

Historical Perspectives

Since this is the 75th volume of *Drosophila* Information Service, it seemed appropriate to allocate some space to a retrospective of *Drosophila* Information Service, the annual U.S. *Drosophila* research conferences, and some of the ideas that have helped shape the open communication that characterizes the *Drosophila* research community. In this section are the editors of *Drosophila* Information Service, a reprint of the Foreword from Volume 1 (March 1934), a reprint of Larry Sandler's 1981 description of the origin of the U.S. *Drosophila* conferences (DIS 56), and an update on the research conferences prepared for this issue by Dan L. Lindsley. The Directory printed in Volume 1 listed 75 researchers, three of whom had or would receive the Nobel Prize for their contributions. The current FlyBase Directory lists 4,667 researchers. Submission of other historical materials of interest to the *Drosophila* community is welcomed.

Editors of DIS

Volume 1 (March 1934) to Volume 24 (November 1950)	C.B. Bridges and M. Demerec
Volume 25 (November 1951) to Volume 33 (November 1959)	M. Demerec
Volume 34 (December 1960) to Volume 49 (November 1972)	E. Novitski
Volume 50 (December 1973)	E. and E. Novitski
Volume 51 (December 1974)	E. Novitski
Volume 52 (May 1977) to Volume 53 (June 1978)	E. and E. Novitski
Volume 54 (July 1979) to Volume 67 (June 1988)	P.W. Hedrick
Volume 70 (July 1991) to Present	J.N. Thompson, jr.

SPECIAL ISSUES:

Volume 54 (July 1979)	Prepared by D.L. Lindsley and G.G. Zimm
Volume 62 (September 1985)	Prepared by D.L. Lindsley and G.G. Zimm
Volume 64 (October 1986)	Prepared by D.L. Lindsley and G.G. Zimm
Volume 65 (January 1987)	Prepared by D.L. Lindsley and G.G. Zimm
Volume 68 (January 1990)	Prepared by D.L. Lindsley and G.G. Zimm
Volume 69 (May 1991)	Prepared by M. Ashburner; Edited by W. Gelbart
Volume 73 (June 1994)	Prepared by the FlyBase Consortium; Edited by W. Gelbart
Volume 74 (June 1994)	Prepared by the FlyBase Consortium; Edited by W. Gelbart

Foreword

from

Drosophila Information Service, Volume 1, 1934

Material Contributed by *Drosophila* Workers
and arranged by
C.B. Bridges and M. Demerec

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Cold Spring Harbor, Long Island, N. Y.

The aim of this undertaking was presented in a letter sent to *Drosophila* geneticists on November 10, 1933, which read in part as follows:

"An appreciable share of credit for the fine accomplishments in *Drosophila* genetics is due to the broadmindedness

of the original *Drosophila* workers who established the policy of a free exchange of material and information among all actively interested in *Drosophila* research. This policy has proved to be a great stimulus for the use of *Drosophila* material in genetic research and is directly responsible for many important contributions. In over twenty years of its use no conspicuous abuse has been experienced.

At present, as it was in the past, stocks and information available in different *Drosophila* laboratories are at the disposal of all *Drosophila* workers. The number of laboratories engaged in *Drosophila* research, however, is now large and is becoming larger every year with the result that the intimate contact which existed between the *Drosophila* workers of the past has been lost. Due to this lack of contact much of the valuable material is not being used and a great deal of effort is being duplicated.

This undertaking is an attempt to establish a closer contact between different *Drosophila* laboratories and by doing that to aid investigators in their research.

For several years now workers on genetics of maize have been receiving mimeographed circulars prepared in Professor Emerson's laboratory, containing information contributed by various investigators. This service proved to be so useful that steps are being taken to extend it and make it a permanent institution.

