In memoriam:
Wallace Edmund LaBerge
(1927–2013)

Claus Rasmussen¹, Victor H. Gonzalez², Michael S. Engel³, & Charles D. Michener³

Abstract. A brief account of the life and career of Wallace Edmund LaBerge (1927–2013) is presented along with a compilation of his publications and taxa proposed. In total 326 publications and 1 family-group, 46 genus-group, and 206 species-group names are listed, as well as seven cases of eponymy.

BIOGRAPHY

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cal study of andrenid genitalia) and William P. Stephen [Ph.D. in 1952 with a revision of Colletes Latreille (Colletidae)]. LaBerge earned his Ph.D. with a systematic revision of Melissodes in 1955 and, immediately after graduation, was hired as Assistant Professor and Museum Curator at the University of Kansas, basically assuming Michener’s duties during the latter’s sabbatical in Brazil. It was at the end of this period in Kansas that LaBerge met the influential Brazilian bee taxonomist, Jesus Santiago Moure (1912–2010) (Engel et al., 2012). LaBerge was very fond of Moure, often mentioning how much he liked him as a person and scientist. They co-authored a few papers and maintained a continuous communication for several years, exchanging life experiences and their interests in bees. In a letter sent to Moure on 11 April 1958, LaBerge wrote:

“I am planning to be married in the beginning of August. I have found a lovely girl in my home town who grew up while I was away. A romance carried on in spite of over 600 miles must, necessarily, be mediated largely by the postal Dept. She likes to travel as much as I, so perhaps after a year or two a trip to Brasil may be feasible...”.

In 1956, LaBerge moved to Ames, Iowa, where he worked as Assistant Professor in zoology at Iowa State University until 1959. Then, from 1959 to 1965, LaBerge moved to Lincoln, Nebraska, where he worked as Associate Professor in entomology at the University of Nebraska. There, his three children were born. In 1965, LaBerge finally moved to Champaign, Illinois, where on 1 September he joined the Illinois Natural History Survey (INHS) first as Associate Taxonomist and then as Professional Scientist (Fig. 2). He remained at the INHS until his retirement in 1994. In addition to his primary positions he was also appointed as Adjunct Professor in entomology at the University of Illinois (1969), and served as acting chief (1980–1981) and section head (1979–1989) of the survey. He also served in 1982 as Program Director of Systematic Biology at the National Science Foundation in Washington, D.C.

LaBerge contributed extensively to our understanding of New World bees. The majority of his publications are on the systematics of bees but some focus on his initial passion, ants, as well as wasps and diverse aspects of bee biology including pollination. He also wrote numerous reports on diverse organisms and topics (Appendix I). His revisions on Melissodes, and in particular, Andrena, the latter of which were published over many years beginning in 1964 and completed decades later, are simply outstanding. They include the study of a tremendous amount of material (nearly 170,000 specimens in total) that he carefully examined to understand morphological variations and species limits. Every single specimen bears an individual identification label and this material may be found in institutions throughout North America and, in fact, in many foreign repositories. This has allowed other researchers to keep track of the specimens he studied when confirming identifications, and particularly when testing species concepts and hypotheses. His descriptions are quite detailed and often well-illustrated with line-drawings, facilitating species identification of these diverse and taxonomically challenging genera. He made an amazing effort to record and analyze floral relationships, biogeographical patterns, as well as variation in some morphological characters for each species. Because of the depth and degree of detail in his work, he was able to stabilize the circumscription of many species in addition to the discovery of more than 100 new species in Andrena and 59 in Melissodes (Appendix II). A tremendous enhancement of his papers was made by the inclusion of keys to the numerous species, and these he sometimes corrected or updated in subsequent papers. In addition, he made attempts to understand the phylogenetic relationships of the spe-
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Figure 1. Wallace E. LaBerge (1927–2013) in 1981 (photograph courtesy of the Illinois Natural History Survey Library).


