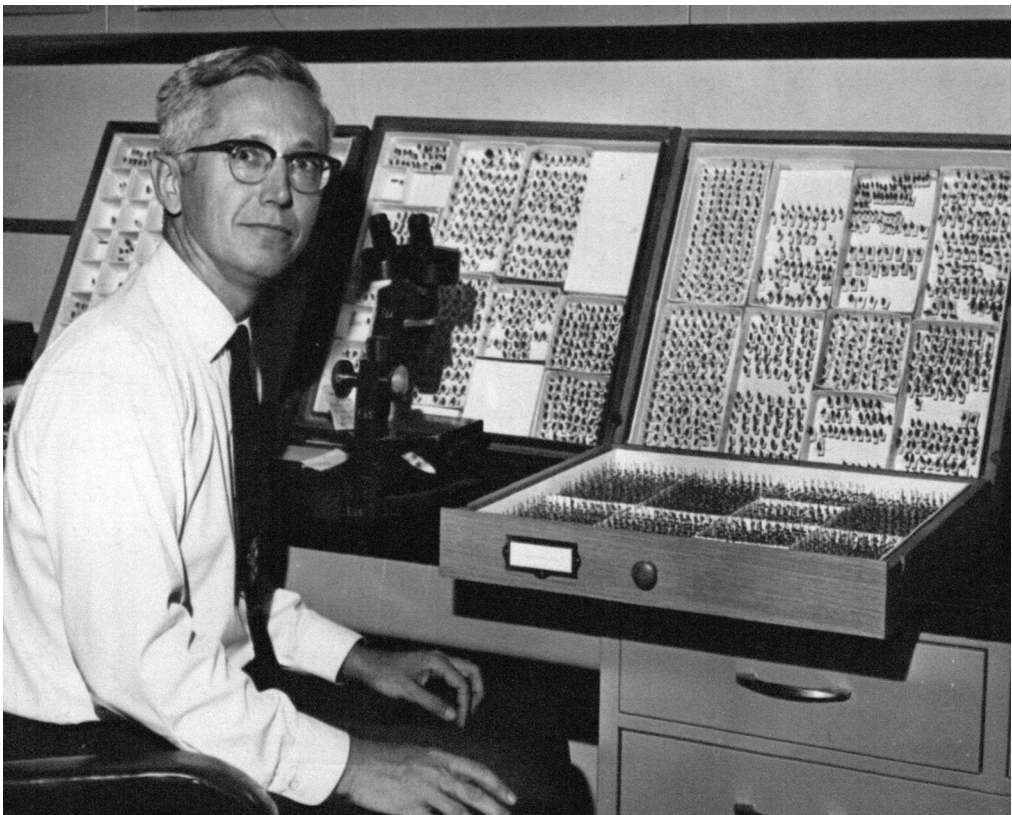


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The bibliography of and taxa proposed by  
Charles D. Michener

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Michael S. Engel



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# Journal of Melittology

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**On the cover:** Charles D. Michener on 10 November 1962 with a spread of bees in his office in Snow Hall, University of Kansas (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

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*The latest buzz in bee biology*

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## The bibliography of and taxa proposed by Charles D. Michener

Michael S. Engel<sup>1,2</sup>

**Abstract.** In honor of Distinguished Professor and Curator Emeritus Charles D. Michener's 97<sup>th</sup> birthday, the *Journal of Melittology* publishes this special issue tabulating his expansive list of publications, the vast majority of which entail studies on the systematics and biology of bees (Apoidea: Anthophila) and represents some of the most significant contributions to the subject. In total, this treatment covers Michener's 514 citable items between 1935 and September of the present year (an astonishing eight-decade-long span of publishing!). Many of the works provide descriptions of new taxa and the bibliography is annotated to indicate those novel taxonomic acts included in each publication. To this is added an accounting of all of the species-, genus-, and family-group names established by Michener during this same period, and organized by both taxonomic group and rank. Naturally, given Michener's lifetime of work devoted to bees, the vast majority of these are of the Anthophila, but it does also include his taxonomic output on Acari, Lepidoptera, and Ichneumonidae (Hymenoptera).

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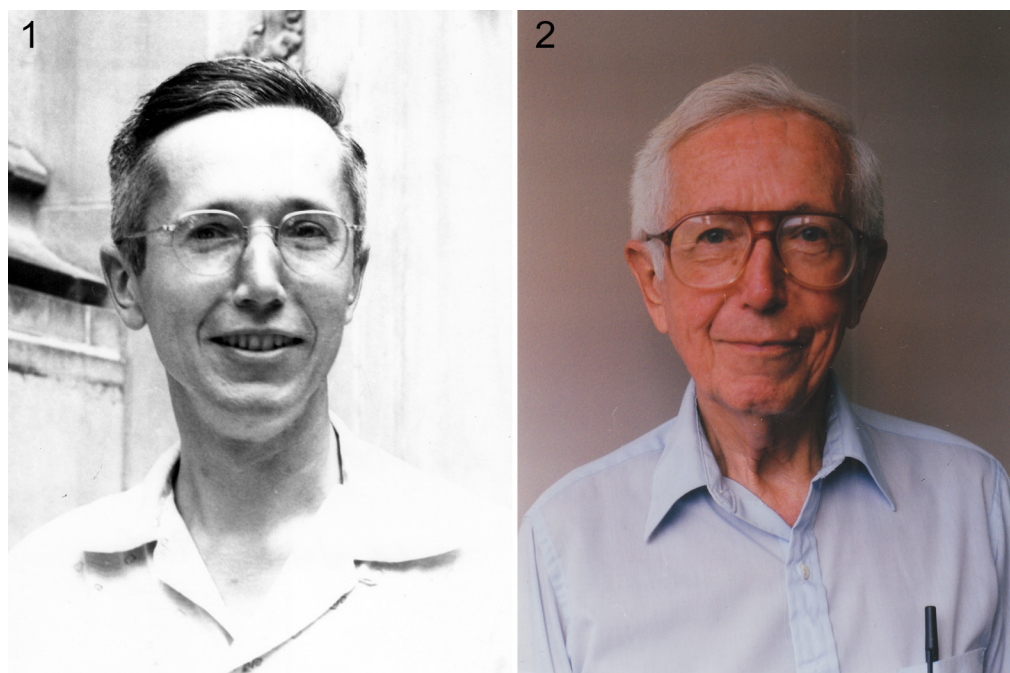
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## INTRODUCTION

This special issue of *Journal of Melittology* is devoted to Charles D. Michener (affectionately known as 'Mich'), the world's leading melittologist and one of the most prolific systematists and evolutionary biologists (Figs. 1, 2). The issue celebrates today (22 September 2015) both Michener's 97<sup>th</sup> birthday as well as his 80 years of continuous publications on bees. In recognition of this singular achievement in scientific output, this issue documents for the first time his full bibliography. In addition, the opportunity was taken to tabulate all of those taxa newly established by Michener in these works, the vast majority of which are bees. From January 1935 (when he was 16 years old) through today, Michener has published in one form or another at least 514 contributions to the fields of entomology, acarology, sociobiology, and evolutionary biology (totaling slightly over 12,100 pages!). His years of active research exceeds that of an average human lifespan, and represent many of the most critical contributions to those subjects fortunate enough to have received his attention. Although his own published efforts date from 1935, his entomological endeavors had begun well prior and were already having an impact. For instance, Michener's first paper was based on collections he had made as early as 31 August 1930 (less than a month prior to his 12<sup>th</sup> birthday), and the noted ephemeropterist Jay R. Traver (1894–1974) honored the young Michener with the epithet, *Ephemerella micheneri* Traver (today *Serratella micheneri*), based on important material Mich had collected in the San Gabriel Mountains during May and June of 1932 (Traver, 1934). Few individuals have such early achievements in their chosen profession, and even fewer follow up with eight decades of award-winning and paradigm-changing research.

The purpose here is not to provide a thorough biographical account or relate Mich's numerous academic accomplishments, as those are better covered elsewhere and in his own words (*e.g.*, the preface to Michener, 2000, and in Michener, 2007), and we look forward to further years of such achievements. Aside from those already mentioned, autobiographical details have appeared in recent published interviews (*e.g.*, Rice, 2014; Gould, 2015), while further biographical accounts occur in various sources (*e.g.*, Byers, 1978; Anonymous, 1980; Pennisi, 1984; Ruse & Travis, 2009). Despite the exclusion of such a detailed biography here, there are of course many salient events from his life worth noting for the contextual setting they provide in which to consider his bibliography.

Mich was born 22 September 1918 in Pasadena, California, and grew up with an appreciation for natural history, inspired by his parents who were members of the Western Bird Banding Association (his father, Harold Michener, was the society's first business manager and an early president), and actively publishing birders (*e.g.*, Michener, 1925, 1927, 1928, 1953; Michener & Michener, 1926, 1931), and particularly his mother who took him on early collecting trips and helped him to identify the various organisms found (Michener, 2007). It is putatively *Perdita* (*Perdita*) *rhois* Cockerell that first ignited Mich's interest in bees (Figs. 3–5), and as he has noted (Michener, 2000, 2007), around age 14 he wrote to Theodore D.A. Cockerell (1866–1948) for help in identifying material, and in time spent the summer of 1935 (between his junior and senior years in high school) with Cockerell in Boulder, Colorado. The style of Mich's earliest papers (those from 1935–1937) clearly reflects Cockerell's influence, but in a relatively brief time this changed considerably such that by 1938 his publications were more orderly, cohesive, methodical, and synthetic in character. In 1936 Michener went to the University of California, Berkeley for his B.S. (1939) and Ph.D. (December 1941) de-

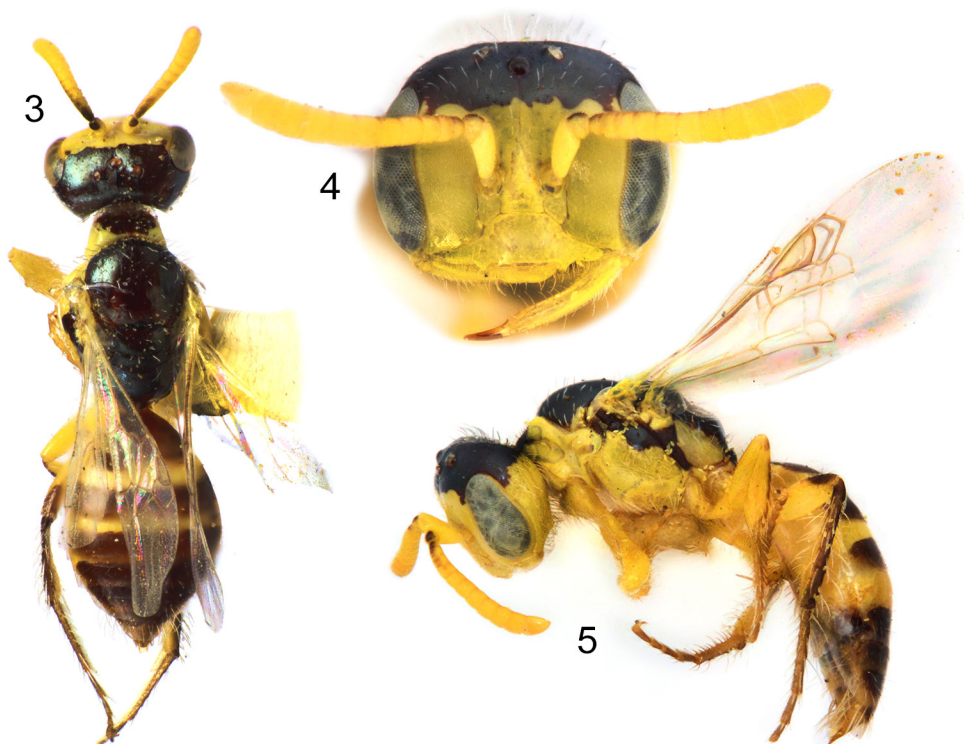


**Figures 1–2.** The unchanging face of Mich over four decades (photographs by George W. Byers). 1. On the steps outside of Snow Hall, University of Kansas, 14 July 1956. 2. In the ‘new’ wing of Snow Hall, 22 September 1998 (Mich’s 80<sup>th</sup> birthday).

grees, working under the direction of Edward O. Essig (1884–1964), a famed economic entomologist, hemipterist, and author of several prominent textbooks in entomology. Michener’s dissertation was a comprehensive treatment of bee morphology, evaluation of phylogenetic relationships, and a new classification of the group with keys to the North American genera and subgenera. The work won him the A. Cressy Morrison Prize in Natural Sciences in 1942 [Abraham C. Morrison (1888–1951) was President of the New York Academy of Sciences and offered two such awards annually through 1945]. The published version of this dissertation marks one of the greatest turning points in the history of melittology, and can be said to demarcate the beginning of the ‘Michener Era’ of bee systematics.

In 1942 Mich took a position at the American Museum of Natural History, serving as Assistant Curator (1942–1946) and later Associate Curator (1946–1948) in the Department of Insects and Spiders. At the American Museum he was in charge of the Lepidoptera, working during this period on various papers treating moths and butterflies, ultimately culminating in a monograph of the Saturniidae that remains to this day the most comprehensive treatment of the family. In 1943 he began work with the U.S. Army Sanitary Corps (rising to the rank of Captain), working at first on mosquito control and then on the biology and control of chigger mites. Despite the pull of these responsibilities and the research time devoted to such subjects, Mich continued to publish important works on bee classification, such as a sweeping treatment of Anthidiini. He also built collections while deployed to Panama that would form the nucleus of his latter revision of that fauna, building upon the classification he had established earlier.

In August 1948 Michener began his long tenure with the University of Kansas, starting as Associate Professor of Entomology (1948–1950), and shortly thereafter as-



**Figures 3–5.** Male of *Perdita (Perdita) rhois* Cockerell, a tiny species of bee occurring widely in the Sierra Nevada and westward in California and southward into Baja California, Mexico. This is putatively the auspicious species we have to thank for first sparking Mich’s fascination with bees — a most exalted honor and making it, at least in terms of its symbolic influence on the subsequent prosperity of melittology, one of the most awe-inspiringly portentous of species among the bees. **3.** Dorsal habitus. **4.** Facial view. **5.** Lateral habitus. Specimens collected by Michener, 13 August 1934, on *Eriogonum fasciculatum* Benth. (Polygonaceae) from Vandeventer Flats, San Jacinto Mts., California.

suming the chairmanship of the Department of Entomology (1949–1961, and again from 1972–1975). Subsequently, he was Professor of Entomology (1950–1989), and then the Watkins Distinguished Professor of Entomology (1958–1989) and of Systematics & Ecology (1968–1989). When the entomological collections were administratively separated from the Department of Entomology, Mich became the Director of the Snow Entomological Museum (1974–1983), and after stepping down from that post 30 June 1983 held the title of Senior Curator until his retirement (1974–1989). He ‘retired’ in 1989, but has been as active as always in research. It is, of course, during his time in Kansas that he initiated works on bee behavior and biology, including seminal studies on pollination biology and social behavior. Always striving for more data from which to establish relationships among bees, Mich also undertook a foundational study of hymenopteran larvae, albeit emphasizing Anthophila. It was also during the 1950s and 1960s that Mich, along with others, began to make significant strides toward developing objective methods for systematic biology, ultimately culminating in what we know today to be phenetics and numerical taxonomy.

During his tenure at the university, Mich received two prestigious Guggenheim Fellowships (today the John Simon Guggenheim Memorial Foundation restricts fel-

**Table 1.** Publication and taxonomic output of Charles D. Michener between January 1935 and September 2015 [peak years of publication, 1953 and 1958 (each with 14 papers); peak year of species, 1965 (108)]. Asterisks (\*) indicate where *nomina nuda* are excluded from the values.

Year span	No. Publications	Species-group Names (bees)	Species-group Names (other)	Genus-group Names (bees)	Genus-group Names (other)	Family-group Names (bees)	Family-group Names (other)
1935–1939	24	140	2	9	—	5	—
1940–1949	56	38	30	31	31	8	1
1950–1959	88	115	7	45	—	4	—
1960–1969	84	130	—	75	—	1	—
1970–1979	82	47	—	9	—	—	—
1980–1989	78	54	—	33	—	4*	—
1990–1999	48	17	—	19	—	1	—
2000–2009	33	34	—	9	—	2*	—
2010–2015	21	4	—	1	—	—	—
Totals	514	579	39	231	31	25	1
		618		262		26	

lows to a single award), the first in 1955 and supporting a year working on bees in Brazil (1955–1956), and the second in 1966 that enabled his studies of the African fauna (1966–1967). A similarly illustrious Fulbright Research award funded a year in Australia (1957–1958), and culminated in a monumental monograph of that fauna.

