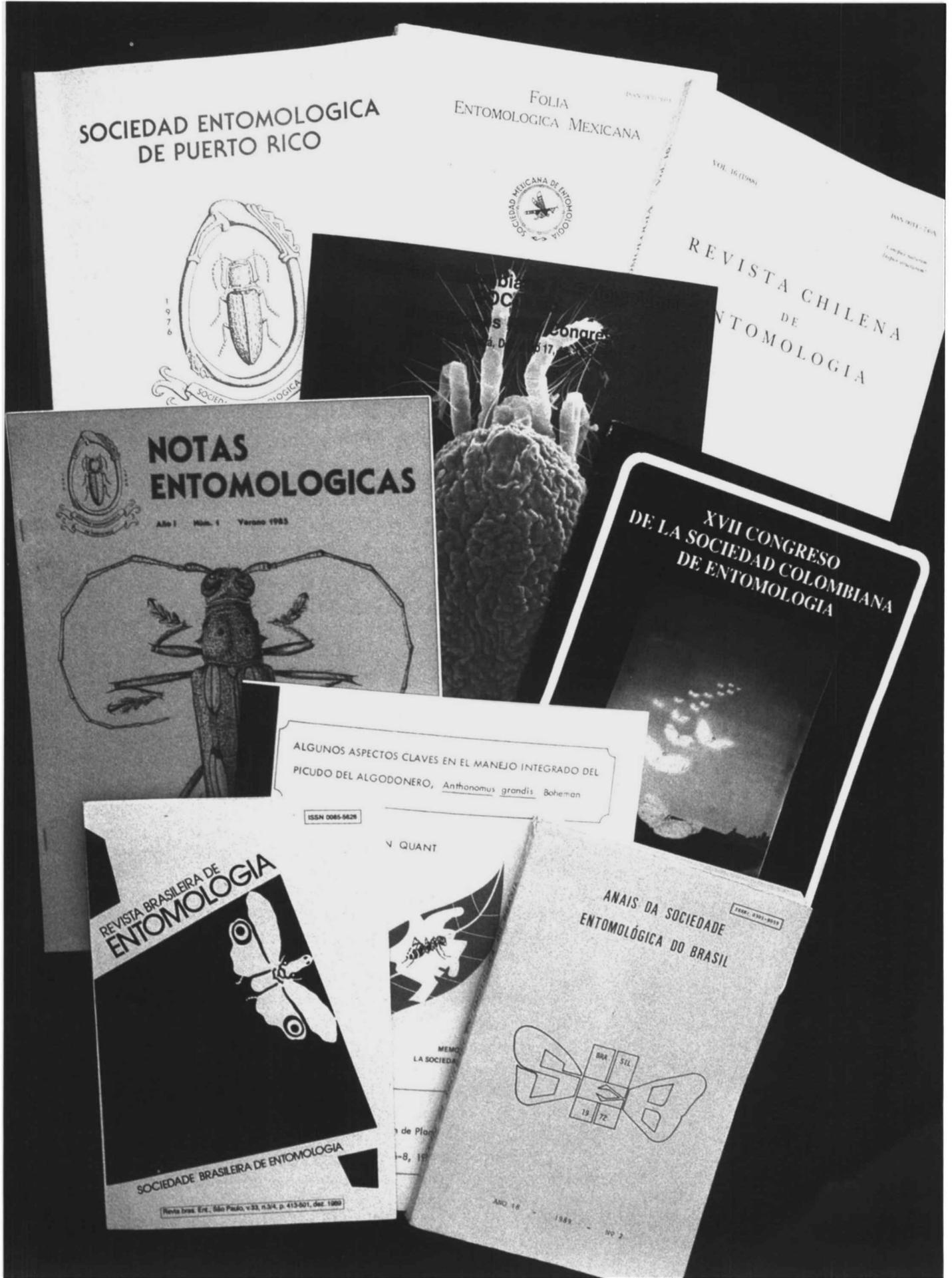
Entomological societies in tropical countries are important to the challenge of tropical entomology not only because of their geographical location in relation to most of the world's insect species, but also because they encourage the fraternal organization and development of entomology by the peoples who live in the tropics.