It is planned to establish a similar service for *Drosophila* workers, viz. to issue a mimeographed circular once or twice yearly including information which is not ordinarily suitable for publication but which is of importance to a number of workers active in *Drosophila* research. Such circulars are to contain the following:

1. New mutant characters. This section will include names, symbols, locations, descriptions, data on origins, etc., of all new mutants, reoccurrences and alleles (including those not of sufficient interest to warrant a special paper).
2. Summaries of linkage data submitted by workers.
3. Chromosome maps, with valuation of loci indicated.
4. Stock list, with names of laboratories where each stock is kept.
5. Notes and news; improvements in cultural and genetical technique; requests and offers of material, etc.
6. *Drosophila* directory. Names and addresses of *Drosophila* laboratories with staffs.
7. *Drosophila* bibliography. First issue gives to date those not given in certain basic reference works. Current issue thus gives yearly additions and supplies omissions.
8. Suggestions; corrections; miscellaneous.

The circular should be the result of the cooperative effort of all *Drosophila* workers. Its usefulness will be proportional to the degree of cooperation by all *Drosophilists*."

This first number of the circular is based upon the material contributed in response to the above letter. Because of the desirability of prompt issue of this first number it has been found advisable to limit somewhat the material to be included. Hence the main emphasis is placed temporarily on the list of symbols of the mutants still alive, upon the stock lists which make it possible for workers to find which mutants and stocks are available and where, and upon the directory of workers most actively engaged in the *Drosophila* research. For the present the map positions given are those based upon the familiar frameworks or basic maps, but there going revisions are being made. The revisions of some of the maps should be available for the second number, planned for early in the fall.

This first issue is being mailed rather widely, but the second and succeeding issues will be sent mainly to those laboratories and investigators who are actively cooperating in the project.

The Directory listed the following *Drosophila* researchers:

S.I. Alihanian (Moscow)	Weldon Brewster (Austin, TX)
Edgar Altenburg (Houston, TX)	Calvin B. Bridges (Pasadena, CA)
E.G. Anderson (Pasadena, CA)	George P. Childs (NY Univ., NY)
Charlotte Auerbach (Edinburgh)	F.A.E. Crew (Edinburgh)
H.S. Baker (Los Angeles, CA)	V. Curry (Pasadena, CA)
George W. Beadle (Pasadena, CA)	M. Demerec (Cold Spring Harbor, NY)
Sarah Bedichek (Austin, TX)	Th. Dobzhansky (Pasadena, CA)
Catherine Beers (Los Angeles, CA)	F.N. Duncan (Pasadena, CA)
Z.I. Berman (Moscow)	L.C. Dunn (Columbia U., NY, NY)
R.D. Boche (Pasadena, CA)	S.H. Emerson (Pasadena, CA)

- Boris Ephrussi (Pasadena, CA)
 S. Gershenson (Moscow)
 Marc A. Graubard (Columbia U., NY, NY)
 M.A. Grosscurth (Pasadena, CA)
 Marie L. Harnly (NY Univ., NY)
 Morris H. Harnly (NY Univ., NY)
 A.H. Hersh (Cleveland, OH)
 R.B. Howland (NY Univ., NY)
 Alfred F. Huettner (NY Univ., NY)
 Philip T. Ives (Amherst, MA)
 V. Jollos (Madison, WI)
 Margaret Kaylor (Cold Spring Harbor, NY)
 P. Ch. Koller (Edinburgh)
 R. Lamey (Edinburgh)
 Donald E. Lancefield (Columbia U., NY, NY)
 G.A. Lebedeff (Cold Spring Harbor, NY)
 Wilbur M. Luce (Urbana, IL)
 Otto Mackensen (Austin, TX)
 Otto S. Margolis (NY Univ., NY)
 W.G. Moore (Austin, TX)
 Thomas Hunt Morgan (Pasadena, CA)
 Lillian V. Morgan (Pasadena, CA)
 H.J. Muller (Austin, TX)
 Eleanor Nichols (Pasadena, CA)
 N.I. Noujdin (Moscow)
 C.P. Oliver (Minneapolis, MN)
 T.S. Painter (Austin, TX)
 Hal B. Parks (Austin, TX)
 J.T. Patterson (Austin, TX)
 H.H. Plough (Amherst, MA)
 D.F. Poulson (Pasadena, CA)
 Morris Rabinowitz (NY Univ., NY)
 Helen Redfield (Pasadena, CA)
 J. Schultz (Pasadena, CA)
 Morton D. Schweitzer (Columbia U., NY, NY)
 A.S. Serebrovsky (Moscow)
 N.I. Shapiro (Moscow)
 M.F. Shenihova (Moscow)
 N.P. Sivertzeva-Dobzhansky (Pasadena, CA)
 R.V. Smith (Los Angeles, CA)
 W.P. Spencer (Wooster, OH)
 Mary B. Stark (Flower Hosp., NY, NY)
 Curt Stern (Rochester, NY)
 W.S. Stone (Austin, TX)
 Florence D. Stuck (Columbia U., NY, NY)
 A.H. Sturtevant (Pasadena, CA)
 Meta Suche (Austin, TX)
 Isabel Thomas (Austin, TX)
 David H. Thompson (Urbana, IL)
 K.V. Volkova (Moscow)
 E.M. Wallace (Pasadena, CA)
 Alexander Weinstein (Baltimore, MD)
 Eunice White (Cold Spring Harbor, NY)
 A.M. Winchester (Austin, TX)
 Charles Zeleny (Urbana, IL)