Michener's research publications have rightly drawn to him considerable accolades. In 1963 Mich was elected to the American Academy of Arts and Sciences, and two years later (in April of 1965) was similarly elected to membership in the National Academy of Sciences. In addition, he was made a Fellow of the Entomological Society of America (1944), American Association for the Advancement of Science (1980), and the Animal Behavior Society (1967); a Corresponding Member of the Academia Brasileira de Ciencias (1976); a Foreign Member of the Linnean Society of London (1963); an Honorary Member of the Royal Entomological Society (1974), American Entomological Society (1963), and the Society of Systematic Zoology (1988); and an Honorary Foreign Member of the Russian Entomological Society (1995) and Netherlands Entomological Society (2004). Aside from these appointments to various professional organizations, Mich has received a plethora of awards (aside from those already alluded to in the above). Among the many awards recognizing those research achievements embodied by his publications are the Olin Petefish Award in the Basic Sciences from the University of Kansas (1985); the Founders' Memorial Award (1981), the Thomas Say Award (1997), and the C.V. Riley Award (1999) of the Entomological Society of America; the inaugural Distinguished Research Medal of the International Society of Hymenopterists (2002); and the Hamilton Award of the International Union for the



**Table 2.** Distribution of taxa proposed by Charles D. Michener across the various families of arthropods upon which he worked between 1935 and September 2015. Asterisks (\*) indicate where *nomina nuda* are excluded from the values presented.

Taxon	Species-group names	Genus-group names	Family-group names
ACARI Leach	7	1	—
Trombiculidae Ewing	1	1	—
Trombidiidae Leach	6	—	—
LEPIDOPTERA Linnaeus	24	29	1
Libytheidae Boisduval	1	1	—
Lycaenidae Leach	2	—	—
Nymphalidae Rafinesque	5	2	—
Saturniidae Boisduval	16	26	1
HYMENOPTERA Linnaeus	587	232	25
Ichneumonidae Latreille	8	1	—
Anthophila Latreille (bees)	579	231	25
Andrenidae Latreille	18	4	1*
Apidae Latreille	117	64	15*
Colletidae Lepeletier de Saint Fargeau	147	69	4
Halictidae Thomson	98	26	1
Megachilidae Latreille	180	55	1
Melittidae Kawall	16	13	3
Stenotritidae Cockerell	3	—	—
TOTAL	618	262	26

Study of Social Insects (2010). Although awarded to the publisher and not the author, Mich's 2000 book, *The Bees of the World* (Johns Hopkins University Press) garnered the R.R. Hawkins Award from the American Association of Publishers in the year in appeared. It is clear from this list of laurels that there is much to learn from Mich's writings and his approach to studying bees.

Here are presented compilations of Michener's writings and taxa established up to the present. Although various parts of Mich's work covered topics and lineages outside of the bees, the vast majority are focused on the Anthophila and so publication in a journal devoted to melittology is fitting. The intention here is to put on record his numerous publications in an analogous fashion as to that done for the writings of Cockerell (Weber, 1965), himself the leading melittologist of his own day and an early mentor of the young Michener (Michener, 2007). There are quite a number of interesting parallels in the lives of these titans of melittology, and beyond their shared fascination with the natural world and that both quickly became preëminent scholars on bees. The publications of both gentlemen span a remarkable number of years, and this is owing to the fact that each began their professional careers while teenagers. Cockerell began publishing in 1882 at the age of 15 [although Benson (1948) alludes to earlier Cockerell papers from as early as 1878, at age 12, but these could not be traced by Weber (1965)], and some 67 years later (or 71, if the 1878 paper can ever be uncov-

ered) his final paper appeared posthumously in 1949 (No. 3904 in his published bibliography!). Both Cockerell and Michener worked widely in systematic zoology and made contributions of lasting importance to diverse subjects. Indeed, in the case of Cockerell there was scarcely a kingdom of life upon which he did not publish (Weber, 1965), while Mich worked on topics as varied as the systematics of moths and butterflies, the systematics and biology of mites, helped to launch new quantitative methods in systematics, and through his work on bee social behavior was foundational in the establishment of sociobiology. His list of publications in bee ecology and behavior alone would amount to a successful career, which is staggering to consider given that this scientific 'œuvre' is enveloped by an astounding multitude of creative and transformative writings in other fields. Like Cockerell, Mich has always been a proponent of a number of progressive social issues, and both lended their clarity of thought and voice to the betterment of lives around them. Each has led an exemplary life.

Tabulated below are 514 citable, published items, inclusive of book reviews, abstracts, and popular accounts, with the majority of these appearing in the decades between 1950 and 1989 (Table 1). It is difficult to judge which year might rightly be called one's most productive, as 'productivity' can be measured in so many ways and these often fail to reflect the impact of an author's 'belles-lettres'. As merely descriptive metrics, Mich's peak years were 1953 and 1958 (14 publications each), but one might argue that 2007 was more impactful owing to the impressive 975 printed pages tallied for that annum, or perhaps any one of those in which particularly influential books or papers appeared. Regardless, it is remarkable to find that after eight full decades, he continues to add to this astonishing list. In terms of taxonomic output (Tables 1, 2), the 618 species- and 262 genus-group names is impressive, and of these 579 and 231, respectively, are for bees (including five fossil species and three fossil genera). His peak year of taxonomic productivity was 1965 with the establishment of 108 new species, and most of those stem from his detailed account of the Australian fauna.

In presenting the bibliography, I've adopted a rather unorthodox format, combining with it a summation of taxa newly established by Mich within each work, where applicable. This lengthens the bibliography but does provide a quick idea of those groups proposed within any given publication. Following the bibliography the taxa are segregated by nomenclatorial group for easy reference. An early idea was to include a similarly comprehensive section of eponymy. This quickly proved impractical as so many people have honored Mich with specific epithets, but not always with modified forms of his surname. For example, the etymology provided for *Dinagapostemon mentor* Roberts & Brooks notes how the name was chosen to honor Mich's mentorship of numerous entomologists (Roberts & Brooks, 1987). Simply hunting through Zoological Record or other catalogs, one would not immediately associate such an epithet as an honorific for a particular individual and there are certainly others like this lurking in the literature. A section of eponymy was included (*vide infra*), but for the reasons cited efforts at completeness were abandoned.

There is not a soul in melittology who is not aware of Mich's kindness, generosity, and brilliance, or who is unfamiliar with his many works. Nonetheless, I believe many will find surprising elements among these titles, and through them an even deeper appreciation of the scholar and man whom we so admire. From myself, the editorial team of *Journal of Melittology*, and I am sure the entire melittological world, ...

'Thank You & Happy Birthday, Mich!'

## PUBLICATIONS OF CHARLES D. MICHENER

Works are numbered by their date of appearance and listed in order as they would compete in cases of priority (to the best it was determinable). Where a paper appeared in a later year than what was printed on the journal, the printed date is given first, with the actual year of appearance indicated in brackets (*e.g.*, paper No. 3 is dated 1935, but was not actually released until early 1936, *vide infra*). The list of publications was compiled from files held in the Division of Entomology, University of Kansas Natural History Museum; Michener's personal library; and then supplemented by myself with contributions overlooked or not deemed significant for inclusion by the previous sources. The list of papers provided by Ortiz-Sánchez (2007), taken verbatim from an old file in the Division of Entomology, is unfortunately incomplete, even for the years covered, and includes numerous erroneous citation details (*e.g.*, incorrect title, year, or pages; inaccurate author order on some papers), and should not be relied upon as a definitive source. Naturally, this list may be missing items despite the efforts that went into making it as complete as possible. I would be grateful for details on any works, no matter how seemingly minor, that were overlooked. In this context it is perhaps helpful to note one item which initially generated some confusion. A copy of a one-page 'abstract' published in *III Semana de Genética* (Escola Superior de Agricultura "Luiz de Queiroz", Seção de Genética, Universidade de São Paulo; Piracicaba, Brazil; 25–28 March 1956). Therein appears the precis, "Um problema de sistemática considerado quantitativamente", and indicates the "conferencia" presenters as C.D. Michener and R.R. Sokal. This summary of Michener and Sokal's lecture, however, was composed by the organizers (not the presenters), explaining each presentation and emphasizing salient points, and published as a small volume for students and others attending the conference. Given that Michener and Sokal were not the authors of this abstract, I have not included it within the list here.

Integrated into this list are those taxa proposed by Michener within individual articles. Taxonomic names are reproduced as they were originally proposed, with an indication of page and the novel name boldfaced. Some articles include taxa proposed by other authors but those are not listed here (only those for which Michener was an author). These same taxa are arranged in subsequent sections of this volume except organized by categorical rank (*i.e.*, species-, genus-, and family-group names), and by family or subfamily placement (*vide* sections on each nomenclatural group, *infra*). As may happen, names may be used in one paper prior to being made available in a publication that appears later than intended, thereby creating a temporary *nomen nudum*. Such cases are not recorded here and names only appear listed for the first publication in which they were made available. In a very few instances Michener used names which to this day remain *nomina nuda* and so those are included in the lists and specifically identified, although they are excluded from the totals in tabulations for given groups of names (in total this applies to only three names — *Ctenioschelini*, *Liphanthini*, *Austropanurgini*).

1. Michener, C.D. 1935. A note on *Dianthidium singulare perluteum* T. & W. Ckl. *Pan-Pacific Entomologist* 11(1): 23–24. [Nota bene: This paper is reproduced in full in the Appendix]
2. Michener, C.D. 1935. Some Pacific coast *Panurginus* (Hymen., Apoidea). *Canadian Entomologist* 67(12): 275–278.  
*Panurginus gracilis* Michener: 276  
*Panurginus gabrielis* Michener: 277

3. Michener, C.D. 1935 [1936]. Bees from coastal northern California. *Pan-Pacific Entomologist* 11(4): 178–184.
  - Panurginus maritimus* Michener: 178
  - Panurginus emarginatus* Michener: 179
  - Panurginus nigrihirtus* Michener: 179
  - Panurginus ceanothi* Michener: 180
  - Halictoides californicus* Michener: 181
  - Anthophora simillima californiensis* Michener: 182
  - Osmia gracilis* Michener: 183
  - Osmia abdominalis* Michener: 184
4. Michener, C.D. 1936. Some western bees of the genus *Osmia*. *Canadian Entomologist* 68(2): 39–43.
  - Osmia (Acanthosmioides) uncinata* Michener: 39
  - Osmia (Acanthosmioides) erecta* Michener: 40
  - Osmia alta* Michener: 41
  - Osmia elongata* Michener: 41
  - Osmia occidentalis* Michener: 42
  - Osmia wardiana austromontana* Michener: 42
  - Osmia austromaritima* Michener: 43
5. Michener, C.D. 1936. Western bees of the genus *Ceratina*, subgenus *Zaodontomerus*. *American Museum Novitates* 844: 1–13.
  - Ceratina sequoiae* Michener: 1
  - Ceratina nanula rigdenae* Michener: 3
  - Ceratina subpunctigena* Michener: 6
  - Ceratina utahensis* Michener: 7
6. Michener, C.D. 1936. Some bees of the genus *Ashmeadiella*. *Pan-Pacific Entomologist* 12(2): 56–64.
  - Ashmeadiella timberlakei* Michener: 56
  - Ashmeadiella clypeodentata* Michener: 57
  - Ashmeadiella rhodopus* Michener: 59
  - Ashmeadiella lateralis* Michener: 60
  - Ashmeadiella maxima* Michener: 61
  - Ashmeadiella cockerelli* Michener: 62
  - Ashmeadiella florissantensis* Michener: 62
  - Ashmeadiella altadenae* Michener: 63
7. Michener, C.D. 1936. Some California bees, *Townsendiella* and *Hesperapis* (Hymen.: Apoidea). *Entomological News* 47(7): 181–185.
  - Townsendiella californica* Michener: 181
  - Hesperapis arida* Michener: 183
8. Michener, C.D. 1936. Some western Anthophoridae (Hymen.). *Bulletin of the Brooklyn Entomological Society* 31(3): 92–95.
  - Anthophora chlorops* Michener: 92
  - Anthophora gohrmanae coloradensis* Michener: 92
  - Anthophora erythrothorax* Michener: 93
  - Anthophora rhodothorax* Michener: 94
  - Emphoropsis salviae* Michener: 95
9. Michener, C.D. 1936. Some North American Osmiinae (Hymenoptera, Apoidea). *American Museum Novitates* 875: 1–30.
  - Ashmeadiella submaxima* Michener: 3
  - Ashmeadiella arizonensis* Michener: 3
  - Ashmeadiella basalis basalis* Michener: 6
  - Ashmeadiella basalis nigra* Michener: 7
  - Osmia ribifloris biedermannii* Michener: 19
  - Osmia parallela* Michener: 19

- Osmia breviar* Michener: 20  
*Osmia lutzii* Michener: 25  
*Osmia (Acanthosmioides) wyomingensis* Michener: 27  
*Chlorosmia lawae* Michener: 29
10. Michener, C.D. 1936. Some western anthophorid and nomiine bees. *American Museum Novitates* 876: 1–4.  
*Anthophora chlorops utahensis* Michener: 2  
*Emphoropsis mucida ventralis* Michener: 3
11. Michener, C.D. 1936. New Californian Osmiinae (Hymen., Megachilidae). *Bulletin of the Southern California Academy of Sciences* 35(2): 84–93.  
*Osmia crenulaticornis* Michener: 84  
*Osmia claremontensis* Michener: 84  
*Osmia punctata* Michener: 85  
*Osmia marginata* Michener: 86  
*Osmia latisulcata* Michener: 86  
*Osmia tokopahensis* Michener: 87  
*Osmia mixta* Michener: 88  
*Osmia potentillae* Michener: 89  
*Osmia sequoiae* Michener: 90  
*Osmia integra nigrigena* Michener: 90  
*Osmia femorata* Michener: 91  
*Proteriades evansi* Michener: 92  
*Proteriades tristis* Michener: 92  
*Titusella clypeata* Michener: 93
12. Michener, C.D. 1936. Some bees of the genus *Halictus*. *Annals and Magazine of Natural History, Series 10* 18(104): 281–287.  
*Halictus (Chloralictus) abietum* Michener: 281  
*Halictus (Chloralictus) pasadenae* Michener: 285  
*Halictus (Chloralictus) bernardinensis* Michener: 286
13. Michener, C.D. 1936. On certain Halictidae from northern California. *Pan-Pacific Entomologist* 12(4): 165–172.  
*Halictus (Evyllaes) sequoiae* Michener: 165  
*Halictus (Evyllaes) humboldtensis* Michener: 166  
*Halictus (Evyllaes) mendocinensis* Michener: 167  
*Halictus (Chloralictus) marinensis* Michener: 167
14. Michener, C.D. 1937. Records and descriptions of North American bees. *Annals and Magazine of Natural History, Series 10* 19(111): 313–329.  
*Agapostemon angelicus idahoensis* Michener: 314  
*Augochlora utahensis* Michener: 314  
*Halictus giffardi* Michener: 315  
*Halictus (Chloralictus) albuquerqueensis* Michener: 316  
*Nomia californiensis* Michener: 318  
*Pseudopanurgus aurifodinae* Michener: 320  
*Pseudopanurgus bilobatus* Michener: 322  
*Calliopsis bernardinensis* Michener: 323  
*Spinoliella lawae* Michener: 324  
*Spinoliella edwardsii media* Michener: 325  
*Conanthalictus seminiger* Michener: 326  
*Hesperapis parva* Michener: 327  
*Halictoides sandhouseae* Michener: 328
15. Michener, C.D. 1937. Records and descriptions of North American bees. *Annals and Magazine of Natural History, Series 10* 19(112): 393–410.  
*Halictoides eschscholtziae* Michener: 393  
*Halictoides rhamni* Michener: 394