Eighteen entomological societies and one arthropodological society have been founded in thirteen Latin American countries (including Puerto Rico). Five of these are defunct, and a few more are relatively inactive. Despite the opinion that "every country in Latin America has at least one entomological society" (Dourojeanni 1990), we could find no evidence of entomological societies ever existing in Cuba, the Dominican Republic, Haiti, the rest of the West Indies, Guatemala, Nicaragua, Honduras, El Salvador, French Guiana, Bolivia, or the nonLatin countries of the Caribbean basin or South America. However, more entomological societies will likely be constituted, possibly before this article is published. Regional societies might be formed for countries not large enough to support an entomological society on their own. This idea has been brought up during annual meetings of the Central American Cooperative Program for Crop and Animal Improvement, but no action has been taken so far.

Unfortunately, more entomological societies may perish; some may be currently headed that way. Although the birth date of a scientific society is precise, death is gradual and only comprehended long after the society has lost all vital signs. Cooperation among entomological societies will help ensure their survival.

There is much that the Entomological Society of America (ESA) can do to help entomology in the Western Hemisphere (Dourojeanni 1990). However, the cooperation can and should be mutually beneficial. We should restore the exchange of speakers at national meetings with foreign entomological societies (Latin America

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Opposite page: Literature of various Latin American entomological societies



and the rest of the world) that was done in the past. The ESA could have official representation with a booth at congresses of other entomological societies. The ESA should exchange journals with foreign societies and publish translated tables of contents of these journals in the *Newsletter* or *American Entomologist*. The ESA might consider establishing a category of membership whereby a nonprofit society can join at a nominal rate.

As individuals we can aid in the preservation and augmentation of global entomology by joining foreign entomological societies in parts of the world that interest us. All of the societies we studied accepted foreign membership.

Per capita membership was not related to age of the societies. With the exceptions of Peru and Colombia (28 and 18.6 members per million people, respectively), membership peaked at nine to twelve members per million people.

Most of the societies publish scientific journals or are planning to do so. Publication of a scientific journal is probably the most important, and surely the longest lasting, function of a scientific society. Although the Sociedad Zoológica Argentina disbanded over a century ago, the *Periódico Zoológico* it published continues to serve as a record of the excellent service the society performed.

Unfortunately, most of the journals published in Latin America are unknown even in neighboring countries. Although many are included in indexing sources (Table 1), as of July 1991 none was covered by *Current Contents* (Anonymous 1991). *Current Contents* is readily available in Latin America, whereas a limited number of scientists in the region have ready access to indexing sources. Garfield (1990) explains the criteria by which journals are selected for inclusion in *Current Contents*: "A journal's ability to meet its declared schedule and frequency is perhaps the most basic expectation." Many Latin American entomological journals are published late and do not adhere to a fixed schedule. Other criteria used by the publishers of *Current Contents* include peer review of manuscripts, editorial board membership, the reputation of the society, and the subjective judgement of experts in the field. Many Latin American entomological journals are not peer-reviewed. The societies and their editorial boards are often unknown to "experts" in entomology, although ignorance is not a justifiable reason for omitting a journal. Another problem with many of these journals is that, to save costs, proofs are not sent to the authors; thus, avoidable errors enter the publications. Some of these journals are of sufficient quality to satisfy *Current Contents*. Other Latin American entomological journals need to be improved to enhance the reputation of the journal and the society sponsoring it. This will aid the survival and growth of the society. Steps that should be taken to improve journals include establishing a true peer-review system, sending proofs to the authors, and publishing the volumes in a timely manner and on a fixed schedule.