2. Left lateral habitus.
3. Right lateral habitus.
4. Detail of inner surface of metatibia and metatarsus (unclear areas are obscured by internal fractures from this particular view). Metrics of individual provided in description.
cies and subgenera of these lineages, a particularly challenging process for groups that are so diverse and sometimes quite homogeneous in many characters, and was among the few melittologists of the day coding characters for such analyses. Interestingly, several of the relationships he recovered and proposed have been corroborated by more recent analyses (e.g., Dubitzky et al., 2010). Amazingly, despite the amount of time required to tease out the complexities of genera such as *Andrena* and *Melissodes*, LaBerge was able to devote his energies and talents to other groups as well, producing equally important works such as that on *Tetraloniella* Ashmead (Apiidae). LaBerge had also planned to work on other North American genera as evidenced by several manuscript names associated with specimens in insect collections. For example, he intended to revise the genus *Anthidium* Fabricius (Megachilidae) for North America with Elbert R. Jaycox (1923–2004), Professor of Apiculture and close colleague from the University of Illinois.

LaBerge was able to train and mentor several graduate students, among which were Adolfo Molina-Pardo (Ph.D., 1973), John C. Marlin (M.Sc., 1973), Lloyd R. Davis, Jr. (M.Sc., 1974), Martha N. Schrader (M.Sc., 1977), Eugene R. Miliczky (Ph.D., 1985), and Steven L. Heydon (Ph.D., 1988). His students remember him as a quiet, kind, and honest man. One of them still remembers the day when he asked him to be his advisor in a systematic project. “He looked at me and told me: you are welcome to work with me, but you probably won’t find a job”. Definitely not the most encouraging start, but LaBerge was sincere about the difficult job market faced by professional systematists;

Figure 2. Clockwise from upper left: Wallace E. LaBerge (1927–2013) in his office at the Illinois Natural History Survey; after a day in the field with John C. Marlin in 1976; at his retirement party in 1994; and in the collections of the Illinois Natural History Survey in 1986 (photographs courtesy of the Illinois Natural History Survey Library).
however, he proved to be wrong because his students went on to successful careers.

LaBerge was as committed to his students as he was to research. He helped them in any way he could to promote their academic and personal development and success. He knew the importance of mentoring and the impact this activity could have to future generations. For example, in another letter sent to Moure on 28 August 1970, LaBerge wrote:

“A Columbian [sic] student, Adolfo Molina, came to me last year to learn something about bee systematics. He has since studied the classification of bees, learned to recognize the genera and studied the species of *Xylocopa* in our collection...I hope to cultivate Adolfo’s interest in systematics before he returns to Columbia. It could be important to have a Melittologist collecting in that area.”

No doubt that LaBerge was successful at cultivating Molina’s interest in bees and in passing on his knowledge. Molina completed his Ph.D. by studying the phylogenetic relationships of some subgenera of *Andrena* using phenetic methods. Once back in Colombia, Molina became a professor at the Universidad Nacional de Colombia, Medellín, and facilitated early studies of the native bee fauna by assisting Guiomar Nates Parra, a honey bee geneticist who had also recently returned to Colombia and become interested in native bees (Gonzalez & Engel, 2013). Thus, arguably, the growing bee research that we see today with Colombia’s rich bee fauna was in part inspired by LaBerge. The same may also be said for systematic melittology in Mexico as it was LaBerge who first cultivated the professional interests of Ricardo Ayala and assisted him in developing his start in bee taxonomy.

LaBerge was known as “Wally” by his friends and colleagues, and we can only concur that he was a person very willing to share his knowledge, kindly helping to identify specimens and sharing stories from his long career as a bee systematist. His academic standards were very high and once it became difficult for him to achieve such a standard due to health issues, he stopped publishing, focusing instead on his retirement and humanistic projects, such as Habitat for Humanity. His last publications on the systematics of *Andrena* were with Robbin W. Thorp, Professor Emeritus of the University of California, Davis. These contributions concluded a very long and important revision of the genus that began as a prodromus 41 years earlier. The publication from 2012 (Appendix I) was based on the identifications he had made years prior.

LaBerge was a committed Catholic and a member of the St. Patrick’s Church community, where he was elected to the Parish Council and served as a Eucharistic minister. He was a devoted father and grandfather who played piano and enjoyed gardening, baking, and working at home. He also enjoyed nature and often took his family on road trips to Colorado, California, and North Dakota. LaBerge passed away peacefully at the age of 86 at Carle Foundation Hospital, Urbana, surrounded by family. He is survived by his brothers (Tom, Dick, and Donny), his sisters (Frances and Suzanne), his son (Daniel), two daughters (Lesle and Laura), and three grandchildren. Several bees have been named in honor of LaBerge, along with one leaf beetle and one mite (Appendix III).