- Halictoides altadena* Michener: 395  
*Halictoides harveyi sierrae* Michener: 397  
*Halictoides ruficaudus* Michener: 397  
*Halictoides boregoensis* Michener: 398  
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*Osmia pingreeana* Michener: 408  
*Osmia subpurpurea jamesi* Michener: 409
16. Linsley, E.G., & C.D. Michener. 1937. Some new genera and species of North American parasitic bees (Hymenoptera). *Pan-Pacific Entomologist* 13(1-2): 75-84.
- Protepeolus* Linsley & Michener: 75  
*Protepeolus singularis* Linsley & Michener: 76  
*Hexepeolus* Linsley & Michener: 77  
*Hexepeolus mojavensis* Linsley & Michener: 78  
*Hexepeolus rhodogyne* Linsley & Michener: 80  
*Paranomada* Linsley & Michener: 82  
*Paranomada nitida* Linsley & Michener: 83
17. Michener, C.D. 1938. American bees of the genus *Chelostoma*. *Pan-Pacific Entomologist* 14(1): 36-45.
- Chelostoma phaceliae* Michener: 38  
*Chelostoma bernardinum* Michener: 40  
*Chelostoma minutum cockerelli* Michener: 43  
*Chelostoma minutum marginatum* Michener: 44  
*Chelostoma minutum incisulum* Michener: 44
18. Michener, C.D. 1938. A review of the American bees of the genus *Macropis* (Hymen., Apoidea). *Psyche* 45(2-3): 133-135.
- Macropis steironematis opaca* Michener: 134
19. Michener, C.D. 1938. The bees of the genera *Chelostomopsis*, *Formicapis*, *Robertsonella* and *Prochelostoma* (Hymen.: Megachilidae). *Entomological News* 49(5): 127-132.
20. Michener, C.D. 1938. American bees of the genus *Heriades*. *Annals of the Entomological Society of America* 31(4): 514-531.
- Heriades texana* Michener: 517  
*Heriades (Physostetha)* Michener: 523  
*Heriades (Physostetha) occidentalis* Michener: 525  
*Heriades (Physostetha) timberlakei* Michener: 527  
*Heriades (Physostetha) cressoni* Michener: 529
21. Michener, C.D. 1939. Notes on North American species of *Megarhyssa* (Hymenoptera, Ichneumonidae). *Pan-Pacific Entomologist* 15(3): 126-131.
- Megarhyssa lunator phaeoptila* Michener: 129  
*Megarhyssa lunator icterosticta* Michener: 130
22. Michener, C.D. 1939. A revision of the genus *Ashmeadiella* (Hymen., Megachilidae). *American Midland Naturalist* 22(1): 1-84.
- Ashmeadiella (Ashmeadiella) occipitalis* Michener: 22  
*Ashmeadiella (Ashmeadiella) titusi* Michener: 25  
*Ashmeadiella (Ashmeadiella) rufiventris* Michener: 32  
*Ashmeadiella (Ashmeadiella) sonora* Michener: 35  
*Ashmeadiella (Ashmeadiella) rufitarsis* Michener: 37  
*Ashmeadiella (Ashmeadiella) foveata* Michener: 39  
*Ashmeadiella (Ashmeadiella) difugita* Michener: 41

- Ashmeadiella* (*Ashmeadiella*) *cactorum astragali* Michener: 44  
*Ashmeadiella* (*Ashmeadiella*) *dimalla* Michener: 45  
*Ashmeadiella* (*Ashmeadiella*) *californica sierraensis* Michener: 51  
*Ashmeadiella* (*Titusella*) *biscopula* Michener: 54  
*Ashmeadiella* (*Arogochila*) Michener: 58  
*Ashmeadiella* (*Arogochila*) *sculleni* Michener: 60  
*Ashmeadiella* (*Arogochila*) *barberi* Michener: 61  
*Ashmeadiella* (*Arogochila*) *eurynorhyncha* Michener: 62  
*Ashmeadiella* (*Arogochila*) *stenognatha* Michener: 63  
*Ashmeadiella* (*Arogochila*) *erema* Michener: 65  
*Ashmeadiella* (*Arogochila*) *timberlakei solida* Michener: 68  
*Ashmeadiella* (*Arogochila*) *salviae* Michener: 69  
*Ashmeadiella* (*Arogochila*) *cazieri* Michener: 72  
*Ashmeadiella* (*Arogochila*) *foxiella* Michener: 73  
*Ashmeadiella* (*Corythochila*) Michener: 74  
*Ashmeadiella* (*Corythochila*) *injoensis* Michener: 75  
*Ashmeadiella* (*Corythochila*) *breviceps* Michener: 77  
*Ashmeadiella* (*Chilosima*) Michener: 78  
*Ashmeadiella* (*Chilosima*) *washingtonensis* Michener: 80  
*Ashmeadiella* (*Cubitognatha*) Michener: 81  
*Ashmeadiella* (*Cubitognatha*) *xenomastax* Michener: 81
23. Linsley, E.G., & C.D. Michener. 1939. A revision of the North American Nomadidae (Hymenoptera). *Transactions of the American Entomological Society* 65(3): 265–305.  
**Biastini** Linsley & Michener: 272  
**Gnathopasites** Linsley & Michener: 272  
**Neopasitini** Linsley & Michener: 274  
**Neolarrini** Linsley & Michener: 278  
**Epeoloidini** Linsley & Michener: 294  
**Protepeolini** Linsley & Michener: 301
24. Michener, C.D. 1939. A revision of the genus *Neolarra* (Hymenoptera: Nomadidae). *Transactions of the American Entomological Society* 65(4): 347–362.  
*Neolarra* (*Neolarra*) *abdominalis* Michener: 352  
*Neolarra* (*Neolarra*) *vandykei* Michener: 353  
*Neolarra* (*Neolarra*) *californica* Michener: 356  
*Neolarra* (*Neolarra*) *linsleyi* Michener: 357  
*Neolarra* (*Phileremulus*) *coloradensis* Michener: 362
25. Michener, C.D. 1940. A new carpenter bee from the Great Basin region (Hymenoptera, Xylocopidae). *Bulletin of the Southern California Academy of Sciences* 39(2): 126–127.  
*Xylocopa orpifex androleuca* Michener: 127
26. Michener, C.D. 1940. A synopsis of the genus *Acerataspis* (Hymenoptera, Ichneumonidae). *Psyche* 47(4): 121–124.  
*Acerataspis sinensis* Michener: 123
27. Michener, C.D. 1941. Notes on the subgenera of *Metopius* with a synopsis of the species of central and southern China (Hymenoptera, Ichneumonidae). *Pan-Pacific Entomologist* 17(1): 1–13.  
*Metopius* (*Clemontia*) Michener: 2  
*Metopius* (*Ceratopius*) *quadrifasciatus* Michener: 3  
*Metopius* (*Ceratopius*) *vandykei* Michener: 6  
*Metopius* (*Ceratopius*) *metallicus* Michener: 7  
*Metopius* (*Ceratopius*) *gressitti* Michener: 9  
*Metopius* (*Ceratopius*) *uchidai* Michener: 11
28. Michener, C.D. 1941. A synopsis of the genus *Trachusa* with notes on the nesting habits of *T. perditata* (Hymenoptera, Megachilidae). *Pan-Pacific Entomologist* 17(3): 119–125.
29. Michener, C.D. 1941. A generic revision of the American Osmiinae with descriptive notes

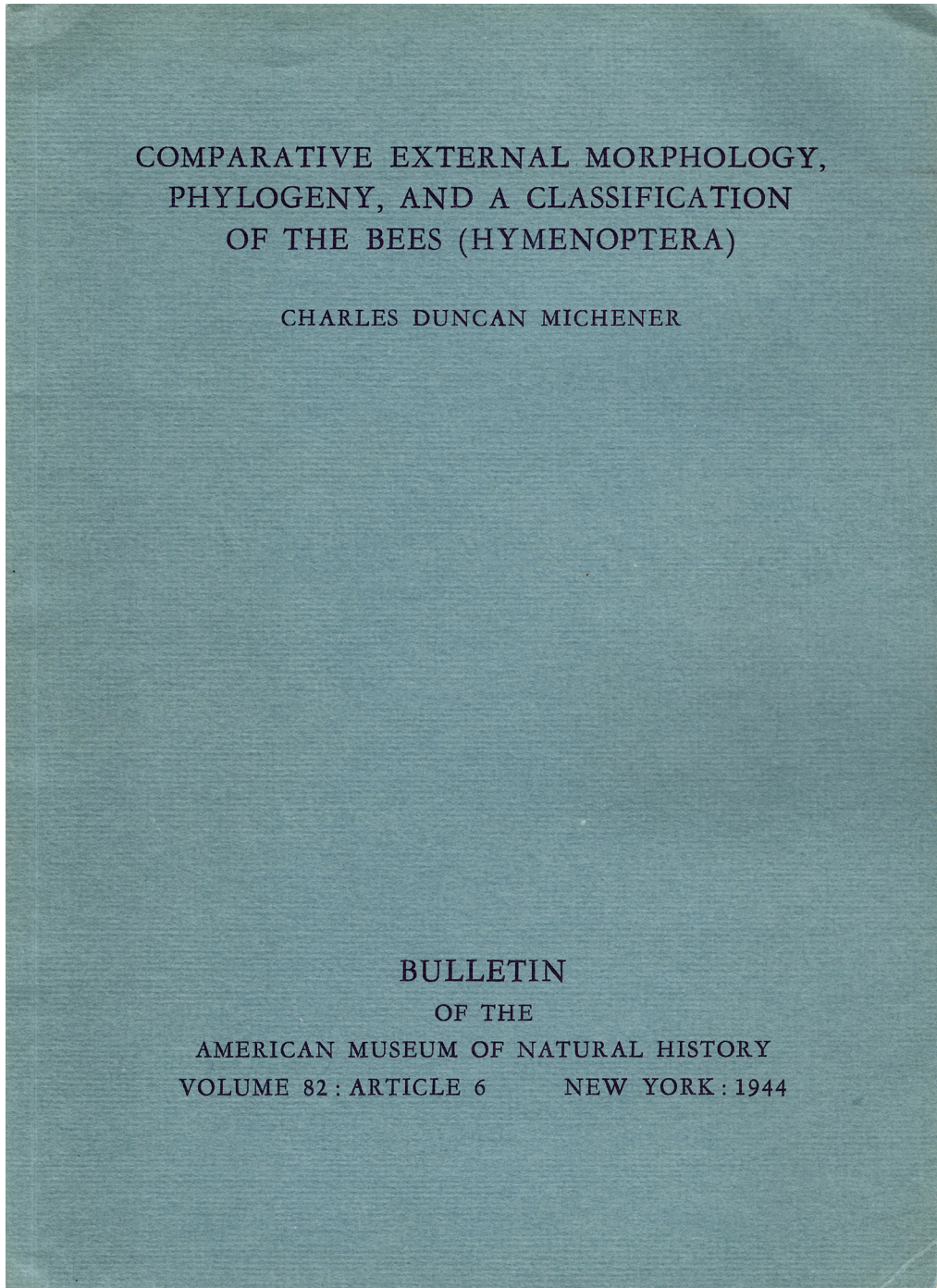
- on Old World genera (Hymenoptera, Megachilidae). *American Midland Naturalist* 26(1): 147–167.
- Heriadini** Michener: 152  
**Stenosmia** Michener: 165
30. Michener, C.D. 1941. The distributional history of North American bees. *Proceedings of the 6<sup>th</sup> Pacific Science Congress* 4: 297–303.
31. Linsley, E.G., & C.D. Michener. 1942. Notes on some Hymenoptera from the vicinity of Mt. Lassen, California. *Pan-Pacific Entomologist* 18(1): 27–29.
32. Michener, C.D. 1942. Taxonomic notes on the genera *Chelostoma* and *Ashmeadiella* (Hymenoptera, Megachilidae). *Entomological News* 53(2): 47–51.  
*Chelostoma tetramerum* Michener: 47
33. Michener, C.D. 1942. North American bees of the genus *Ancyloscelis* (Hymenoptera, Anthophoridae). *Pan-Pacific Entomologist* 18(3): 108–113.
34. Michener, C.D. 1942. The history and behavior of a colony of harvester ants. *Scientific Monthly* 55(3): 248–258.
35. Michener, C.D. 1942. Taxonomic observations on bees with descriptions of new genera and species (Hymenoptera; Apoidea). *Journal of the New York Entomological Society* 50(3): 273–282.  
*Hylaeus (Metziella)* Michener: 273  
*Hylaeus (Cephalylaeus)* Michener: 273  
*Calliopsis (Perissander)* Michener: 275  
*Calliopsis (Perissander) anomoptera* Michener: 275  
*Conanthictus (Phaceliapis)* Michener: 277  
*Paranthidium (Mecanthidium)* Michener: 278  
*Paranthidium (Mecanthidium) sonorum* Michener: 278  
*Chalepogenoides* Michener: 279  
*Chaetostetha* Michener: 281  
*Anthedonia* Michener: 282  
*Xylocopa (Maiella)* Michener: 282  
*Xylocopa (Ctenoxylocopa)* Michener: 282
36. Michener, C.D. 1942. A generic revision of the Heliconiinae (Lepidoptera, Nymphalidae). *American Museum Novitates* 1197: 1–8.  
**Podotricha** Michener: 3  
**Dryadula** Michener: 4
37. Michener, C.D., & C.F. dos Passos. 1942. Taxonomic observations on some North American *Strymon* with descriptions of new subspecies (Lepidoptera: Lycaenidae). *American Museum Novitates* 1210: 1–7.  
*Strymon strigosus aliparops* Michener & dos Passos: 3  
*Strymon strigosus fletcheri* Michener & dos Passos: 3
38. Michener, C.D. 1942. A review of the subspecies of *Agraulis vanillae* (Linnaeus). Lepidoptera: Nymphalidae. *American Museum Novitates* 1215: 1–7.  
*Agraulis vanillae forbesi* Michener: 3  
*Agraulis vanillae nigrior* Michener: 7
39. Michener, C.D. 1943. The American bees of the genus *Anthocopa* with notes on Old World subgenera (Hymenoptera, Megachilidae). *Annals of the Entomological Society of America* 36(1): 49–86.  
*Anthocopa (Atoposmia) oregona* Michener: 53  
*Anthocopa (Atoposmia) nigrior* Michener: 54  
*Anthocopa (Atoposmia) anthodyta* Michener: 60  
*Anthocopa triodonta usingeri* Michener: 63  
*Anthocopa (Atoposmia) pycnognatha* Michener: 64  
*Anthocopa (Atoposmia) panamintensis* Michener: 65  
*Anthocopa (Eremosmia)* Michener: 66  
*Anthocopa (Eremosmia) mallognatha* Michener: 67  
*Anthocopa (Eremosmia) laevibullata* Michener: 68





**Figure 6.** Michener in New Jersey in 1946 and during his time as Assistant Curator in charge of the Lepidoptera in the Department of Insects and Spiders at the American Museum of Natural History. Although his responsibility was for the Lepidoptera, and he would ultimately publish several important papers including a tremendous monograph of the Saturniidae, his work on bees continued unabated (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

- Anthocopa* (*Eremosmia*) **nitidivitta** Michener: 70  
*Anthocopa* (**Hexosmia**) Michener: 74  
*Anthocopa* (**Phaeosmia**) Michener: 77  
*Anthocopa* (**Xerosmia**) Michener: 81  
*Anthocopa* (**Glossosmia**) Michener: 84  
*Anthocopa* (**Rhodosmia**) Michener: 85  
*Anthocopa* (**Othinosmia**) Michener: 86
40. Linsley, E.G., & C.D. Michener. 1943. Observations on some Coleoptera from the vicinity of Mt. Lassen, California. *Pan-Pacific Entomologist* 19(2): 75–79.
41. Michener, C.D. 1943. Some systematic notes on the Libytheidae (Lepidoptera). *American Museum Novitates* 1232: 1–2.  
**Libytheana** Michener: 1  
*Libytheana carinenta mexicana* Michener: 1
42. Michener, C.D. 1943. A review of the genus *Calisto* (Lepidoptera, Satyrinae). *American Museum Novitates* 1236: 1–6.  
*Calisto hysius batesi* Michener: 3  
*Calisto obscura* Michener: 5
43. Michener, C.D. 1943. Sex anomalies in the genus *Ashmeadiella* (Hymenoptera) with notes on the homologies between male and female genital appendages. *Pan-Pacific Entomologist* 19(3): 96–100.
44. Michener, C.D. 1943. A new bee of the genus *Heriades* from Panama (Hymenoptera, Megachilidae). *Psyche* 50(3–4): 109–111.  
*Heriades* (*Neotrypetes*) **currani** Michener: 109
45. Michener, C.D. 1944. Comparative external morphology, phylogeny, and a classification of the bees (Hymenoptera). *Bulletin of the American Museum of Natural History* 82(6): 153–326.  
**Caupolicanini** Michener: 238  
**Euryglossinae** Michener: 238  
**Chilicolinae** Michener: 240  
*Nomia* (*Curvinomia*) Michener: 251  
*Nomia* (*Paranomina*) Michener: 251  
**Ancylini** Michener: 273 [now Ancylaini: *vide* Engel *et al.* (2008)]  
**Caenoprosopidini** Michener: 275  
**Townsendiellini** Michener: 277  
**Ammobatoidini** Michener: 277
46. Michener, C.D. 1944. The distribution of the osmiine bees of the deserts of North America. *American Naturalist* 78(776): 257–266.
47. Michener, C.D. 1944. Differentiation of females of certain species of *Culex* by the cibarial armature. *Journal of the New York Entomological Society* 52(3): 263–266.
48. Michener, C.D. 1944. A comparative study of the appendages of the eighth and ninth abdominal segments of insects. *Annals of the Entomological Society of America* 37(3): 336–351.
49. Michener, C.D., & M.H. Michener. 1945. Life on a sunflower leaf. *Natural History* 54(3): 118–119, 144.
50. Michener, C.D. 1945. Seasonal variations in certain species of mosquitoes (Diptera, Culicidae). *Journal of the New York Entomological Society* 53(4): 293–300.
51. Michener, C.D. 1946. Chiggers or redbugs. *Annual Report of Gorgas Memorial Laboratory* 1945: 22–25.
52. Michener, C.D. 1946. Tick repellents. *Annual Report of Gorgas Memorial Laboratory* 1945: 25.
53. Michener, C.D. 1946. Observations on the habits and life history of a chigger mite, *Eutrombicula batatas* (Acarina: Trombiculinae). *Annals of the Entomological Society of America* 39(1): 101–118.
54. Michener, C.D. 1946. A method of rearing chigger mites (Acarina, Trombiculinae). *American Journal of Tropical Medicine* 26(2): 251–256.
55. Michener, C.D. 1946. Notes on the habits of some Panamanian stingless bees (Hymenoptera: Apidae). *Journal of the New York Entomological Society* 54(3): 179–197.