As individuals we can help in the survival and improvement of Latin American entomological journals and their sponsoring societies by reading them, citing them, and publishing in them. Several contain articles published in English and other languages besides Spanish and Portuguese. Many valuable articles are published in these journals, but they often go unnoticed by the rest of the world. The late Dr. Charles Paul Alexander left a portion of his estate to cover publishing costs of the *Revista Chilena de Entomología*, an act which was a singular means of aiding in the preservation of this journal and deserves emulation (Cortés P. 1984). His contribution is acknowledged on the first page of every volume.

In the *Bulletin of the Entomological Society of America* in 1964 a list of entomological societies in countries other than the United States was published as a "welcome aid to organized entomology" (Anonymous 1964). Five Latin American societies were on that list. The Committee on International Relations expressed hope that the list would be expanded and kept current. In that spirit we present brief biographies of the entomological societies which have existed in Latin America. We have searched for entomological societies in every country of the Western Hemisphere except the United States and Canada. We include only "full-fledged" entomological societies, excluding zoological societies (except for one which began as an entomological society) or organizations primarily devoted to one cause, such as biological control or integrated pest management.

Table 1. Coverage of publications of Latin American entomological societies by eight bibliographic citation indices

| Publication | Index | | | | | | | |
|---|-------------------|----------------------|----------------------|---------------|---------------|--|--------------------------------------|-----------|
| | Serials Directory | Biological Abstracts | Entomology Abstracts | Agris On-Line | CAB Abstracts | International Union List of Agricultural Serials | World Translation Database (On-Line) | AGRI-COLA |
| <i>Rev. Soc. Entomol. Argent.</i> | | X | X | | | X | | |
| <i>Bol. Inform. Soc. Entomol. Argent.</i> | | | | | X | X | | |
| <i>Rev. Bras. Entomol.</i> | X | | X | X | X | | X | X |
| <i>Anais Soc. Entomol. Bras.</i> | | | | X | X | X | | |
| <i>Inform. Soc. Entomol. Bras.</i> | | | | | | | | |
| <i>Rev. Chil. Entomol.</i> | X | | | X | X | X | | |
| <i>Rev. Colomb. Entomol.</i> | | X | | | X | X | | |
| <i>Folia Entomol. Mex.</i> | X | X | X | X | X | X | X | X |
| <i>Bol. Soc. Mex. Entomol.</i> | | | | | | | | |
| <i>Rev. Peru. Entomol.</i> | X | X | | X | X | X | X | |
| <i>Bol. Entomol. Venez.</i> | | | | | | | | |

Willink (1969) provided a brief history of entomology in Argentina from the epoch of the Jesuit naturalists who gave the first detailed and accurate accounts of the rich entomological fauna of the area 250 years ago. Included was information on the entomological societies which have existed in Argentina.

Sociedad Zoológica Argentina. The earliest entomological society in Latin America was the Sociedad Entomológica Argentina founded in 1873. After two years the name was changed to the Sociedad Zoológica Argentina (SZA), as the members sought to broaden the scope of the society. Three volumes of *Periódico Zoológico* were published in 1874, 1875, and 1878 and dealt mainly with the taxonomy and biology of insects. Articles were published in Spanish, French, and Dutch. The SZA soon disbanded when its principal founder, Hendrick Weyenbergh, returned to Holland in 1884.

Sociedad Entomológica Argentina. The present Sociedad Entomológica Argentina (SEA) was founded in 1925 with twenty members and now has approximately three hundred members, 14% of them foreigners. It was not until 1987 that the first congress of the SEA was held, although the Second Latin American Congress of Entomology took place in Buenos Aires in 1975 to honor the fiftieth anniversary of the SEA. The second congress took place in late 1991. The newsletter, *Boletín de la Sociedad Entomológica Argentina*, was published between 1925–1931 and 1954–1958. A single tome of the *Revista de la Sociedad Entomológica Argentina* is currently published almost every year and presents twenty to thirty research articles per issue that cover mainly basic entomology with an increasing amount of economic entomology. Having begun in 1926, it is the oldest active journal published by an entomological society in Latin America. The *Boletín Informativo de la Sociedad Entomológica Argentina*, started in 1987, contains societal news, bibliographies, and other entomological information.