On the Origin of the *Drosophila* Conferences

Reprinted from *Drosophila* Information Service, Volume 56 (March 1981)

... a noble storie

And worthy for to drawn to memorie

Larry Sandler *

Contemporary *Drosophila* geneticists feel that *Drosophila* studies occupy a position close to the cutting edge of modern biology, a conviction which must be evident to participants of recent Annual *Drosophila* Conferences. This feeling can be objectively validated. A comparison of the material presented one year ago in Bloomington with that reported this year in Salt Lake City shows very rapid progress in many aspects of the genetic biology of *Drosophila*.

A second striking feature of *Drosophila* studies that has been amply illustrated in recent *Drosophila* Conferences is the exploitation for experimental purposes of multiple biological aspects of the fly. From the classical role of *Drosophila* as a mere vehicle for its chromosomes and its traditional use as a manipulable object in population genetics, *Drosophila* studies now include biochemical, developmental, neurobiological, and behavioral attacks. The depth and sophistication of this exploitation of the biology of *Drosophila* is shown by the range of material now considered in the specialized concurrent workshops held during *Drosophila* Conferences of recent years.

This sense of vitality and centrality that has animated the Conferences lately, as well as the contemporary use of *Drosophila* in all of its important biological aspects, were not prominent features of the earliest *Drosophila* Conferences. Indeed, the *Drosophila* Conferences mirror precisely the renaissance in, and the evolution of, *Drosophila* studies themselves. Today the meetings are characterized as useful, perhaps even as important. But they started as small get-togethers that could have been called "genetic analysis for fun and recreation". The very first *Drosophila*

Conference, which took place in Madison, Wisconsin in the fall of 1958, was not a formal conference, nor did anyone there at that time imagine that it would give rise to a tradition which has now continued for over twenty years.

In 1958 Dan Lindsley, who was then at the Oak Ridge National Laboratories, flew to Chicago and joined Bill Baker, who was at the University of Chicago, and together they drove to the University of Wisconsin in Madison, where I was a postdoctoral fellow in the laboratory of Jim Crow. Ted Pittenger, a *Neurospora* geneticist now in Manhattan, Kansas, was then at Marquette. Because Ted had been one of the geneticists at Oak Ridge along with Bill and Dan (and, for a time, me), he joined the two of them in Milwaukee and also came to Madison. Thus, the first "*Drosophila* Conference", which lasted for two days, involved both *Drosophila* and *Neurospora* genetics.¹ The meeting, however, consisted primarily of Baker, Crow, Lindsley, Pittenger, and Sandler each speaking -- more or less endlessly -- about his current research. Of course, other members of Crow's laboratory, his students and postdoctoral fellows, also attended and participated in the sessions. Most notably, from my point of view, was that Yuichiro Hiraizumi, with whom I was just beginning to collaborate, was present. Also there -- this list is from my memory and therefore almost surely incomplete -- were Rayla Greenberg (now Temin), Elaine Johansen (now Mange), and Tom Gregg.