**Figure 7.** Cover of Michener's 1944 publication resulting from his doctoral dissertation at the University of California, Berkeley [dissertation, *The External Morphology and the Phylogeny of Bees* ([i]+190 pp., +15 pls.), awarded December 1941, and undertaken under the supervision of the preëminent Edward O. Essig (1884–1964)]. This work marked a dramatic turning point in the study of bee systematics, standardizing the morphological terminology employed and providing a revised classification, albeit largely structured around the North American fauna.

56. Michener, C.D. 1946. The taxonomy and bionomics of some Panamanian trombidid mites (Acarina). *Annals of the Entomological Society of America* 39(3): 349–380.  
*Manriquia panamensis* Michener: 359  
*Manriquia boshelli* Michener: 364  
*Microtrombidium maculatum* Michener: 366  
*Microtrombidium pistiae* Michener: 372  
*Microtrombidium fluminis* Michener: 375  
*Microtrombidium littorale* Michener: 377
57. Michener, C.D. 1946. Taxonomic and bionomic notes on some Panamanian chiggers (Acarina, Trombiculinae). *Annals of the Entomological Society of America* 39(3): 411–417.
58. Michener, C.D. 1946. The taxonomy and bionomics of a new subgenus of chigger mites (Acarina, Trombiculinae). *Annals of the Entomological Society of America* 39(3): 431–445.  
*Trombicula (Megatrombicula)* Michener: 432  
*Trombicula (Megatrombicula) attenuata* Michener: 440
59. Michener, C.D. 1947. Some observations on *Lasioglossum (Hemihalictus) lustrans* (Hymenoptera, Halictidae). *Journal of the New York Entomological Society* 55(1): 49–50.
60. Michener, C.D. 1947. Chiggers or redbugs. *Annual Report of Gorgas Memorial Laboratory* 1946: 13–14.
61. Michener, M.H., & C.D. Michener. 1947. Chiggers! *Natural History* 56(5): 231–235.
62. Michener, M.H., & C.D. Michener. 1947. Chiggers! *Science Digest* 22(2): 38–43.
63. Michener, C.D. 1947. Mosquitoes of a limited area in southern Mississippi. *American Midland Naturalist* 37(2): 325–374.
64. Michener, C.D. 1947. Bees of a limited area in southern Mississippi (Hymenoptera; Apoidea). *American Midland Naturalist* 38(2): 443–455.  
*Pseudopanurgus nebrascensis timberlakei* Michener: 446  
*Heteranthidium zebratum mississippi* Michener: 449
65. Michener, C.D. 1947. A revision of the American species of *Hoplitis* (Hymenoptera, Megachilidae). *Bulletin of the American Museum of Natural History* 89(4): 259–317.  
*Hoplitis (Hoplitina) bullifacies* Michener: 274  
*Hoplitis (Hoplitina) mojaviensis* Michener: 275  
*Hoplitis (Hoplitina) bunoccephala* Michener: 276  
*Hoplitis (Hoplitina) linsdalei* Michener: 277  
*Hoplitis producta subgracilis* Michener: 286  
*Hoplitis producta interior* Michener: 286  
*Hoplitis producta bernardina* Michener: 287  
*Hoplitis producta panamintana* Michener: 287  
*Hoplitis (Alcidamea) elongaticeps* Michener: 290  
*Hoplitis grinnelli septentrionalis* Michener: 291  
*Hoplitis (Cyrtosmia)* Michener: 292  
*Hoplitis (Dasyosmia)* Michener: 294  
*Hoplitis (Dasyosmia) paroselae* Michener: 296  
*Hoplitis (Acrosmia)* Michener: 298  
*Hoplitis (Acrosmia) plagiostoma* Michener: 298  
*Hoplitis (Acrosmia) perissocera* Michener: 299
66. Michener, C.D. 1947. A character analysis of a solitary bee, *Hoplitis albifrons* (Hymenoptera, Megachilidae). *Evolution* 1(3): 172–185.
67. Michener, C.D. 1948. A “four-legged” butterfly. *Natural History* 57(1): 27.
68. Michener, C.D. 1948. Notes on the American bees of the genus *Melecta* (Hymenoptera, Apoidea). *Proceedings of the Entomological Society of Washington* 50(1): 15–18.  
*Melecta (Nesomelecta)* Michener: 15  
*Melecta (Nesomelecta) haitensis* Michener: 16
69. Johnson, F., & C.D. Michener. 1948. New neotropical saturniid moths (Lepidoptera). *American Museum Novitates* 1372: 1–15.  
*Dysdaemonia raveni* Johnson & Michener: 1



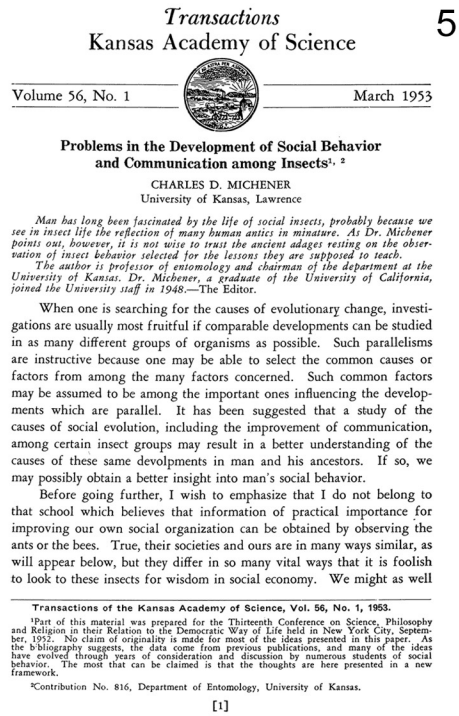
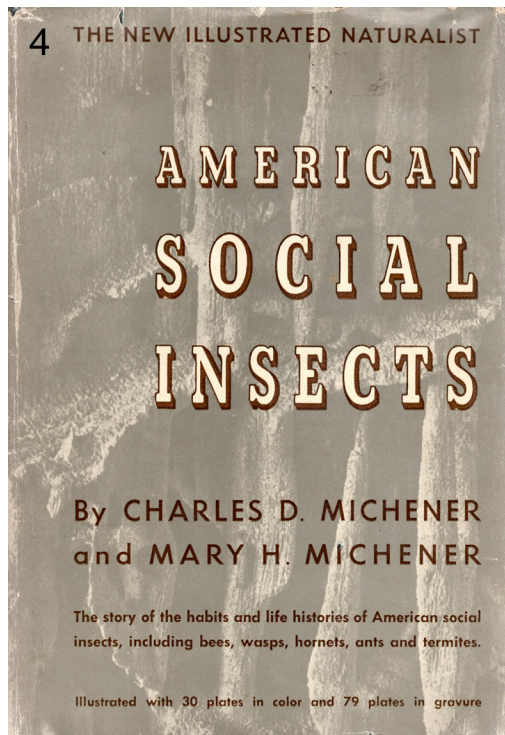
**Figure 8.** An undated photograph of Michener, perhaps around 1950, and near the time that he began his position at the University of Kansas (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

- Dirphia rufescens* Johnson & Michener: 4  
*Dirphia flavosignata* Johnson & Michener: 5  
*Dirphia centralis* Johnson & Michener: 8  
*Dirphia levis* Johnson & Michener: 9  
*Dirphiopsis albofasciata* Johnson & Michener: 11  
*Automeris lauta* Johnson & Michener: 12  
*Automeris oaxaca* Johnson & Michener: 13
70. Michener, C.D. 1948. The generic classification of the anthidiine bees (Hymenoptera, Megachilidae). *American Museum Novitates* 1381: 1–29.  
*Paranthidium* (***Rapanthidium***) Michener: 11  
*Allanthidium* (***Anthidianum***) Michener: 13  
***Ulanthidium*** Michener: 13  
*Ulanthidium mitchelli* Michener: 14  
*Dianthidium* (***Anthidulum***) Michener: 19  
***Afranthidium*** Michener: 24  
***Paranthidiellum*** Michener: 25  
***Icteranthidium*** Michener: 25
71. Michener, C.D. 1948. [Book review: *The Stingless Bees (Meliponidae) of the Western Hemisphere*, H.F. Schwarz]. *Entomological News* 59(3): 83.
72. Michener, C.D. 1948. The Colorado potato beetle. *Natural History* 57(7): 326–327.
73. Michener, C.D. 1948. T.D.A. Cockerell. *Journal of the New York Entomological Society* 56(3): 171–174.
74. Michener, C.D. 1948. Observations on the mating behavior of harvester ants. *Journal of the New York Entomological Society* 56(4): 239–242.
75. Michener, C.D. 1949. Sympatric species of *Calisto* in Cuba (Lepidoptera, Satyrinae). *American Museum Novitates* 1391: 1–3.  
*Calisto bruneri* Michener: 2
76. Michener, C.D. 1949. Records and descriptions of American megachilid bees (Hymenoptera). *Journal of the Kansas Entomological Society* 22(2): 41–59.  
*Heteranthidium cordaticeps* Michener: 41  
*Ashmeadiella* (*Arogochila*) ***leachi*** Michener: 43  
*Ashmeadiella* (*Ashmeadiella*) ***vandykiella*** Michener: 46  
*Anthocopa* (*Atoposmia*) ***pycnognatha solatus*** Michener: 48  
*Anthocopa* (*Phaeosmia*) ***hypostomalis*** Michener: 50  
*Anthocopa* (*Phaeosmia*) ***maryae*** Michener: 50  
*Anthocopa* (*Phaeosmia*) ***rubrella*** Michener: 51
77. Michener, C.D. 1949. Parallelisms in the evolution of the saturniid moths. *Evolution* 3(2): 129–141.  
**Salassinae** Michener: 131
78. Michener, C.D. 1949. New genera and subgenera of Saturniidae (Lepidoptera). *Journal of the Kansas Entomological Society* 22(4): 142–147. [Nota bene: A printer's error resulted in a mishap such that from the last line of p. 144 the reader should proceed to the first line of p. 146, and then from line 11 on p. 146 to the first line of p. 145; from the last line of p. 145 the text then continues on line 12 of p. 146. vide Michener (1950), citation #84]  
*Citheronia* (***Procitheronia***) Michener: 142  
*Citheronia* (***Citheronula***) Michener: 143  
*Syssphinx* (***Bowvierina***) Michener: 143  
*Adelocephala* (***Oiticicia***) Michener: 143  
***Ceropoda*** Michener: 143  
*Ceropoda johnsoni* Michener: 143  
***Psilopygoides*** Michener: 144  
***Psilopygida*** Michener: 144  
*Adelowalkeria* (***Ceratesa***) Michener: 144  
*Adelowalkeria* (***Scolesa***) Michener: 144

- Adelowalkeria* (***Megaceresa***) Michener: 144  
*Adelowalkeria* (***Ptiloscota***) Michener: 144  
***Callodirphia*** Michener: 145  
***Travassosula*** Michener: 145  
***Adetomeris*** Michener: 145  
*Automeris* (***Automerella***) Michener: 145  
*Automeris* (***Automeroides***) Michener: 145  
***Eubergioides*** Michener: 145  
*Adelowalkeria* (***Rachesa***) Michener: 146  
***Automerina*** Michener: 146  
*Automerina* (***Automerula***) Michener: 146  
*Ormiscodes* (***Dirphiella***) Michener: 146  
*Ormiscodes* (***Xanthodirphia***) Michener: 146  
*Ormiscodes* (***Paradirphia***) Michener: 146  
*Ormiscodes* (***Rhodirphia***) Michener: 147  
*Ormiscodes* (***Meroleucooides***) Michener: 147  
***Cerodirphia*** Michener: 147
79. Michener, C.D. 1949. A revision of the American species of *Diceratosmia* (Hymenoptera, Megachilidae). *Annals of the Entomological Society of America* 42(3): 258–264.
80. Oiticica Filho, J., & C.D. Michener. 1949. Genital variability in a species of moth of the genus *Eacles* (Lepidoptera, Saturniidae). *American Museum Novitates* 1440: 1–5.
81. Oiticica Filho, J., & C.D. Michener. 1950. New species of *Bathyphebia* from Ecuador and Peru (Lepidoptera, Saturniidae). *American Museum Novitates* 1446: 1–13.  
*Bathyphebia johnsoni* Oiticica Filho & Michener: 1  
*Bathyphebia johnsoni flavior* Oiticica Filho & Michener: 7  
*Bathyphebia rufescens* Oiticica Filho & Michener: 11
82. Oiticica Filho, J., & C.D. Michener. 1950. A new species of *Eacles* from Colombia (Lepidoptera, Saturniidae). *American Museum Novitates* 1447: 1–5.  
*Eacles johnsoniella* Oiticica Filho & Michener: 1
83. Michener, C.D. 1950. A northern subspecies of *Eacles imperialis* (Lepidoptera, Saturniidae). *Journal of the Kansas Entomological Society* 23(1): 17–21.  
*Eacles imperialis pini* Michener: 17
84. Michener, C.D. 1950. New genera and subgenera of Saturniidae (Lepidoptera): A correction. *Journal of the Kansas Entomological Society* 23(1): 26. [Nota bene: The name *Ptiloscota* is proposed as new again but was made available in Michener (1949), citation #78]
85. Timberlake, P.H., & C.D. Michener. 1950. The bees of the genus *Proteriades* (Hymenoptera, Megachilidae). *University of Kansas Science Bulletin* 33(10): 387–440.  
*Proteriades incanescens nevadensis* Timberlake & Michener: 399  
*Proteriades seminigra* Timberlake & Michener: 401  
*Proteriades seminigra yosemitensis* Timberlake & Michener: 404  
*Proteriades nigra* Timberlake & Michener: 405  
*Proteriades similis* Timberlake & Michener: 406  
*Proteriades nanula* Timberlake & Michener: 408  
*Proteriades nanula sparsa* Timberlake & Michener: 410  
*Proteriades pygmaea* Timberlake & Michener: 411  
*Proteriades basingeri* Timberlake & Michener: 413  
*Proteriades reducta* Timberlake & Michener: 414  
*Proteriades cryptanthae* Timberlake & Michener: 416  
*Proteriades caudex* Timberlake & Michener: 418  
*Proteriades bidenticauda* Timberlake & Michener: 420  
*Proteriades truicauda* Timberlake & Michener: 423  
*Proteriades hamulicornis* Timberlake & Michener: 425  
*Proteriades boharti* Timberlake & Michener: 429  
*Proteriades deserticola* Timberlake & Michener: 430