Asociación Argentina de Artropodología. This association was concerned with taxonomic and biological studies of arthropods (mainly insects) and published one issue of *Arthropoda: Organo Oficial de la Asociación Argentina de Artropodología* in 1947. The association soon declined.

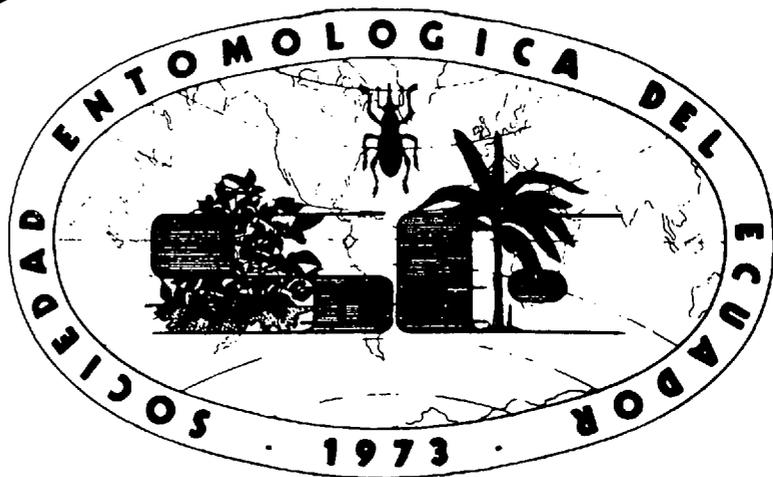
Argentina

Of three entomological societies that have existed in Brazil, two are still functioning. The present situation in Brazilian entomology is not unlike the United States before the unification of the American Association of Economic Entomologists and the ESA in 1953. Although some discussion of joining the two Brazilian entomological societies has taken place, no serious proposals have yet been advanced.

Sociedade Entomológica do Brasil. This ephemeral society was founded on 2 February 1922 in Rio de Janeiro. It published the newsletter, *Boletim da Sociedade Entomológica do Brasil*, from 1922 to 1924 before becoming inactive.

Sociedade Brasileira de Entomologia. The fiftieth anniversary of the Sociedade Brasileira de Entomologia (SBE) in 1987 was commemorated by the issuance of two postage stamps, one depicting the society's symbol, the lanternfly, *Fulgora servillei*

Brazil

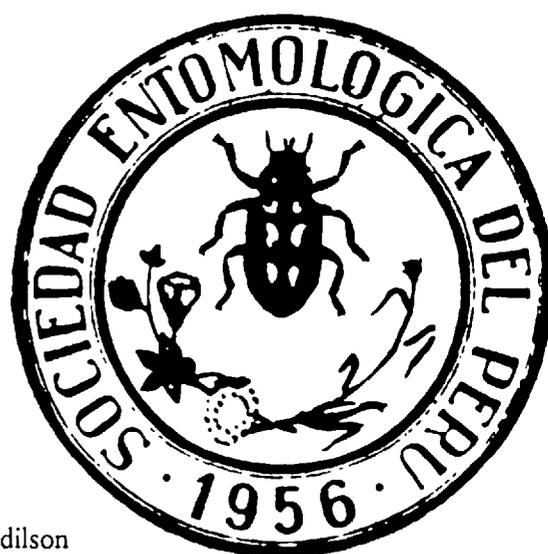
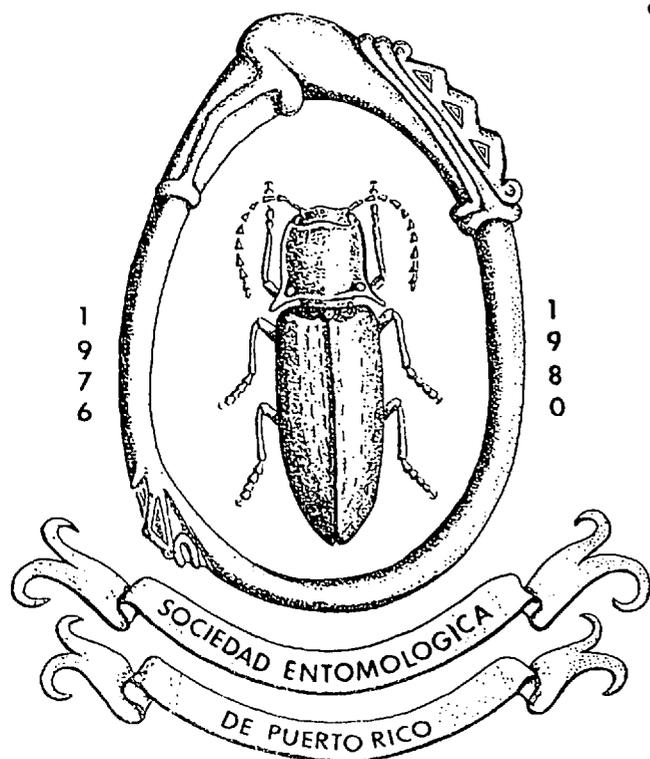