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REFERENCES


APPENDIX I

Publications of Wallace E. LaBerge

Here is compiled a complete list of the 326 known published writings of Wallace E. LaBerge. Included are numerous reports compiled by LaBerge and appearing in the Illinois Natural History Survey Reports. These reports indicate authorship on the back cover and also allude to unnamed contributors who presumably assisted the lead author(s) to varying degrees (either by providing ideas, information, or perhaps even entire paragraphs). Where more than one individual is specifically identified, we have included them as an author of the articles in the reports.


APPENDIX II

Taxa Proposed by Wallace E. LaBerge

The following list contains a total of one family-group, 46 genus-group, and 206 species-group names (including six subspecies). Taxa are listed alphabetically under each family except for family-group names that are indicated first. Names are presented under their original combination.

Order Hymenoptera Linnaeus
Family Pteromalidae Dalman


Family Andrenidae Latreille

*Andrena* (**Anchandrena**) LaBerge, 1986a: 496.
*Andrena* (**Andrena**) *aculeata* LaBerge, 1980a: 495.
*Andrena* (**Andrena**) *ceanothifloris cretata* LaBerge, 1980a: 518.
*Andrena* (**Andrena**) *coconina* LaBerge, 1980a: 441.
*Andrena* (**Andrena**) *lanhami* LaBerge, 1980a: 490.
*Andrena* (**Andrena**) *longifacies* LaBerge, 1980a: 469.
*Andrena* (**Andrena**) *monoensis* LaBerge, 1980a: 423.
*Andrena* (**Andrena**) *prolixa* LaBerge, 1980a: 441.
*Andrena* (**Andrena**) *schuhi* LaBerge, 1980a: 484.

*Andrena* (**Archandrena**) LaBerge, 1986a: 482.
*Andrena* (**Belandrena**) *alceae* LaBerge, 1986a: 516.
*Andrena* (**Callandrena**) *aeripes* LaBerge, 1967: 278.
*Andrena* (**Callandrena**) *afrembiata* LaBerge, 1967: 165.
*Andrena* (**Callandrena**) *auripes* LaBerge, 1967: 204.
*Andrena* (**Callandrena**) *humeralis* LaBerge, 1967: 76.
Andrena (Callandrena) **levipes** LaBerge, 1967: 289.
Andrena (Callandrena) **limatula** LaBerge, 1967: 233.
Andrena (Callandrena) **mexicana** LaBerge, 1967: 50.
Andrena (Callandrena) **micheneriana** LaBerge, 1978a: 592.
Andrena (Callandrena) **neomexicana** LaBerge, 1967: 246.
Andrena (Callandrena) **ofella** LaBerge, 1967: 267.
Andrena (Callandrena) **optanda** LaBerge, 1967: 235.
Andrena (Callandrena) **perpunctata** LaBerge, 1967: 222.
Andrena (Callandrena) **rava** LaBerge, 1967: 122.
Andrena (Callandrena) **repanda** LaBerge, 1967: 285.
Andrena (Callandrena) **rubens** LaBerge, 1967: 206.
Andrena (Callandrena) **sculleni** LaBerge, 1967: 59.
Andrena (Callandrena) **senticulosa** LaBerge, 1967: 177.
Andrena (Callandrena) **sonorensis** LaBerge, 1967: 110.
Andrena (Callandrena) **tegularis** LaBerge, 1967: 195.
Andrena (Callandrena) **trimaculata** LaBerge, 1967: 68.
Andrena (Callandrena) **utahensis** LaBerge, 1967: 258.
Andrena (Callandrena) **vulpoides** LaBerge, 1967: 280.