86. Beamer, R.H., & C.D. Michener. 1950. Mutual relationships between leafhoppers and ants. *Journal of the Kansas Entomological Society* 23(3): 110–113.
87. Michener, C.D. 1951. Subgeneric groups of *Hemisia* (Hymenoptera, Apoidea). *Journal of the Kansas Entomological Society* 24(1): 1–11.
88. Calkins, L.A., & C.D. Michener. 1951. Report of the state entomologist, southern half of Kansas: Summary of the work in the southern half of the state. *Twenty-Second Biennial Report of the Kansas Entomological Commission 1949–1950*: 13–23.
89. Michener, C.D. 1951. Records and descriptions of megachilid bees from Texas (Hymenoptera). *Pan-Pacific Entomologist* 27(2): 61–71.  
*Anthocopa* (*Phaeosmia*) **daleae** Michener: 62  
*Anthocopa* (*Eremosmia*) **beameri** Michener: 64  
*Ashmeadiella* (*Ashmeadiella*) *gillettei* **rubra** Michener: 67  
*Ashmeadiella* (*Ashmeadiella*) *gillettei* **cismontanica** Michener: 67  
*Ashmeadiella* (*Ashmeadiella*) **truncativentris** Michener: 68  
*Ashmeadiella* (*Arogochila*) *clypeodentata* **simplicior** Michener: 70
90. Michener, C.D. 1951. Records of small megachilid bees (Hymenoptera). *Journal of the Kansas Entomological Society* 24(2): 50–55.  
*Ashmeadiella difugata* **emarginatula** Michener: 53
91. Michener, C.D., & E.G. Linsley. 1951. Superfamily Apoidea. In: Muesebeck, C.F.W., K.V. Krombein, & H.K. Townes (Eds.), *Hymenoptera of America North of Mexico: Synoptic Catalog*: 1043–1255. United States Department of Agriculture Monograph Nr. 2; Washington, D.C.; 1420 pp.  
*Colletes* **simulator** Michener: 1048  
*Pseudopanurgus* (*Heterosarus*) *nebrascensis* **muesebecki** Michener: 1100  
*Lasioglossum* (*Chloralictus*) **comulum** Michener: 1113  
*Lasioglossum* (*Chloralictus*) **robertsonellum** Michener: 1117  
*Lasioglossum* (*Chloralictus*) **sandhouseae** Michener: 1117  
*Dufourea* (*Halictoides*) *marginata* **halictella** Michener: 1132  
*Dufourea* (*Halictoides*) *versatilis* **rubriventris** Michener: 1133
92. Michener, C.D., & M.H. Michener. 1951. *American Social Insects: A Book About Bees, Ants, Wasps, and Termites*. D. van Nostrand Co. Inc.; New York, NY; vix+[2]+267 pp.
93. Michener, C.D. 1952. A new genus of panurgine bees from Arizona (Hymenoptera, Andrenidae). *Journal of the Kansas Entomological Society* 25(1): 24–28.  
*Xenopanurgus* Michener: 24  
*Xenopanurgus* **radioi** Michener: 25
94. Michener, C.D. 1952. The Saturniidae (Lepidoptera) of the Western Hemisphere: Morphology, phylogeny, and classification. *Bulletin of the American Museum of Natural History* 98(5): 337–501.  
*Psilopygida* **basalis** Michener: 342  
*Hylesia* **gamelioides** Michener: 342
95. Michener, C.D. 1952. [Book review: *Traité de Zoologie: Anatomie, Systématique, Biologie – Insectes Supérieurs et Hémiptéroïdes*, P.-P. Grassé]. *Science* 115(2990): 432.
96. Michener, C.D. 1952. A note on the larvae of sphecid wasps. *Journal of the Kansas Entomological Society* 25(3): 115–116.
97. Michener, C.D. 1952. Why are insects harder to kill? *Research Reviews* [Office of Naval Research] 1952: 18–22.
98. Michener, C.D. 1953. A note on a saturniid moth from Argentina (Lepidoptera). *Journal of the Kansas Entomological Society* 26(1): 10.
99. Michener, C.D. 1953. Problems in the development of social behavior and communication among insects. *Transactions of the Kansas Academy of Sciences* 56(1): 1–15.
100. Michener, C.D., & M.H. Michener. 1953. Ants and their amazing ways. In: McLoughin, E.V. (Ed.), *The Book of Knowledge Annual 1953*: 177–181. The Grolier Society; New York, NY; xvii+18–420 pp.

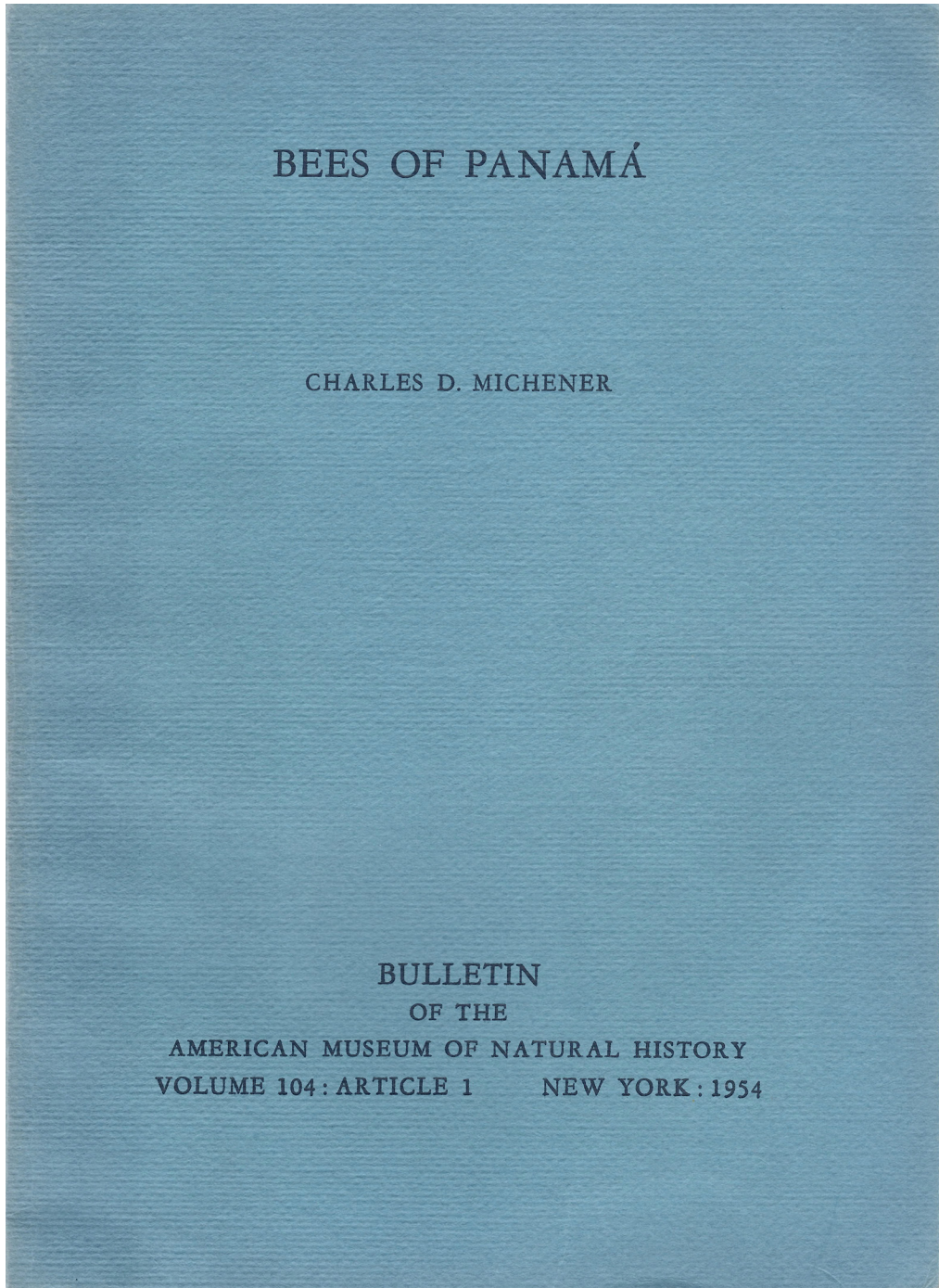




**Figures 9–10.** Prominent works marking Michener’s entry into the study of behavior. **9.** The cover of *American Social Insects* (1951, van Nostrand), coauthored with his wife, Mary H. Michener (1919–2010). **10.** The first page of Mich’s 1953 paper discussing the evolution of sociality in insects (courtesy of the Kansas Academy of Science).

101. Michener, C.D., & M.H. Michener. 1953. The language of bees. In: McLoughlin, E.V. (Ed.), *The Story of Our Time: Encyclopedia Yearbook 1953*: 285–286. The Grolier Society; New York, NY; 432 pp.
102. Michener, C.D., & M.H. Michener. 1953. Ant. In: Dudley, L.P. (Ed.), *The Encyclopedia Americana* [Volume II: Annuity–Azzubeydi]: 8–10b. Americana Corporation; New York, NY; [i]+694 pp.
103. Calkins, L.A., & C.D. Michener. 1953. Report of the state entomologist, southern division of Kansas: Summary of activities in the southern division. *Twenty-Third Biennial Report of the Kansas Entomological Commission 1951–1952*: 14–27.
104. Michener, C.D. 1953. A note on a subgeneric name in the Saturniidae (Lepidoptera). *Entomological News* 64(5): 124.
105. Michener, C.D. 1953. [Book review: *A Manual of the Chiggers*, G.W. Wharton]. *Science* 118(3062): 284.
106. Michener, C.D. 1953. Comparative morphological and systematic studies of bee larvae with a key to the families of hymenopterous larvae. *University of Kansas Science Bulletin* 35(8): 987–1102.
107. Michener, C.D. 1953. Life-history studies in insect systematics. *Systematic Zoology* 2(3): 112–118.
108. Michener, C.D. 1953. Social insects [Book review: *The Social Insects*, O.W. Richards]. *Scientific Monthly* 77(4): 221.
109. Michener, C.D. 1953. The biology of a leafcutter bee (*Megachile brevis*) and its associates. *University of Kansas Science Bulletin* 35(16): 1659–1748.
110. Michener, C.D. 1953. [Book review: *Methods and Principles of Systematic Zoology*, E. Mayr, E.G. Linsley, & R.L. Usinger]. *Pan-Pacific Entomologist* 29(4): 228.

111. Michener, C.D. 1953. [Book review: *Insects Close-Up*, E.S. Ross]. *Annals of the Entomological Society of America* 46(4): 546.
112. Michener, C.D. 1954. A genus of bees new to the Illinois region. *Journal of the Kansas Entomological Society* 27(1): 13.
113. Michener, C.D., & M.H. Michener. 1954. Butterflies in summer... cocoons in winter. In: McLoughlin, E.V. (Ed.), *The Book of Knowledge Annual 1954*: 183–185. The Grolier Society; New York, NY; xvii+18–420 pp.
114. Michener, C.D. 1954. Problems in the development of communication among insects. In: Bryson, L., L. Finkelstein, R.M. MacIver, & R. McKeon (Eds.), *Symbols and Values: An Initial Study*: 497–506. Harper & Brothers; New York, NY; xii+827 pp.
115. Michener, C.D. 1954. Descriptions and records of North American *Hoplitis* and *Anthocopa* (Hymenoptera, Megachilidae). *Pan-Pacific Entomologist* 30(1): 37–52.  
*Hoplitis mazourka* Michener: 38  
*Hoplitis rufina* Michener: 40  
*Anthocopa anthodyta bequaerti* Michener: 42  
*Anthocopa arizonensis* Michener: 43  
*Anthocopa hebitis* Michener: 44  
*Anthocopa rubrella macswaini* Michener: 45  
*Anthocopa rubrella rubrior* Michener: 46  
*Anthocopa hurdiana* Michener: 47  
*Anthocopa namatophila* Michener: 47  
*Anthocopa segregata* Michener: 48  
*Anthocopa mirifica* Michener: 51
116. Michener, C.D. 1954. Observations on the pupae of bees (Hymenoptera: Apoidea). *Pan-Pacific Entomologist* 30(1): 63–70.
117. Michener, C.D. 1954. Records and descriptions of North American megachilid bees. *Journal of the Kansas Entomological Society* 27(2): 65–78.  
*Heriades microphthalma* Michener: 66  
*Chelostoma marginatum incisuloides* Michener: 69  
*Proteriades incanescens tota* Michener: 72  
*Proteriades nigrella* Michener: 72  
*Proteriades nigrella attonita* Michener: 73
118. Michener, C.D. 1954. Bees of Panamá. *Bulletin of the American Museum of Natural History* 104(1): 1–175.  
*Colletes rugicollis nigrior* Michener: 17  
*Colletes panamensis* Michener: 20  
*Hylaeus (Hylaeopsis)* Michener: 27  
*Hylaeus (Hylaeana)* Michener: 28  
*Hylaeus panamensis* Michener: 28  
*Andrena kraussi* Michener: 30  
*Andrena vidalesi panamensis* Michener: 31  
*Lasioglossum denticeps* Michener: 42  
*Lasioglossum strigosigena* Michener: 47  
*Lasioglossum kraussi* Michener: 50  
*Sphecodes macswaini* Michener: 53  
*Augochlorella bidentata* Michener: 57  
*Augochlorella edentata* Michener: 58  
*Augochlora mulleri mourei* Michener: 62  
*Augochlora hallinani* Michener: 65  
*Augochlora clarki* Michener: 68  
*Augochlora nominata* Michener: 69  
*Augochlora antonita* Michener: 70  
*Augochlora chiriquiana* Michener: 73  
*Chlerogella* Michener: 75



**Figure 11.** Cover of Michener's 1954 treatise on the bee fauna of Panama. Much of the material which formed the basis for this monograph was collected while Mich was deployed to the Gorgas Memorial Laboratory, Panama during the mid-1940s and engaged in work for the U.S. Army. Mich's time in Panama was his first major experience working with a tropical bee fauna and he was greatly aided by advice and identifications from the late Padre Jesus S. Moure (1912–2010), among others.



**Figure 12.** An undated photograph of Mich (standing) and an unidentified graduate student looking over a collection of insects in Snow Hall (presumably ca. 1954) (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

- Chlerogella elongaticeps* Michener: 75  
*Caenaugochlora* Michener: 76  
*Caenaugochlora macswaini* Michener: 76  
*Caenaugochlora (Pseudaugochlora)* Michener: 77  
*Neocorynura villosissima* Michener: 79  
*Neocorynura nuda* Michener: 81  
*Neocorynura rufa* Michener: 82  
*Neocorynura perpectinata* Michener: 83  
*Augochloropsis auriferina* Michener: 90  
*Augochlora hebescens fuscocyanea* Michener: 91 [intended as *Augochloropsis*]  
*Augochloropsis fairchildi* Michener: 95  
**Caenohalictinae** Michener: 97  
*Coelioxys barbata* Schwarz & Michener: 104  
*Exomalopsis mourei* Michener: 106  
*Ancyloscelis panamensis* Michener: 110  
*Ancyloscelis hertigi* Michener: 111  
*Nomada panamensis* Michener: 118  
*Nomada trapedoi* Michener: 119  
*Osiris obtusus* Michener: 122  
*Osiris mourei* Michener: 123  
*Odyneropsis gertschi* Michener: 124