Seals of Latin American entomological societies, clockwise from top left: Sociedade Brasileira de Entomologia, Sociedad Mexicana de Entomología, Sociedad Venezolana de Entomología, Sociedad Entomológica del Péru, Sociedad Entomológica de Puerto Rico, and Sociedad Entomológica del Ecuador.

Spinola (Homoptera: Fulgoridae). The stamps honored an entomological society which has been at the forefront in studying the extremely diversified entomological fauna of the Neotropics.

The SBE was chartered on 17 July 1937, by a small group of entomologists at the Instituto Biológico de São Paulo. There are currently five hundred members, 7% of whom are foreigners. The SBE meets as part of the annual congress of the Sociedade Brasileira de Zoologia. The *Revista Brasileira de Entomologia*, initiated in 1954, is published quarterly and contains works on taxonomy and biology. Approximately one hundred articles are published each year in Portuguese, English, or Spanish. The *Boletim da Sociedade Brasileira de Entomologia* was published nine times from 1948–1958. Summaries of two annual meetings were published in 1968 (*Anais da Reunião*) and 1969 (*Resumos da II Reunião Anual*).

Sociedade Entomológica do Brasil. On 22 February 1972, in Itabuna, Bahia, a number of attendants at an agricultural entomology meeting formed the Sociedade Entomológica do Brasil (SEB) because they felt that the existing SBE dedicated little attention to economic entomology, even though one of the objectives of the SBE was to promote “pure and applied” entomology. The SEB quickly grew to become the largest entomological society in Latin America with nearly nine hundred members (2.5% foreign). The SEB is divided into seventeen regions; a mean of fifty-three members per region allows for a high level of involvement by the members in the affairs of the society. A national congress is held every eighteen months. At the congress in 1989, 542 papers were presented as well as several conferences and short courses. Abstracts of papers presented at each congress are published in *Resumos do Congresso*. Memoirs (*Anais dos Congressos*) were printed after the 1978 congress, which was carried out jointly with the third Latin America Congress



of Entomology, and the 1980 congress. During every other congress the Edison Bossoli de Oliveira Prize is awarded to a member of the SEB who has made outstanding, novel contributions in any field of entomology.

The *Anais da Sociedade Entomológica do Brasil* contains original research articles in Portuguese or English mainly pertaining to applied entomology. This journal was published once a year from 1972 through 1975. Starting in 1976 two issues were published each year. The *Anais* keeps growing; in 1986 three numbers were issued with a total of fifty-five articles. The *Informativo da Sociedade Entomológica do Brasil*, initiated in 1976, usually is printed three times per year and contains SEB news as well as international information concerning entomology.