Andrena (Carandrena) **bellidoides** LaBerge, 1968a: 97.
Andrena (Celetandrena) LaBerge & Hurd, 1965: 188.
Andrena (Charitandrena) **toluca** LaBerge, 1969a: 42.
Andrena (Erandrena) **principalis** LaBerge, 1986a: 506.
Andrena (Euandrena) **hamulata** LaBerge & Ribble, 1975: 399.
Andrena (Euandrena) **penemisella** LaBerge & Ribble, 1975: 422.
Andrena (Euandrena) **ribblei** LaBerge, 1977a: 125.
Andrena (Euandrena) **venata** LaBerge & Ribble, 1975: 429.
Andrena (Geandrena) LaBerge, 1964: 313.
Andrena (Genyandrena) **avulsa** LaBerge & Ribble, 1972: 298.
Andrena (Genyandrena) **flocculosa** LaBerge & Ribble, 1972: 296.
Andrena (Genyandrena) **toralis** LaBerge & Ribble, 1972: 300.
Andrena (Hesperandrena) **compositarum** Thorp & LaBerge, 2005: 86.
Andrena (Hesperandrena) **dissona** Thorp & LaBerge, 2005: 83.
Andrena (Hesperandrena) **eremophila** Thorp & LaBerge, 2005: 85.
Andrena (Hesperandrena) **leucomystax** Thorp & LaBerge, 2005: 81.
Andrena (Holandrena) **miniata** LaBerge, 1986a: 537.
Andrena (Holandrena) **subrubicunda** LaBerge, 1986a: 532.
Andrena (Leucandrena) **cymatilis** LaBerge, 1987a: 207.
Andrena (Leucandrena) **faceta** LaBerge, 1987a: 216.
Andrena (Leucandrena) **patagiata** LaBerge, 1987a: 201.
Andrena (Melandrena) **barbara** Bouseman & LaBerge, 1979: 297.
Andrena (Melandrena) **brevicornis** Bouseman & LaBerge, 1979: 321.
Andrena (Melandrena) crinita Bouseman & LaBerge, 1979: 380.
Andrena (Melandrena) illini Bouseman & LaBerge, 1979: 355.
Andrena (Melandrena) impolita LaBerge, 1987a: 240.
Andrena (Nemandrena) torulosa LaBerge, 1971: 49.
Andrena (Nemandrena) crudeni LaBerge, 1971: 54.
Andrena (Onagrandrena) decolorata LaBerge & Thorp, 2005: 49.
Andrena (Parandrena) arenicola LaBerge & Ribble, 1972: 328.
Andrena (Psammandrena) congrua LaBerge, 1977a: 87.
Andrena (Rhacandrena) LaBerge, 1977a: 90.
Andrena (Rhacandrena) coruscata LaBerge, 1977a: 102.
Andrena (Rhaphandrena) dapsilis LaBerge, 1971b: 511.
Andrena (Scaphandrena) nigricula LaBerge & Bouseman, 1977: 606.
Andrena (Scapterosperis) angusticrus LaBerge, 1971b: 499.
Andrena (Scapterosperis) aquila LaBerge, 1971b: 502.
Andrena (Scapterosperis) biareola LaBerge, 1971b: 494.
Andrena (Scapterosperis) buccata LaBerge, 1971b: 497.
Andrena (Scapterosperis) flameina LaBerge, 1971b: 472.
Andrena (Scapterosperis) stipator LaBerge, 1971b: 491.
Andrena (Scapterosperis) unicoostata LaBerge, 1971b: 481.
Andrena (Thysandrena) declinis LaBerge, 1977a: 58.
Andrena (Thysandrena) ferrugineipes LaBerge, 1977a: 43.
Andrena (Thysandrena) illustris LaBerge, 1977a: 39.
Andrena (Thysandrena) lauta LaBerge, 1977a: 36.
Andrena (Thysandrena) livida LaBerge, 1977a: 45.
Andrena (Thysandrena) quadrilimbata LaBerge, 1977a: 59.
Andrena (Trachandrena) winnemuccana LaBerge, 1973a: 366.
Andrena (Trachandrena) zionensis LaBerge, 1973a: 361.
Andrena (Tylandrena) fusciptennis LaBerge & Bouseman, 1970: 564.
Andrena (Tylandrena) sublayiae LaBerge & Bouseman, 1970: 597.
Andrena (Xiphandrena) LaBerge, 1971b: 504.