- Trophocleptria nigra* Michener: 125  
*Trophocleptria odontothorax* Michener: 126  
*Trophocleptria schraderei* Michener: 127  
*Diadasia schwarzi* Michener: 130  
*Florilegus isthmicus* Michener: 134  
*Centris obscurior* Michener: 138  
*Epicharis (Epicharana)* Michener: 144  
*Ceratina glossata* Michener: 150  
*Ceratina tricolor* Michener: 152  
*Ceratina kraussi* Michener: 153  
*Ceratina nigrifula* Michener: 153  
*Ceratina rectangulifera* Schwarz & Michener: 154  
*Ceratina breviceps* Michener: 154  
*Xylocopa (Xylocopoides)* Michener: 155  
*Xylocopa varians rufotegularis* Michener: 157  
*Xylocopa (Neoxylocopa)* Michener: 157
119. Michener, C.D., & W.E. LaBerge. 1954. A large *Bombus* nest from Mexico. *Psyche* 61(2): 63–67.  
 120. Michener, C.D. 1954. University of Kansas. *Entomological News* 65(7): 182–184.  
 121. Calkins, L.A., & C.D. Michener. 1954. Report of the state entomologist: Summary of activities in the southern Division. *Twenty-Fourth Biennial Report of the Kansas Entomological Commission 1953–1954*: 10–16.  
 122. Michener, C.D. 1954. *Melecta pacifica atlantica* in the central United States (Hymenoptera, Anthophorinae). *Journal of the Kansas Entomological Society* 27(3): 120.  
 123. Michener, C.D. 1954. [Book notice: *Forest Entomology in Hawaii*, O.H. Swezey]. *Journal of the Kansas Entomological Society* 27(4): 142.  
 124. Michener, C.D., & M.H. Michener. 1955. Winged jewels. In: McLoughin, E.V. (Ed.), *The Book of Knowledge Annual 1955*: 269–272. The Grolier Society; New York, NY; xvii+18–420 pp.  
 125. Hurd, P.D., Jr., & C.D. Michener. 1955. The megachiline bees of California (Hymenoptera: Megachilidae). *Bulletin of the California Insect Survey* 3: 1–247.  
 126. Michener, C.D. 1955. [Book review: *Freaks and Marvels of Insect Life*, H. Bastin]. *Scientific Monthly* 80(6): 388.  
 127. Michener, C.D. 1955. The Apoidea. In: Kessel, E.L. (Ed.), *A Century of Progress in the Natural Sciences, 1853–1953*: 575–578. California Academy of Sciences; San Francisco, CA; x+[i]+807 pp.  
 128. Michener, C.D. 1955. [Book review: *The Dancing Bees: An Account of the Life and Senses of the Honeybee*, K. von Frisch]. *Science* 122(3165): 379.  
 129. Michener, C.D., E.A. Cross, H.V. Daly, C.W. Rettenmeyer, & A. Wille. 1955. Additional techniques for studying the behavior of wild bees. *Insectes Sociaux* 2(3): 237–246.  
 130. Michener, C.D. 1955. [Book review: *A Manual of the Dragonflies of North America (Anisoptera)*, J.G. Needham & M.J. Westfall]. *Scientific Monthly* 81(3): 149.  
 131. Moure, J.S., & C.D. Michener. 1955. The bee family Fidelidae in South America (Hymenopt.-Apoidea). *Dusenía* 6(5): 199–206.  
     *Neofidelía* Moure & Michener: 202  
     *Neofidelía profuga* Moure & Michener: 203  
 132. Michener, C.D., W.E. LaBerge, & J.S. Moure. 1955. Canephorulini, a tribe of South American bees (Hymenopt.-Apoidea). *Dusenía* 6(5): 207–212.  
     **Canephorulini** Michener, LaBerge, & Moure: 207  
 133. Michener, C.D. 1955. Some biological observations on *Hoplitis pilosifrons* and *Stelis lateralis* (Hymenoptera, Megachilidae). *Journal of the Kansas Entomological Society* 28(3): 81–87.  
 134. Michener, C.D., W.E. LaBerge, & J.S. Moure. 1955. Some American Eucerini bees. *Dusenía* 6(6): 213–230.  
     *Alloscirtetica weyrauchi* Michener, LaBerge, & Moure: 215  
     *Alloscirtetica cinerea* Michener, LaBerge, & Moure: 216  
     *Alloscirtetica (Dasyscirtetica)* Michener, LaBerge, & Moure: 218  
     *Svastrides* Michener, LaBerge, & Moure: 220



**Figure 13.** Padre Jesus S. Moure (1912–2010) and Michener outside of Snow Hall, 14 July 1956 (photograph by George W. Byers).

- Gaesischia* Michener, LaBerge, & Moure: 220  
*Gaesischia* (*Gaesischiopsis*) Michener, LaBerge, & Moure: 221  
*Gaesischia* (*Gaesischiopsis*) *flavoclypeata* Michener, LaBerge, & Moure: 222  
*Gaesischia* (*Gaesischiana*) Michener, LaBerge, & Moure: 224  
*Gaesischia* (*Gaesischiana*) *exul* Michener, LaBerge, & Moure: 224  
*Dasyhalonia* Michener, LaBerge, & Moure: 226
135. Moure, J.S., & C.D. Michener. 1955. A contribution toward the classification of neotropical Eucerini (Hymenoptera, Apoidea). *Dusenya* 6(6): 239–331.
- Alloscirtetica* (*Ascirtetica*) Moure & Michener: 260  
*Alloscirtetica* (*Scirteticops*) Moure & Michener: 261  
*Megascirtetica* Moure & Michener: 264  
*Florilegus* (*Floriraptor*) Moure & Michener: 268  
*Gaesischia* (*Agaesischia*) Moure & Michener: 273  
*Svastrina* Moure & Michener: 276  
*Dasyhalonia* (*Zonolonia*) Moure & Michener: 280 [appears as *Zonolonia*]  
*Dasyhalonia* (*Pachyhalonia*) Moure & Michener: 281  
*Gaesochira* Moure & Michener: 283  
*Pachysvastra* Moure & Michener: 284  
*Micronychapis* Moure & Michener: 286  
*Martinapis* (*Svastropsis*) Moure & Michener: 291  
*Melissoptila* (*Comeptila*) Moure & Michener: 304  
*Dithygater* Moure & Michener: 309  
*Lophothygater* Moure & Michener: 313

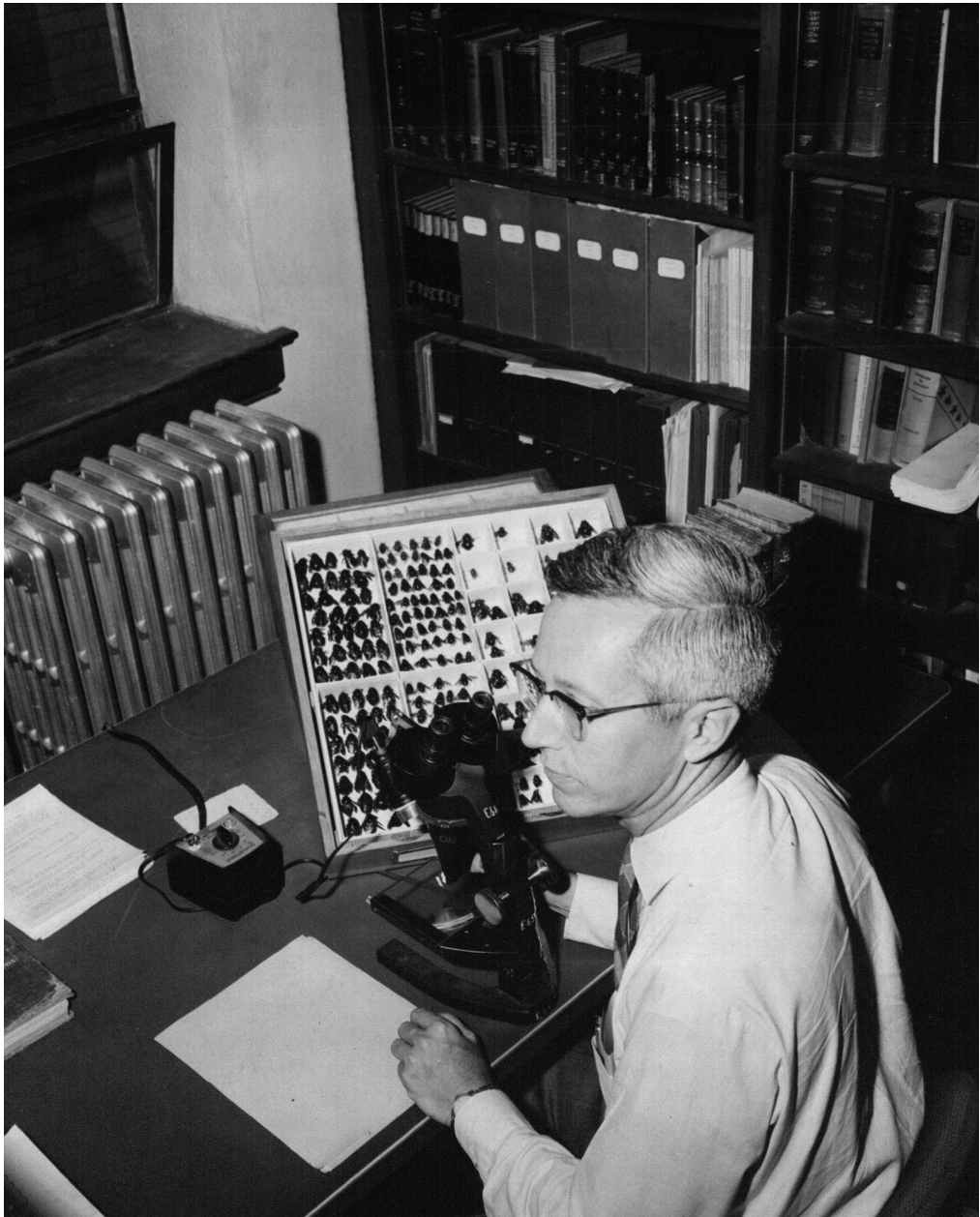


**Figure 14.** A triumvirate of bee systematists at the 10<sup>th</sup> International Congress of Entomology, Montreal, Canada, 20 August 1956. Vladimir V. Popov (1902–1960) at left, Michener at center, and Padre Jesus S. Moure (1912–2010) at right (photograph by George W. Byers).

- Florilegus (Euflorilegus) barbiellinii* Moure & Michener: 315  
*Svastrina anaroliata* Moure & Michener: 318  
*Dasyhalonia (Pachyhalonia) justii* Moure & Michener: 319  
*Dasyhalonia (Pachyhalonia) phaeoptera* Moure & Michener: 321  
*Gaesochira complanata* Moure & Michener: 322  
*Dithygater seabrai* Moure & Michener: 324
136. Brown, A.W.A., H.M. Harris, R.L. Metcalf, C.D. Michener, C.B. Philip, R.F. Smith, & E.A. Steinhaus. 1956. Preface. *Annual Review of Entomology* 1: v–vi.
  137. Michener, C.D., & C.W. Rettenmeyer. 1956. The ethology of *Andrena erythronii* with comparative data on other species (Hymenoptera, Andrenidae). *University of Kansas Science Bulletin* 37(16): 645–684.
  138. Michener, C.D. 1956. Hymenoptera. In: Tuxen, S.L. (Ed.), *Taxonomist's Glossary of Genitalia in Insects*: 131–140. Ejnar Munksgaard; Copenhagen, Denmark; 284 pp.
  139. Michener, C.D., & M.H. Michener. 1956. Collecting insects: A brief account of equipment and methods. In: Levin, L.M. (Ed.), *The Book of Popular Science* [Volume 3]: 1001–1004. The Grolier Society; New York, NY; [iii]+423 pp.
  140. Michener, C.D., & M.H. Michener. 1956. Keeping an ant colony: How to spy upon the private lives of ants. In: Levin, L.M. (Ed.), *The Book of Popular Science* [Volume 3]: 1239–1242. The Grolier Society; New York, NY; [iii]+423 pp.
  141. Michener, C.D., & J.S. Moure. 1956. The generic positions of certain South American eucerine bees (Hymenoptera, Apoidea). *Dusenya* 7(5): 277–290.  
*Dasyhalonia (Dasyhalonia) saltae* Michener & Moure: 284
  142. Brown, A.W.A., H.M. Harris, R.L. Metcalf, C.D. Michener, C.B. Philip, R.F. Smith, & E.A. Steinhaus. 1957. Preface. *Annual Review of Entomology* 2: v.
  143. Michener, C.D. 1957. The identity of *Osmia integrella* Cockerell and its relatives (Hymenoptera, Megachilidae). *Journal of the Kansas Entomological Society* 30(2): 38–40.

- Osmia thysanisca* Michener: 39  
*Osmia raritatis* Michener: 40
144. Michener, C.D., & R.B. Lange. 1957. Observations on the ethology of some Brazilian colletid bees (Hymenoptera, Apoidea). *Journal of the Kansas Entomological Society* 30(2): 71–80.
145. Michener, C.D., & R.R. Sokal. 1957. A quantitative approach to a problem in classification. *Evolution* 11(2): 130–162.  
*Proteriades (Penteriades)* Michener & Sokal: 158  
*Anthocopa (Isosmia)* Michener & Sokal: 159
146. Michener, C.D. 1957. Notes on the biology of a parasitic bee, *Isepeolus viperinus* (Hymenoptera, Anthophorinae). *Entomological News* 68(6): 141–146.
147. Michener, C.D., & J.S. Moure. 1957. A study of the classification of the more primitive non-parasitic anthophorine bees (Hymenoptera, Apoidea). *Bulletin of the American Museum of Natural History* 112(5): 395–451.  
*Paratetrapedia (Xanthopedia)* Michener & Moure: 411  
*Paratetrapedia (Tropidopedia)* Michener & Moure: 411  
*Paratetrapedia (Amhipedia)* Michener & Moure: 413  
*Paratetrapedia (Lophopedia)* Michener & Moure: 413  
*Lanthanomelissa (Lanthanella)* Michener & Moure: 417  
*Tapinotaspis (Tapinorhina)* Michener & Moure: 421  
*Exomalopsis (Megomalopsis)* Michener & Moure: 430  
*Exomalopsis (Phanomalopsis)* Michener & Moure: 430  
*Exomalopsis (Diomalopsis)* Michener & Moure: 431  
*Exomalopsis (Anthophorisca)* Michener & Moure: 433  
*Isomalopsis* Michener & Moure: 434  
**Tetrapediini** Michener & Moure: 442  
**Eucerinodini** Michener & Moure: 444  
*Eucerinoda* Michener & Moure: 445  
*Paratetrapedia (Xanthopedia) tricolor* Michener & Moure: 447  
*Paratetrapedia (Tropidopedia) seabrai* Michener & Moure: 447  
*Lanthanomelissa (Lanthanella) completa* Michener & Moure: 448  
*Exomalopsis (Diomalopsis) bicellularis* Michener & Moure: 449
148. Michener, C.D. 1957. Proposed designation under the plenary powers of a type species in harmony with accustomed usage for the genus “*Centris*” Fabricius, 1804, and proposed validation under the same powers of the specific name “*dimidiata*” Fabricius, 1793, as published in the combination “*Apis dimidiata*” (Class Insecta, Order Hymenoptera). *Bulletin of Zoological Nomenclature* 13(9): 287–291.
149. Michener, C.D. 1957. Some bases for higher categories in classification. *Systematic Zoology* 6(4): 160–173.
150. Brown, A.W.A., H.M. Harris, R.L. Metcalf, C.D. Michener, C.B. Philip, R.F. Smith, & E.A. Steinhaus. 1958. Preface. *Annual Review of Entomology* 3: v–vi.
151. Sokal, R.R., & C.D. Michener. 1958. A statistical method for evaluating systematic relationships. *University of Kansas Science Bulletin* 38(22): 1409–1438.
152. Michener, C.D., & M.H. Michener. 1958. Ant. In: Couch, W.T. (Ed.), *Collier’s Encyclopedia; with Bibliography and Index* [Volume 2: Anegada to Bakunin]: 32a–32j, 33. P.F. Collier and Son; New York, NY; [vi]+674 pp.
153. Michener, C.D., & R.B. Lange. 1958. Observations on the behavior of Brazilian halictid bees (Hymenoptera, Apoidea) I. *Pseudagapostemon*. *Annals of the Entomological Society of America* 51(2): 155–164.
154. Michener, C.D., R.B. Lange, J.J. Bigarella, & R. Salamuni. 1958. Fatôres determinantes da distribuição de ninhos de abelhas em barrancos terrosos. *Dusenía* 8(1): 1–24.
155. Michener, C.D., & R.B. Lange. 1958. Observations on the behavior of Brazilian halictid bees II: *Paroxystoglossa jocasta*. *Journal of the Kansas Entomological Society* 31(2): 129–138.
156. Michener, C.D., R.B. Lange, J.J. Bigarella, & R. Salamuni. 1958. Factors influencing the distribution of bees’ nests in earth banks. *Ecology* 39(2): 207–217.





**Figure 15.** Michener with a drawer of bees in Snow Hall at the University of Kansas in 1959 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

157. Michener, C.D., & R.B. Lange. 1958. Distinctive type of primitive social behavior among bees. *Science* 127(3305): 1046–1047.
158. Michener, C.D., & R.B. Lange. 1958. Observations on the ethology of neotropical anthophorine bees (Hymenoptera: Apoidea). *University of Kansas Science Bulletin* 39(3): 69–96.
159. Sinha, R.N., & C.D. Michener. 1958. A revision of the genus *Osmia*, subgenus *Centrosmia* (Hymenoptera: Megachilidae). *University of Kansas Science Bulletin* 39(7): 275–303.