Sociedad Chilena de Entomología. The oldest existing entomological society in Latin America is the Sociedad Chilena de Entomología (SCE) founded on 4 June 1922. However, almost from the beginning the society was known as the Sociedad Entomológica de Chile until 1933 when the present name, used in the 1922 constitution, was declared official. There were 25 charter members in 1922; now there are approximately 150 members, 23% of them foreigners. In recent years annual national conferences have been held with a mean of forty papers per year presented on a variety of topics.

The *Boletín de la Sociedad Entomológica de Chile* was printed twice in 1928 and 1929 and contained information on societal functions, lists of members and officers, and some scientific notes. The *Revista Chilena de Entomología* was published irregularly from 1951 until 1985 when it was issued annually. In recent years a mean of thirteen articles (105 pp.) and scientific notes on taxonomy written

Chile

in Spanish, English, or German have been published. Obituaries and book reviews are also included.

Colombia

Sociedad Colombiana de Entomología. The Sociedad Colombiana de Entomología (SOCOLEN) was chartered in 1973 by sixty-six members. Present membership is 580 with approximately 7% foreign. Besides annual congresses where original research papers and invited talks are presented, seminars on specific topics are sponsored at different times of the year. During the annual congress two cash prizes are awarded to stimulate entomological research: the Hernán Alcaraz Viecco Prize for the best scientific work presented and the Francisco Luís Gallego Prize for the best research presentation by a baccalaureate student (in many Latin American universities a research thesis is required for a B. S. degree). There is also an insect photography contest.

The *Revista Colombiana de Entomología*, begun in 1975 and published twice a year, contains original research articles on the biology, damage, control, and natural enemies of mainly plant pests. A mean of 14.5 articles was published each year. The *Entomólogo* is a quarterly newsletter started in 1974 that contains societal news and scientific notes. Miscellaneous scientific monographs are published occasionally, and memoirs of the annual congresses contain transcripts of key presentations as well as news of the congress.

Costa Rica

Asociación de Entomólogos de Costa Rica. The youngest entomological society in Latin America is the Asociación de Entomólogos de Costa Rica (ASENCO) established in 1991. Since October 1989, Costa Rican entomologists have met informally and even conducted a national congress in November 1990. Over seventy people participate in this society.

Ecuador

Sociedad Entomológica del Ecuador. In 1973 the Sociedad Entomológica del Ecuador (SEDE) was founded in Guayaquil. That same year a joint convention was held with the Sociedad Entomológica del Perú in Guayaquil and Tumbes, Peru. Unfortunately, the SEDE soon fell into inactivity.

Sociedad Entomológica Ecuatoriana. The Sociedad Entomológica Ecuatoriana (SEE) was founded on 19 April 1989. Apparently, an agreement for reviving the SEDE could not be reached, and seven Ecuadoran entomologists started a new society. A conference was conducted, leading to the publication of *Memorias del Segundo Encuentro Entomológico (Memoirs of the Second Entomological Encounter)* (the first being of the SEDE in 1973). Despite its very short life and small membership, the SEE has been active in sponsoring seminars and short courses on topics in mainly economic entomology.

Mexico

Sociedad Mexicana de Entomología. The Sociedad Mexicana de Entomología (SME) was established on 29 January 1952 with 143 members. Present membership is approximately 770 with 5% foreign. Early history of the SME is reported by Ortega et al. (1966), Coronado (1977), and MacGregor-Loaeza (1979). The first national congress was held in 1958 with forty-nine papers presented. Congresses were conducted every two years until 1975 when they became annual. An insect photography contest is held at each congress. During the last two, prizes have been awarded to the best graduate and postgraduate theses presentations. During the 1989 congress 290 papers and six symposia were presented.

Congresses of the SME have been held in conjunction with the Southwestern Branch (SWB) meetings of the ESA in 1964, 1972, 1977, and 1986. The 1977 meeting in Guadalajara also included the Pacific Branch meetings. Relations between the SME and ESA have been close. When the ESA sponsored annual addresses at the National Conference to honor sister societies, president-elect of the SME Dieter Enkerlin addressed the opening session of the ESA Conference in New

Medal, and a cash prize to the best paper presented.