Family Apidae Latreille

Canephorulini Michener, LaBerge, & Moure, 1955a: 207.
Agapanthinus LaBerge, 1957: 35.
Delttoptila LaBerge & Michener, 1963: 212.
Gaesischia (Gaesischiana) Michener, LaBerge, & Moure, 1955b: 220.
Gaesischia (Gaesischiopsis) flavoclypeata Michener, LaBerge, & Moure, 1955b: 222.
Gaesischia (Prodasyhalonia) mexicana LaBerge, 1958a: 199.
Loxoptilus brevifellator LaBerge, 1957: 41.
Melissodes (Apomelissodes) mitchelli LaBerge, 1956b: 556.
Melissodes (Brachymelissodes) minima LaBerge, 1956a: 931.
Melissodes (Callimelissodes) minuscula LaBerge, 1961: 323.
Melissodes (Callimelissodes) nigracauda LaBerge, 1961: 327.
Melissodes (Callimelissodes) plumosa LaBerge, 1961: 308.
Melissodes (Callimelissodes) tribas LaBerge, 1961: 326.
Melissodes (Epimelissodes) aegis LaBerge, 1956a: 959.
Melissodes (Epimelissodes) atripes atrimitra LaBerge, 1956a: 949.
Melissodes (Epimelissodes) nitida LaBerge, 1956a: 969.
Melissodes (Epimelissodes) sabinensis nubila LaBerge, 1956a: 1024.
Melissodes (Epimelissodes) sila LaBerge, 1956a: 1002.
Melissodes (Epimelissodes) texana eluta LaBerge, 1956a: 1000.
Melissodes (Eumelissodes) appressa LaBerge, 1961: 616.
Melissodes (Eumelissodes) bicolorata LaBerge, 1961: 441.
Melissodes (Eumelissodes) bimatrix LaBerge, 1961: 431.
Melissodes (Eumelissodes) brevipygga LaBerge, 1961: 606.
Melissodes (Eumelissodes) cerussata LaBerge, 1961: 436.
Melissodes (Eumelissodes) crocina LaBerge, 1961: 652.
Melissodes (Eumelissodes) elegans LaBerge, 1961: 490.
Melissodes (Eumelissodes) expolita LaBerge, 1961: 505.
Melissodes (Eumelissodes) gelida LaBerge, 1961: 575.
Melissodes (Eumelissodes) hurdi LaBerge, 1961: 526.
Melissodes (Eumelissodes) limbus LaBerge, 1961: 585.
Melissodes (Eumelissodes) lutulenta LaBerge, 1961: 599.
Melissodes (Eumelissodes) micheneri LaBerge, 1961: 642.
Melissodes (Eumelissodes) ochraea LaBerge, 1961: 428.
Melissodes (Eumelissodes) perpolita LaBerge, 1961: 443.
Melissodes (Eumelissodes) *subillata* LaBerge, 1961: 568.
Melissodes (Heliomelissodes) LaBerge, 1956a: 1172.
Melissodes (Idiomelissodes) LaBerge, 1956a: 1172.
Melissodes (Melissodes) *bimaculata nulla* LaBerge, 1956a: 1109.
Melissodes (Melissodes) *cubensis* LaBerge, 1956a: 1078.
Melissodes (Melissodes) *elusa* LaBerge, 1956a: 1061.
Melissodes (Melissodes) *maesta* LaBerge, 1956a: 1095.
Melissodes (Melissodes) *tepida yunensis* LaBerge, 1956a: 1128.
Melissodes (Melissodes) *tesellata* LaBerge, 1956a: 1157.
Melissodes (Melissodes) *thelypodii stulta* LaBerge, 1956a: 1073.
Melissodes (Psilomelissodes) LaBerge, 1956a: 1173.

*Svastra (Epimelissodes) friesei* LaBerge, 1958b: 268.
*Svastra (Epimelissodes) pallidior* LaBerge, 1963c: 52.


*Syntrichalonia fuliginea* LaBerge, 1994a: 283.
*Tetraloniella cacuminis* LaBerge, 2001: 133.
*Tetraloniella fastigiata* LaBerge, 2001: 118.
*Tetraloniella minutilla* LaBerge, 2001: 120.
APPENDIX II

Eponymy

The following are those eponyms we are aware of that honor LaBerge. The names, all specific epithets, are distributed across four families of insects (five of Hymenoptera, one of Coleoptera) and one family of arachnids.

Class Insecta Linnaeus
Order Hymenoptera Linnaeus
Family Andrenidae Latreille

*Andrena (Hoplandrena) labergeiella* Gusenleitner, 1998
*Andrena (Micrandrena) labergei* Ribble, 1968
*Perdita (Perdita) labergei* Timberlake, 1960

Family Colletidae Lepeletier de Saint Fargeau

*Palaeorhiza (Palaeorhiza) labergei* Hirashima & Abe, 2011

Family Megachilidae Latreille

*Anthidium (Anthidium) labergei* Gonzalez & Griswold, 2013

Order Coleoptera Linnaeus
Family Chrysomelidae Latreille

*Proctophana labergei* Moldenke, 1981

Class Arachnida Lamarck
Order Mesostigmata Canestrini
Family Uropodidae Kramer

*Antennequesoma labergei* Elzinga, 1982 [Acari]
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