It was difficult in those days to find people both interested in and able to discuss the intricacies of formal genetic analysis. The whole group of us did nothing else for two whole days, and it was, to say the least, enormous fun. While the meeting could scarcely be characterized as important, there was enthusiastic agreement that we should do the same thing again the following year, and Bill Baker suggested Chicago as the site of that meeting. In 1959, therefore, Bill sent notices to Dan, Jim and me (*Neurospora* and corn being summarily dismissed as temporary aberrations), to attend the "Little Men's Chowder and Marching Society". Dan, however, both to explain his absence from Oak Ridge and in order to get reimbursed for the trip, adorned the event with the title of "Midwestern *Drosophila* Conference".² Attendance at this "Second Annual *Drosophila* Conference" at Chicago ballooned to about 15 or 20 (according to my best recollection), as there were rather a lot of *Drosophilists* at Chicago and some other workers had heard casually about the projected meeting during the year. This meeting followed the same format as the one at Madison, with individuals speaking whenever they felt they had something relevant to say.

The Chicago meeting was quite as much fun as the earlier one, but it created a considerable furor as news of its existence spread through the *Drosophila* community, both by word of mouth and through the medium of the bulletin put out by the Oak Ridge National Laboratories. The Christmas edition of that bulletin was received by most laboratories in the country, and contained a notice that Dan Lindsley had attended the Midwest *Drosophila* Conference. Ed Novitski (learning of the meeting from his new position in Eugene, Oregon) asserted that since Hawaii had become a state, Oregon was in the midwest, and he should therefore have been invited. H.J. Muller was angry that he had not been informed about it, when, after all, he worked in Bloomington, Indiana which was archetypically midwestern, while Dan Lindsley worked in Tennessee, which was the south.

In general, there developed a strong feeling about the impropriety of "exclusive congresses", like those of 1958 and 1959 (although, of course, neither had been congresses in any real sense), so that in 1960 the Third Annual *Drosophila* Conference, which was held in Bloomington, Indiana, had an enrollment open to anyone who knew of it and wished to come. It was, however, another year before the idea of *Drosophila* meetings as annual events, with all *Drosophila* workers formally invited, originated.³

At that conference, as well as at the next several following, the format was still primarily free-form. The entire group met in a single room, and there was no fixed program. People spoke as the spirit moved them, though, as enrollment grew, it became necessary to sign up to speak just before a session was held. However, by 1962 at the latest, enrollment had grown to a point where concurrent sessions had to be scheduled, although free-form plenary sessions were still the norm. At the 1965 Seattle meeting, for example, there was only one afternoon with concurrent sessions (cytogenetics, evolutionary genetics, and physiological genetics).

Following is a list of the Conferences from 1958 through 1980, as reconstructed in 1979 in Bloomington, Indiana and put together and spot-checked by Adelaide Carpenter. There are included, parenthetically, some highlights of early meetings. Also note that the first five meetings, from 1958 through 1962, were held in the fall; afterwards they were held in the spring, and one year (1963) was skipped in the change-over.

1. 1958 Madison I
2. 1959 Chicago I
3. 1960 Bloomington I
4. 1961 Oak Ridge
5. 1962 St. Louis
6. 1964 Madison II [There was a dinner honoring A. H. Sturtevant as he approached his 75th birthday]
7. 1965 Seattle [There was a first general showing of several films depicting courtship and mating in *Drosophila*,

including that classic example of erotica, "I Am Curious Yellow Forked"]

8. 1966 Chicago II
9. 1967 Texas [A eulogy to H.J. Muller, who had recently died, was delivered by C.P. Oliver]
10. 1968 Yale
11. 1969 Iowa
12. 1970 Pasadena
13. 1971 Ithaca College
14. 1972 North Carolina State (Raleigh)
15. 1973 DeKalb
16. 1974 Banff
17. 1975 Louisiana State University
18. 1976 Tempe
19. 1977 La Jolla
- 1978 No meeting-- no coal
20. 1979 Bloomington II
21. 1980 Salt Lake City

*The perspectives provided here are, of course, mine. However, I have included -- mostly without specific attribution -- current recollections of Bill Baker, Yuichiro Hiraizumi, Dan Lindsley, and Ted Pittenger. To them, my thanks, in part for their help here, but mostly for making me a participant in the events themselves. Those of you who have read any of my scientific works will surely wonder at the quality of the prose in this note. I haven't learned to write, merely to dictate to Ms. Barbara Hlavin, whose typewriter turns gibberish into English. You may ask, if Barbara Hlavin is responsible for the writing, and others have supplied the memories, why am I the author of this note? You may indeed ask.