The first volume of the annual *Revista Peruana de Entomología Agrícola* (1958) contained twenty-four articles on a broad range of entomological topics. Beginning with volume seven, "Agrícola" was dropped from the title. In general, one-third of the articles have dealt with taxonomy and biology, one-sixth with chemical control, one-ninth with ecology, and one-ninth with biological and integrated control. A mean of 22.3 research articles has been published per year.

The annual *Boletín de la Sociedad Entomológica del Perú*, begun in 1967, contained mainly societal information. Because of economic constraints the *Boletín* was discontinued in 1973. The *Noticiero Entomológico*, published quarterly beginning in 1977, had a more general format. Economic difficulties forced its demise after only two volumes.

The SEP currently has about six hundred members, the largest per capita membership of any Latin American entomological society.

Puerto Rico

Although Puerto Rico is politically part of the United States, its culture and language place it in Latin America. With entomology, it is no different. The first entomological society in Puerto Rico (now defunct) had an English name; the current one has a Spanish name.

Entomological Society of Puerto Rico. The founding meeting of the Entomological Society of Puerto Rico (ESPR) took place in the house of D. L. Van Dine, who was in Puerto Rico between 1910–1914 as director of a sugar cane experiment station. The ESPR fell into inactivity after Van Dine left and was revived by George N. Wolcott, foremost student of Puerto Rican entomology, in the 1930s. Nevertheless, the ESPR eventually ceased to function.

The ESPR's most lasting legacy is the thorough *An Economic Entomology of the West Indies* (Wolcott 1933).

Sociedad Entomológica de Puerto Rico. On 4 December 1976, thirteen Puerto Rican entomologists formed the Sociedad Entomológica de Puerto Rico (SEPR) in Río Piedras. In 1980 the society was reorganized and a constitution formed. The SEPR currently has approximately sixty members. Sporadic publications, such as *Notas Entomológicas*, report on societal news, technical information, membership lists, and biographies. The SEPR has been relatively inactive in recent years.

Uruguay

Sociedad Uruguaya de Entomología. The Sociedad Uruguaya de Entomología (SUE) was founded on 1 March 1956 in Montevideo with ninety members, including twenty-four foreign honorary and corresponding members. A journal covering economic and taxonomic entomology with articles in Spanish and English, the *Revista de la Sociedad Uruguaya de Entomología*, was first published in December 1956 and ran intermittently until 1965. The SUE declined into a period of relative inactivity but is trying to revive.

Venezuela

Sociedad Venezolana de Entomología. On 4 July 1964, the Sociedad Venezolana de Entomología (SVE) was founded in Maracay by forty-three members. After a productive year in 1965, however, the SVE slipped into a period of little activity until 1975 when it was revitalized. It currently has 216 members, 2% foreigners. The first annual congress was held in 1976. In 1981 the congress was held in conjunction with the Fourth Latin American Congress of Entomology in Maracay. In 1983 the SVE decided to hold the congress every two years. Many special conferences and seminars on a variety of entomological topics have been organized.

The *Boletín de Entomología Venezolana* was a quarterly founded in 1941 in Caracas by Pablo Anduze, an entomologist with the Ministry of Health who contributed greatly to the knowledge of the entomological fauna of Venezuela (Fernandez 1978). The *Boletín* was published by the Ministries of Health and Agriculture until 1955, when funding was discontinued. The interruption of the *Boletín* was a prime motivation behind the establishment of the SVE; Venezuelan

entomologists desired to revive it backed by a society. But it wasn't until 1976, with the revitalization of the SVE, that the *Boletín* was renewed. Five volumes dealing with taxonomy and economic entomology have been published through 1989. However, enumeration of the *Boletín* began anew, with volume one dated 1978–1981. In 1977 a newsletter (*Carta Informativa*) was initiated; in 1986 it was christened *FeFeYia*, after “Fefeye,” the nickname of Francisco Fernández Yépez, the “father of Venezuelan entomology” (Osuna 1986).