160. Michener, C.D., & R.B. Lange. 1958. Observations on the behavior of Brazilian halictid bees, III. *University of Kansas Science Bulletin* 39(11): 473–505.
161. Michener, C.D., & R.B. Lange. 1958. Observations on the behavior of Brazilian halictid bees, V. *Chloralictus*. *Insectes Sociaux* 5(4): 379–407.
162. Michener, C.D. 1958. Morphologically meaningful vs. descriptive terminologies for use by taxonomists, with comments on the interordinal homologies of male genitalia. *Proceedings of the Tenth International Congress of Entomology* 1956(1): 583–586.
163. Michener, C.D. 1958. The evolution of social behavior in bees. *Proceedings of the Tenth International Congress of Entomology* 1956(2): 441–447.
164. Glen, R., R.L. Metcalf, C.D. Michener, C.B. Philip, R.F. Smith, E.A. Steinhaus, & C.M. Williams. 1959. Preface. *Annual Review of Entomology* 4: v–vi.
165. Michener, C.D., & R.B. Lange. 1959. Observations on the behavior of Brazilian halictid bees (Hymenoptera, Apoidea) IV. *Augochloropsis*, with notes on extralimital forms. *American Museum Novitates* 1924: 1–41.
166. Michener, C.D., & C.A.C. Seabra. 1959. Observations on the behavior of Brazilian halictid bees, VI, tropical species. *Journal of the Kansas Entomological Society* 32(1): 19–28.
167. Michener, C.D. 1959. Sibling species of *Trigona* from Angola (Hymenoptera, Apinae). *American Museum Novitates* 1956: 1–5.  
*Trigona (Hypotrigona) araujoii* Michener: 2
168. Michener, C.D. 1959. A new entomological journal. *Journal of the Kansas Entomological Society* 32(4): 150.
169. Michener, C.D. 1960. Notes on the behavior of Australian colletid bees. *Journal of the Kansas Entomological Society* 33(1): 22–31.
170. Michener, C.D. 1960. Treetop mating aggregations of *Pogonomyrmex* (Hymenoptera: Formicidae). *Journal of the Kansas Entomological Society* 33(1): 46.
171. Michener, C.D. 1960. Notes on the biology and supposed parthenogenesis of halictine bees from the Australian region. *Journal of the Kansas Entomological Society* 33(2): 85–96.  
*Halictus szentivanyi* Michener: 94
172. Michener, C.D. 1960. Observations on the behaviour of a burrowing bee (*Amegilla*) near Brisbane, Queensland (Hymenoptera, Anthophorinae). *Queensland Naturalist* 16(3–4): 63–68.
173. Michener, C.D., & J.J.H. Szent-Ivany. 1960. Observations on the biology of a leafcutter bee "*Megachile frontalis*", in New Guinea. *Papua and New Guinea Agricultural Journal* 13(1): 22–35.
174. Michener, C.D. 1961. [Book review: *Beekeeping in the Tropics*, F.G. Smith]. *American Midland Naturalist* 65(1): 252.
175. Michener, C.D. 1961. Observations on the nests and behavior of *Trigona* in Australia and New Guinea (Hymenoptera, Apidae). *American Museum Novitates* 2026: 1–46.
176. Michener, C.D. 1961. Comments on some groups of Nomiinae (Hymenoptera, Halictidae). *Acta Hymenopterologica* 1(3): 239–240.
177. Hurd, P.D., Jr., & C.D. Michener. 1961. *Lestis* Lepeletier & Serville, 1828 (Insecta, Hymenoptera); proposed designation of a type-species under the plenary powers. *Bulletin of Zoological Nomenclature* 18(3): 201–202.
178. Michener, C.D. 1961. Probable parasitism among Australian bees of the genus *Allodapula* (Hymenoptera, Apoidea, Ceratinini). *Annals of the Entomological Society of America* 54(4): 532–534.  
*Allodapula associata* Michener: 533  
*Allodapula praesumptiosa* Michener: 533
179. Michener, C.D. 1961. A new parasitic genus of Ceratinini from Australia (Hymenoptera: Apoidea). *Journal of the Kansas Entomological Society* 34(4): 178–180.  
*Inquilina* Michener: 179
180. Michener, C.D. 1961. Social polymorphism in Hymenoptera. In: Kennedy, J.S. (Ed.), *Insect Polymorphism*: 43–56. Royal Entomological Society of London; London, UK; 115 pp.
181. Michener, C.D., & A. Wille. 1961. The bionomics of a primitively social bee, *Lasioglossum inconspicuum*. *University of Kansas Science Bulletin* 42(11): 1123–1202.

THE NEST ARCHITECTURE OF THE  
SWEAT BEES  
(Halictinae)

A COMPARATIVE STUDY  
OF BEHAVIOR

by

Shoichi F. Sakagami  
The University of Hokkaido

and

Charles D. Michener  
The University of Kansas



THE UNIVERSITY OF KANSAS PRESS - LAWRENCE - 1962

**Figure 16.** Title page of Michener's work with the late Shôichi F. Sakagami (1927–1996), where-  
by they delved into the complexities of comparative ethology, exploring nesting behaviors of the  
Halictinae as they relate to function, sociality, and systematics.

182. Sakagami, S.F., & C.D. Michener. 1962. *The Nest Architecture of the Sweat Bees (Halictinae): A Comparative Study of Behavior*. University of Kansas Press; Lawrence, Kansas; iv+135 pp.
183. Michener, C.D. 1962. Observations on the classification of the bees commonly placed in the genus *Megachile* (Hymenoptera: Apoidea). *Journal of the New York Entomological Society* 70(1): 17–29.
- Chalicodoma (Callomegachile)* Michener: 21

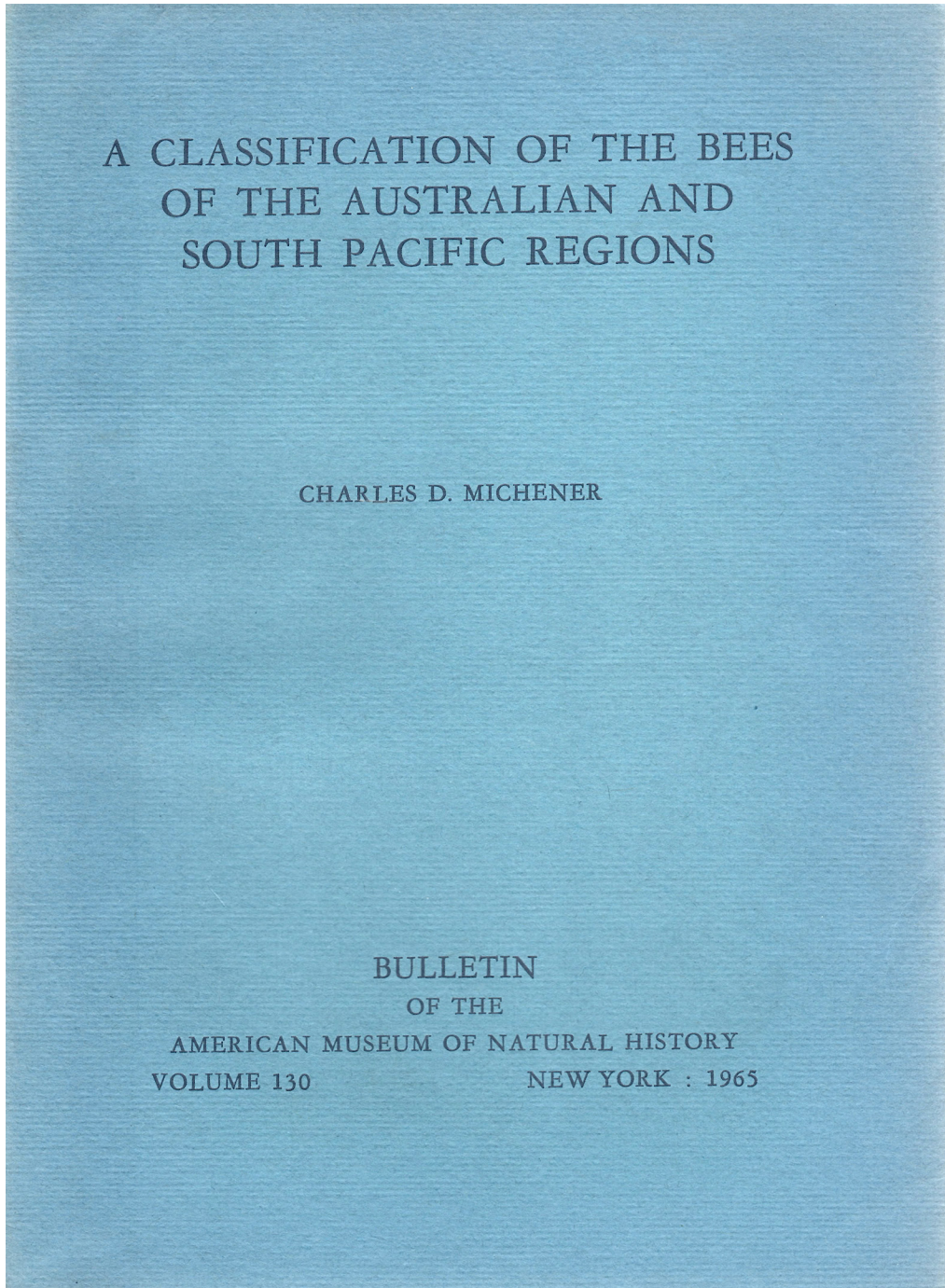
- Chalicodoma mystaceana* Michener: 22  
*Chalicodoma (Chalicodomoides)* Michener: 24  
*Chalicodoma (Chelostomoda)* Michener: 24  
*Megachile (Callochile)* Michener: 27
184. Michener, C.D., & I.H. Syed. 1962. Specific characters of the larvae and adults of *Allodapula* in the Australian region (Hymenoptera: Ceratinini). *Journal of the Entomological Society of Queensland* 1: 30–41.  
*Allodapula perkinsiella* Michener & Syed: 37  
*Allodapula minor* Michener & Syed: 38  
*Allodapula occidentalis* Michener & Syed: 41
185. Michener, C.D. 1962. On the identity of *Osmia gaudiosa* Cockerell (Hymenoptera, Megachilidae). *Journal of the Kansas Entomological Society* 35(2): 253–254.
186. Michener, C.D. 1962. [Book review: *Butterflies of the American Tropics – The Genus Anaea*, W.P. Comstock]. *Journal of the Kansas Entomological Society* 35(3): 332.
187. Linsley, E.G., & C.D. Michener. 1962. Brief notes on the habits of *Protoxaea* (Hymenoptera: Andrenidae). *Journal of the Kansas Entomological Society* 35(4): 385–389.
188. Michener, C.D. 1962. The genus *Ceratina* in Australia, with notes on its nests (Hymenoptera: Apoidea). *Journal of the Kansas Entomological Society* 35(4): 414–421.
189. Wille, A., & C.D. Michener. 1962. Inactividad estacional de *Megacephala sobrina* Dejean (Coleoptera, Cicindelidae). *Revista de Biología Tropical* 10(2): 161–165.
190. Michener, C.D. 1962. An interesting method of pollen collecting by bees from flowers with tubular anthers. *Revista de Biología Tropical* 10(2): 167–175.
191. Michener, C.D. 1962. Biological observations on the primitively social bees of the genus «*Allodapula*» in the Australian region (Hymenoptera, Xylocopinae). *Insectes Sociaux* 9(4): 355–373.
192. Michener, C.D., & E. Ordway. 1963. The life history of *Perdita maculigera maculipennis* (Hymenoptera: Andrenidae). *Journal of the Kansas Entomological Society* 36(1): 34–45.
193. LaBerge, W.E., & C.D. Michener. 1963. *Deltoptila*, a Middle American genus of anthophorine bees (Hymenoptera, Apoidea). *Bulletin of the University of Nebraska State Museum* 4(9): 211–225.  
*Deltoptila* LaBerge & Michener: 212  
*Deltoptila afimbriata* LaBerge & Michener: 217  
*Deltoptila pexata* LaBerge & Michener: 223
194. Michener, C.D. 1963. The establishment and spread of European honeybees in Australian New Guinea. *Bee World* 44(2): 81.
195. Michener, C.D. 1963. Observations on the bionomics of a colonial bee of the genus *Perdita* (Hymenoptera: Apoidea, Panurginae). *Journal of the Kansas Entomological Society* 36(2): 114–118.
196. Michener, C.D. 1963. Division of labor among primitively social bees. *Science* 141(3579): 434–435.
197. Michener, C.D. 1963. A further note on *Apis mellifera* in New Guinea. *Bee World* 44(3): 114.
198. Michener, C.D. 1963. New Ceratinini from Australia (Hymenoptera, Apoidea). *University of Kansas Science Bulletin* 44(7): 257–261.  
*Exoneurella* Michener: 257  
*Exoneura obscuripes* Michener: 260
199. Michener, C.D. 1963. The bee genus *Eulonchopria* (Hymenoptera: Colletidae). *Annals of the Entomological Society of America* 56(6): 844–849.  
*Eulonchopria punctatissima* Michener: 847  
*Eulonchopria oaxacana* Michener: 848
200. Michener, C.D. 1963. Evolution of nests of bees. *American Zoologist* 3(4): 491.
201. Michener, C.D. 1963. Evolution of nests of bees. *Bulletin of the Ecological Society of America* 44(4): 133.
202. Michener, C.D. 1963. Some future developments in taxonomy. *Systematic Zoology* 12(4): 151–172.



**Figure 17.** Michener at work photographing bee specimens in Snow Hall, 1962 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

203. Michener, C.D. 1963. A synthesis of evolutionary theory [Book review: *A Synthesis of Evolutionary Theory*, H.H. Ross]. *Evolution* 17(4): 592.
204. Michener, C.D., & S.F. Sakagami. 1963. Nest architecture in halictine bees. *Symposia Genetica et Biologica Italica* 12: 266–275.