¹R.A. Brink dropped in one morning to talk about his current studies on maize, and Hiraizumi distinctly recalls an extended discussion about the chromosomal basis of the departure from equality of the human sex-ratio. As can be seen, *Drosophilists* in those days were rather more tolerant of work on other, less tractable, organisms than they are today.

²This story appears in *Human and Mammalian Cytogenetics, An historical perspective* by T.C. Hsu (1974). It is interesting that the *Drosophila* Conferences took on an official name, and, concomitantly, a certain measure of independent reality, in order to satisfy ORNL's bureaucracy!

³It is probably worth reprinting here a section of the letter Dan Lindsley sent out on September 19, 1961 as the invitation to the Fourth Annual *Drosophila* Conference held at Oak Ridge:

"Three years ago Bill Baker and I got together with Larry Sandler and Jim Crow in Madison and spent two days informally telling each other of our recent experimental results. This meeting was so successful that we decided to repeat it the following year in Chicago. In Chicago we were joined by George Brosseau and Stan Zimmering among others. Last year the meeting was held in Bloomington and the attendance was again higher than the year before.

"In previous years we have had no formal program and no official invitations; people simply agreed verbally to meet, and we took turns presenting material. I think that this year the group will be quite large, but we plan to follow much the same procedure as in previous discussions. In view of the annual increase in attendance, the time has come to make a decision whether we wish to formalize an annual *Drosophila* genetics meeting open to all investigators in the field or whether it would be preferable to disband into the originally conceived, small, regional, bull sessions."

On the copy sent to Bill Baker, Dan appends (by hand): "I decided this year we have to invite everyone -- as they all know about it and want to come -- or be chicken -- I chose the former."

Recent History of the U.S. *Drosophila* Conferences

Dan L. Lindsley

The nearly decade and a half since Larry Sandler wrote his article on the history of the annual *Drosophila* Meeting has seen a further explosion in our science that none of us would have anticipated at that time. *Drosophila* has become the organism of choice for probing the basic molecular mechanisms responsible for a myriad of biological processes. The power of the *Drosophila* system has attracted the best and the brightest, and the results from *Drosophila* research have provided the tools and insights for investigations into other less tractable species. A measure of the health of the *Drosophila* enterprise is seen in the accelerating rate of publication of research findings: 27,859 papers since 1980 versus 34,912 in all the years before. The increased interest in *Drosophila* as a model experimental organism has resulted in substantial changes in the structure and content of our annual meeting. The venue, rather than being the home institution of the organizing group was changed to hotels or conference facilities; this was necessitated by the increased attendance and the desire to continue meeting during the academic year.

In 1983 the attendants were delighted with our first meeting at Asilomar, where the program was organized by John Merriam, and the logistics were handled for the first time by a professional meetings manager. It was decided to return to Asilomar in three years' time under the same arrangement. The Seattle group was in charge of the 1986 program, and it was the first meeting in which short abstracts of talks were provided with the program. In dealing with the Asilomar conference center, Larry Sandler blithely agreed to personally guarantee payment for several hundred rooms; when he realized that a blizzard, some other natural disaster or an airline strike could doom the meeting and present him with a financial obligation that he would be unable to meet, he recognized that local organizers could not be expected to assume such a responsibility in the future. Accordingly, Linda Hall agreed to explore solutions to the dilemma. At about the same time, the Genetics Society of America had established, in cooperation with the American Society of Human Genetics, a permanent office in Bethesda, under the capable supervision originally of Gerry Gurvitch and more recently of Elaine Strass, both professional executive officers. The GSA was at the time negotiating with the yeast genetics community the management of their biennial meeting, and the idea was considered that they could similarly manage and be the guarantor for the annual fly meeting.

A *Drosophila* Board was established in 1988. It comprises nine regional representatives, each serving a three-year term; a new president is chosen and three members are replaced each year. The Board meets at the time of the annual meeting. It interacts with the Genetics Society of America, decides on the venues for future meetings, and deals with other matters affecting the community at large.