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- Aguilar F., Pedro G. 1987. Algunos apuntes sobre la Sociedad Entomológica del Perú, a los treinta años de su fundación. *Revista Peruana Entomol.* 29: 127–140.
- Anonymous. 1964. Entomological societies. *Bull. Entomol. Soc. Amer.* 10: 229–230.
1991. List of journals and publishers' addresses presently covered in Current Contents/ Agriculture, Biology & Environmental Sciences. *Current Contents AB&ES* 22(30): 14–25.
- Coronado P., Ricardo. 1977. La Sociedad Mexicana de Entomología através de sus veinticinco años de vida. *Folia Entomol. Mexicana* 37: 5–18.
- Cortés P., Raúl. 1984. In memorium: Profesor Dr. Charles Paul Alexander. *Rev. Chil. Entomol.* 12: 7–8.
- Dourojeanni, Marc J. 1990. Entomology and biodiversity conservation in Latin America. *Amer. Entomol.* 36: 88–93.
- Fernandez Y., Francisco. 1978. Contribución a la historia de la entomología en Venezuela. *Alcance, Rev. Fac. Agron. (Maracay)* 26: 11–27.
- Garfield, E. 1990. How ISI selects journals for coverage: quantitative and qualitative considerations. *Current Contents* 21(22): 5–13.
- MacGregor-Loeza, Raúl. 1979. Los congresos nacionales de entomología. *Folia Entomol. Mexicana* 41: 5–16.
- Oliver, J. H., Jr. 1988. Crisis in biosystematics of arthropods. *Science* 240: 967.
- Ortega, A., G. Halfpeter & D. Enkerlin S. 1966. Entomological teaching and research in Mexico. *Bull. Entomol. Soc. Amer.* 23: 16–18.
- Osuna A., Eduardo. 1986. In memorium: Francisco Fernández Yépez. *Revista de la Facultad de Agronomía de la Univ. Central de Venez.* 19: 257–259.
- Reyes-Castillo, Pedro. 1978. Las publicaciones de la Sociedad Mexicana de Entomología: pasado, presente y futuro. *Folia Entomol. Mexicana* 39-40: 235–246.
- Willink, Abraham. 1969. Contribución a la Historia de la Entomología Argentina. *Publicación Miscelánea* 28, Universidad Nacional de Tucumán, Fundación e Instituto Miguel Lillo, Tucumán, Argentina.
- Wolcott, George N. 1933. An economic entomology of the West Indies. *Entomol. Soc. Puerto Rico*, San Juan.

References Cited

Addresses of existing Latin American entomological societies:

- Argentina. *Sociedad Entomológica Argentina*, Miguel Lillo 205, 4000 Tucumán.
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Sociedade Entomológica do Brasil, Rua Marcelo Gama No. 896, 90450 Porto Alegre, Rio Grande do Sul.
 Chile. *Sociedad Chilena de Entomología*, Casilla 21132, Santiago (21).
 Colombia. *Sociedad Colombiana de Entomología*, Apartado Aéreo No. 43672, Santa Fe de Bogotá, D. C.
 Ecuador. *Sociedad Entomológica Ecuatoriana*, Parque "La Carolina," Calle Rumipamba, Casilla 21-558, Quito.
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 Panama. *Sociedad Entomológica de Panamá*, Apartado 6-4292, El Dorado, Panamá.
 Paraguay. *Sociedad Entomológica del Paraguay*, Fac. de Ing. Agro., C.C. 1618, Asunción.
 Peru. *Sociedad Entomológica del Perú*, Apartado No. 4796, Lima.
 Puerto Rico. *Sociedad Entomológica de Puerto Rico*, Depto. Protección de Cultivos, Apartado 21360, Río Piedras, PR 00928.
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