In February of 1987 Larry Sandler died unexpectedly, just as many of his initiatives were coming to pass. At the spring meeting in Chicago, a group of Larry's former students and colleagues decided that a fitting memorial to his importance to the field was the establishment of a Larry Sandler Fund through donations from the membership to support an annual lecture by the recent Ph.D. graduate whose thesis was judged by a panel of judges to be the most outstanding submitted during the previous year; this was considered particularly fitting in view of the importance that Larry attached to graduate teaching. Jim Crow delivered a fine tribute to Larry at a plenary session. Also at the Chicago meeting the advisability of affiliation with GSA as our meetings manager was put to a vote. The motion passed despite reservations by some that the informal nature of the meeting would change as a result; it has changed, not because of GSA organization, but because of the burgeoning numbers of participants. In 1988, as a result of plans initiated earlier by Sandler, the first International *Drosophila* Meeting was held in association with the International Congress of Genetics in Toronto. Bruce Edgar presented the first Larry Sandler Memorial Lecture to open that meeting. This was the first meeting organized by the Genetics Society of America in the capable hands of meetings manager, Peggy Gardener. The logistics of all subsequent meetings have been handled by GSA, first by Peggy Gardener, then by Jean Francese, and most recently by Anne Marie Langevin. Meeting organization by GSA has been an unqualified success. 1990 was the last meeting to be held in Asilomar; we reluctantly concluded that we had outgrown that superb venue.

Some of the highlights of previous meetings are indicated in the following sentences: The seminal contribution to the 1982 Storrs meeting was the announcement of Rubin and Spradling of successful P-mediated germ-line transformation, leading initially to the possibility of transposon tagging and subsequently to the construction of ingenious specialized vectors for the insertion of varied types of genetic information into the *Drosophila* genome. Preceding the 1985 meeting, the National Science Foundation sponsored a workshop bringing together *Drosophilists* and cryobiologists to explore the possibilities of cryopreservation of *Drosophila*; the workshop stimulated two research grant applications, the successful, but as yet not implemented, results of which were reported at the 1993 San Diego meeting by Peter

Steponkas of Cornell and Peter Mazur of the Oak Ridge National Laboratory. At the New Orleans meeting, it was agreed that a comprehensive electronic data base of *Drosophila* science was required in order that the onslaught of information could be made available in an easily accessible format to workers in the field; As a result a meeting was held in December of that year in Washington D. C. under NIH auspices. A grant proposal was subsequently submitted and approved, and now, thanks to the heroic efforts of Michael Ashburner, Bill Gelbart, Thom Kaufman, John Merriam and their colleagues, FlyBase is a growing reality that places ever-increasing amounts of information at the fingertips of the *Drosophila* community. The 1992 meeting in Philly saw the unveiling of the new red book by Lindsley and Zimm, for which workers had been waiting for ten years. Orders were taken, and the authors returned home with personal volumes autographed by the attendants.

The following table details some of the relevant information concerning the twenty-second through the thirty-fifth annual *Drosophila* Research Conferences.

#	Year	Venue	Attendance	Program	Board President	Sandler Lecturer
22	1981	Chicago		Janice Spofford		
23	1982	Storrs		Arthur Chovnick		
24	1983	Asilomar		John Merriam		
25	1984	Chicago		Sally Elgin		
26	1985	Charleston		Joe Jack		
27	1986	Asilomar		Larry Sandler		
28	1987	Chicago	765	Bill Engels		
29	1988	Toronto	701	Ross Hodgetts		Bruce Edgar
30	1989	New Orleans	725	Ian Duncan	Linda Hall	Kate Harding
31	1990	Asilomar	883	Matt Scott	Dan Lindsley	Michael Dickinson
32	1991	Chicago	1021	Thom Kaufman	Ross Hodgetts	Maurice Kernan
33	1992	Philadelphia	1112	Bill Gelbart	Thom Kaufman	Russ Nichols
34	1993	San Diego	1160	Gerry Rubin	John Lucchesi	David Schneider
35	1994	Chicago	1248	Victoria Finnerty	Mariana Wolfner	Kendal Broadie