205. Michener, C.D. 1964. Nests of *Nomia pulchribalteata* in New Guinea (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 37(2): 116–118.
206. Michener, C.D. 1964. Evolution of the nests of bees. *American Zoologist* 4(2): 227–239. [Nota bene: This paper was reprinted in a subsequent book, citation #307]
207. Michener, C.D., & E. Ordway. 1964. Some anthidiine bees from Mexico (Hymenoptera: Megachilidae). *Journal of the New York Entomological Society* 72(2): 70–78.  
*Aztecathidium* Michener & Ordway: 70  
*Aztecathidium xochipillium* Michener & Ordway: 72  
*Aztecathidium cuauhtemocum* Michener & Ordway: 75  
*Nananthidium tamaulipanum* Michener & Ordway: 77
208. Michener, C.D., & J.S. Moure. 1964. *Megalopta* Smith, 1853 (Insecta, Hymenoptera): Proposed designation of a type-species under the plenary powers. *Bulletin of Zoological Nomenclature* 21(2): 148–149.
209. Michener, C.D. 1964. The bionomics of *Exoneurella*, a solitary relative of *Exoneura* (Hymenoptera: Apoidea: Ceratinini). *Pacific Insects* 6(3): 411–426.
210. Michener, C.D. 1964. Reproductive efficiency in relation to colony size in hymenopterous societies. *Insectes Sociaux* 11(4): 317–341.
211. Michener, C.D. 1964. The possible use of uninominal nomenclature to increase the stability of names in biology. *Systematic Zoology* 13(4): 182–190.
212. Michener, C.D. 1964. [Book review: *Biosystematics and Hosts of the Triatoma protracta Complex in North America*, R.E. Ryckman]. *Quarterly Review of Biology* 39(4): 405.
213. Michener, C.D. 1965. A generic review of the Dufoureae of the Western Hemisphere (Hymenoptera, Halictidae). *Annals of the Entomological Society of America* 58(3): 321–326.  
*Penapis* Michener: 324  
*Penapis penai* Michener: 325
214. Michener, C.D., & M.H. Michener. 1965. Collecting insects: A brief account of equipment and methods. In: Levin, L.M. (Ed.), *The Book of Popular Science* [Volume 3]: 153–156. Grolier Inc., New York, NY; [v]+458 pp. [Nota bene: This is a revision of citation #139]
215. Michener, C.D., & M.H. Michener. 1965. Keeping an ant colony: How to spy upon the private lives of ants. In: Levin, L.M. (Ed.), *The Book of Popular Science* [Volume 3]: 393–396. Grolier Inc., New York, NY; [v]+458 pp. [Nota bene: This is a revision of citation #140]
216. Moure, J.S., & C.D. Michener. 1965. [*Euplusia simillima* Moure and Michener, n. sp.]. In: Moure, J.S., *Some new species of euglossine bees (Hymenoptera: Apidae)*: 275–277. *Journal of the Kansas Entomological Society* 38(3): 266–277.  
*Euplusia simillima* Moure & Michener: 275
217. Michener, C.D. 1965. Symposium: Interactions of phyletic and phenetic taxonomies: Introduction. *Systematic Zoology* 14(3): 174–175.
218. Michener, C.D. 1965. The life cycle and social organization of bees of the genus *Exoneura* and their parasite, *Inquilina* (Hymenoptera: Xylocopinae). *University of Kansas Science Bulletin* 46(9): 317–358.
219. Michener, C.D. 1965. A classification of the bees of the Australian and South Pacific regions. *Bulletin of the American Museum of Natural History* 130: 1–362.  
**Ctenioschelini** Michener, *nomen nudum*: 10  
*Leioproctus (Bicolletes) abdominis* Michener: 41  
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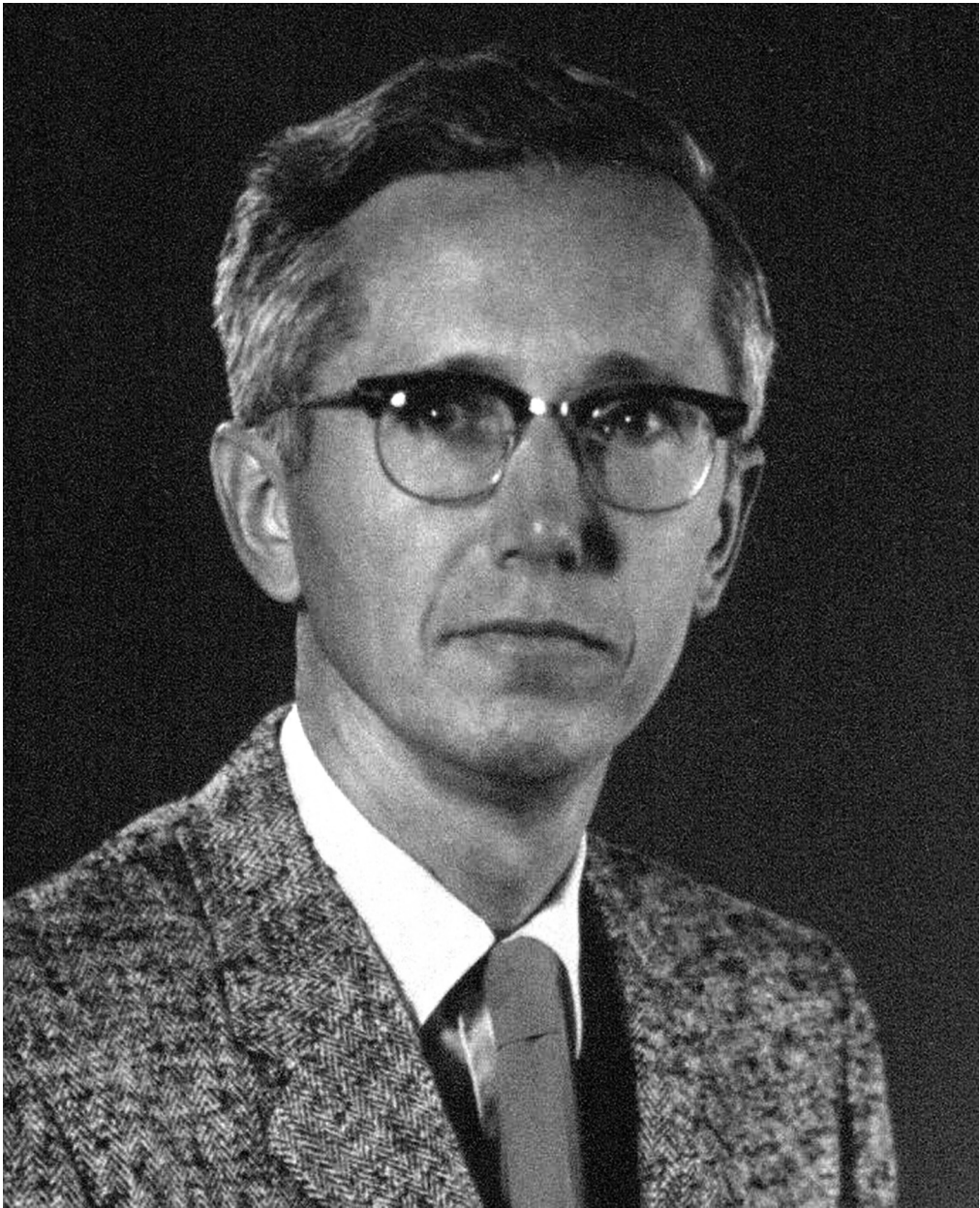
**Figure 18.** Cover of Michener's major work on the Australian and South Pacific melittofauna (1965), made possible by a prestigious Fulbright Research award that allowed he and his entire family to spend a year in Australia (1957–1958). As with every project he tackled, Mich worked intensively on this effort, and in 1960 spent two months in the Natural History Museum, London referencing material against types held in their collections. When completed, this monograph launched a new generation of fervent bee biologists in Australia.

- Leioproctus (Exocolletes)* Michener: 56  
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*Euryglossa (Parahesma)* Michener: 92  
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**Gephyrohylaeus** Michener: 138  
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*Palaeorhiza (Xenorhiza)* Michener: 146  
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*Lasioglossum* (*Callalictus*) Michener: 170  
*Lasioglossum* (*Austrevylaeus*) Michener: 170  
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*Lasioglossum* (*Chilalictus*) Michener: 174  
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*Leioproctus* (*Chrysocolletes*) *crenulatus* Michener: 261  
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*Hesperocolletes* *douglasi* Michener: 262  
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*Trichocolletes* (*Trichocolletes*) *marginatulus* Michener: 264  
*Trichocolletes* (*Callocolletes*) *pulcherrimus* Michener: 265  
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*Dasyhesma robusta* Michener: 284  
*Euryglossina (Euryglossina) intermedia* Michener: 285  
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*Brachyhesma (Microhesma) incompleta* Michener: 288  
*Hylaeus (Prosopisteron) albozebratus* Michener: 289  
*Hylaeus (Prosopisteron) douglasi* Michener: 290  
*Hylaeus (Prosopisteron) simplex* Michener: 291  
*Hylaeus (Prosopisteron) tuamotuensis* Michener: 292  
*Hylaeus (Edriohylaeus) ofarrelli* Michener: 293  
*Hylaeus (Hylaeteron) hemirhodus* Michener: 294  
*Hylaeus (Euprosopoides) perconvergens* Michener: 295  
*Hylaeus (Pseudhylaeus) multigibbosus* Michener: 296  
*Hylaeus (Xenohylaeus) rieki* Michener: 298  
*Hylaeus (Zenohylaeus) scutaticornis* Michener: 299 [*lapsus pro Xenohylaeus*]  
*Hylaeorhiza burnsi* Michener: 300  
*Palaeorhiza (Palaeorhiza) conica* Michener: 301  
*Palaeorhiza (Palaeorhiza) infuscata* Michener: 302  
*Palaeorhiza (Palaeorhiza) stygica* Michener: 302  
*Palaeorhiza (Anchirhiza) mandibularis* Michener: 303  
*Meroglossa ocellata* Michener: 304  
*Nomia (Austronomia) maai* Michener: 304  
*Nomia (Ptilonomia) plumosa* Michener: 306  
*Nomia (Mellitidia) gressitti* Michener: 307  
*Nomia (Mellitidia) simplicinotum* Michener: 309  
*Lasioglossum (Australictus) fulvofasciae* Michener: 310  
*Lasioglossum (Parasphecodes) permetallicum* Michener: 312  
*Lasioglossum (Pseudochilalictus) imitator* Michener: 313  
*Lasioglossum (Chilalictus) cephalochilum* Michener: 314  
*Lasioglossum (Chilalictus) gynochilum* Michener: 314  
*Lasioglossum (Chilalictus) obscurissimum* Michener: 315  
*Lasioglossum (Chilalictus) wahlenbergiae* Michener: 317  
*Homalictus ctenander* Michener: 318  
*Homalictus tricolor* Michener: 319  
*Chalicodoma (Callomegachile) szentivanyi* Michener: 321  
*Chalicodoma (Hackeriapis) papuae* Michener: 322
220. Sakagami, S.F., & C.D. Michener. 1965. Notes on the nests of two euglossine bees, *Euplusia violacea* and *Eulaema cingulata* (Hymenoptera, Apidae). *Annotationes Zoologicae Japonenses* 38(4): 216–222.
221. Michener, C.D. 1966. Interaction among workers from different colonies of sweat bees (Hymenoptera, Halictidae). *Animal Behaviour* 14(1): 126–129.
222. Michener, C.D. 1966. The bionomics of a primitively social bee, *Lasioglossum versatum* (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 39(2): 193–218.



**Figure 19.** A 1965 university portrait of Michener, the year he was elected to membership in the National Academy of Sciences (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

223. Michener, C.D., W.B. Kerfoot, & W. Ramírez B. 1966. Nests of *Neocorynura* in Costa Rica (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 39(2): 245–258.
224. Michener, C.D. 1966. Evidence of cooperative provisioning of cells in *Exomalopsis* (Hymenoptera: Anthophoridae). *Journal of the Kansas Entomological Society* 39(2): 315–317.
225. Michener, C.D. 1966. A new species of *Anthocopa* from India (Hymenoptera, Megachilidae). *Entomologist* 99(1237): 146–150.  
*Anthocopa matheranensis* Michener: 147

226. Michener, C.D., & K.R. Eickwort. 1966. Observations on nests of *Ceratina* in Costa Rica (Hymenoptera, Apoidea). *Revista de Biología Tropical* 14(2): 279–286.
227. Michener, C.D. 1966. A new genus of ceratinine bees from the Red Sea area (Hymenoptera: Apoidea). *Journal of the Kansas Entomological Society* 39(4): 572–576.  
*Exoneurula* Michener: 573  
*Exoneurula zavattarii* Michener: 574  
*Exoneurula ocellata* Michener: 575
228. Batra, S.W.T., & C.D. Michener. 1966. The nest and description of a new bee, *Systropha punjabensis* from India (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 39(4): 650–658.  
*Systropha punjabensis* Batra & Michener: 651
229. Michener, C.D. 1966. Parasitism among Indoaustralian bees of the genus *Allodapula* (Hymenoptera: Ceratinini). *Journal of the Kansas Entomological Society* 39(4): 705–708.
230. Michener, C.D. 1966. [Book review: *Basic Arthropodan Stock with Special Reference to Insects*, A.G. Sharov]. *Journal of the Kansas Entomological Society* 39(4): 797–798.
231. Michener, C.D. 1966. The classification of the Diphaglossinae and North American species of the genus *Caupolicana* (Hymenoptera, Colletidae). *University of Kansas Science Bulletin* 46(20): 717–751.  
**Mydrosomini** Michener: 719 [recte Mydrosomatini: vide Engel (2005)]  
*Caupolicana (Caupolicanoides)* Michener: 725  
*Caupolicana (Alayoapis)* Michener: 728  
*Caupolicana (Caupolicana) ocellata* Michener: 738
232. Michener, C.D., & R.R. Sokal. 1966. Two tests of the hypothesis of nonspecificity in the *Hoplitis* complex (Hymenoptera: Megachilidae). *Annals of the Entomological Society of America* 59(6): 1211–1217.
233. Sokal, R.R., & C.D. Michener. 1967. The effects of different numerical techniques on the phenetic classification of bees of the *Hoplitis* complex (Megachilidae). *Proceedings of the Linnean Society of London* 178(1): 59–74.
234. Michener, C.D., & W.B. Kerfoot. 1967. Nests and social behavior of three species of *Pseudaugochloropsis* (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 40(2): 214–232.
235. Michener, C.D., & M.H. Michener. 1967. Bee. In: Preece, W.E. (Ed.), *Encyclopædia Britannica* [A New Survey of Universal Knowledge; 14<sup>th</sup> Edition, revised, Volume 3: Balfour to Both]: 369–370. Encyclopædia Britannica, Inc.; Chicago, IL; 1004 pp.
236. Michener, C.D. 1967. Social insects. In: Preece, W.E. (Ed.), *Encyclopædia Britannica* [A New Survey of Universal Knowledge; 14<sup>th</sup> Edition, revised, Volume 20: Schütz to Speke]: 739–746. Encyclopædia Britannica, Inc.; Chicago, IL; 1194 pp.
237. Rozen, J.G., Jr., & C.D. Michener. 1968. The biology of *Scrapter* and its cuckoo bee, *Pseudodichroa* (Hymenoptera: Colletidae and Anthophoridae). *American Museum Novitates* 2335: 1–13.
238. Michener, C.D. 1968. [Book review: *Taxonomy: A Text and Reference Book*, R.E. Blackwelder]. *Quarterly Review of Biology* 43(3): 343.
239. Michener, C.D. 1968. Nests of some African megachilid bees, with description of a new *Hoplitis* (Hymenoptera, Apoidea). *Journal of the Entomological Society of Southern Africa* 31(2): 337–359.  
*Hoplitis anthodennion* Michener: 355
240. Michener, C.D. 1968. *Heriades spiniscutis*, a bee that facultatively omits partitions between rearing cells (Hymenoptera, Apoidea). *Journal of the Kansas Entomological Society* 41(4): 484–493.
241. Michener, C.D. 1968. [Book review: *Traité de Biologie de l'Abeille*, R. Chauvin]. *Journal of the Kansas Entomological Society* 41(4): 568.
242. Michener, C.D. 1968. Biological observations on primitively social bees (*Allodapula*) from Cameroon (Hymenoptera, Xylocopinae). *Insectes Sociaux* 15(4): 423–434.
243. Michener, C.D. 1968. The generic placement of "*Allodape*" *grisea* Alfken (Hymenoptera:

- Apoidea). *Journal of the Australian Entomological Society* 7(2): 142.
244. Michener, C.D. 1969. Comparative social behavior of bees. *Annual Review of Entomology* 14: 299–342.
245. Michener, C.D. 1968 [1969]. Notes on nests and life histories of some African halictid bees with description of a new species. *Transactions of the American Entomological Society* 94(4): 473–497.  
*Lasioglossum godmanae* Michener: 492
246. Michener, C.D. 1969. [Book review: *Principles of Systematic Zoology*, E. Mayr]. *Systematic Zoology* 18(2): 232–234.
247. Michener, C.D. 1969. Explorations in systematics [Book review: *Systematic Biology*, C.G. Sibley]. *Science* 164(3885): 1267–1268.
248. Michener, C.D. 1969. Immature stages of a chalcidoid parasite tended by allodapine bees (Hymenoptera: Perilampidae and Anthophoridae). *Journal of the Kansas Entomological Society* 42(3): 247–250.
249. Michener, C.D. 1969. African genera of allodapine bees (Hymenoptera: Anthophoridae: Ceratinini). *Journal of the Kansas Entomological Society* 42(3): 289–293.  
*Halterapis* Michener: 289  
*Braunsapis* Michener: 290  
*Allodapulodes* Michener: 291
250. Michener, C.D. 1969. [Book review: *The Genera of the Ichneumonidae, Part 1*, H. Townes]. *Journal of the Kansas Entomological Society* 42(3): 362.
251. Michener, C.D. 1969. The natural history of Hymenoptera [Book review: *Genesis of the Hymenoptera and the Phases of their Evolution*, S.I. Malyshev]. *Evolution* 23(4): 723.
252. Pooley, A.C., & C.D. Michener. 1969. Observations on nests of stingless honeybees in Natal (Hymenoptera: Apidae). *Journal of the Entomological Society of Southern Africa* 32(2): 423–430.
253. Johnston, R.F., P.W. Frank, C.D. Michener, E.S. Deevey, Jr., D.W. Goodall, D.H. Janzen, H.T. Odum, & G.H. Orians. 1970. Preface. *Annual Review of Ecology and Systematics* 1: v.
254. Michener, C.D., J.O. Corliss, R.S. Cowan, P.H. Raven, C.W. Sabrosky, D.S. Squires, & G.W. Wharton. 1970. *Systematics in Support of Biological Research*. National Research Council; Washington, D.C.; 25 pp.
255. Michener, C.D. 1970. Nest sites of stem and twig inhabiting African bees (Hymenoptera: Apoidea). *Journal of the Entomological Society of Southern Africa* 33(1): 1–22.
256. Michener, C.D. 1970. Diverse approaches to systematics. *Evolutionary Biology* 4: 1–38.
257. Michener, C.D. 1970. Social parasites among African allodapine bees (Hymenoptera, Anthophoridae, Ceratinini). *Zoological Journal of the Linnean Society* 49(3): 199–215.  
*Allodapula guillarmodi* Michener: 202  
*Braunsapis natalica* Michener: 204  
*Allodape greatheadi* Michener: 207  
*Nasutapis* Michener: 208  
*Nasutapis straussorum* Michener: 209  
*Eucondylops reducta* Michener: 214
258. Michener, C.D. 1970. [Book review: *The Biology and External Morphology of Bees, with a Synopsis of the Genera of Northwestern America*, W.A. Stephen]. *Journal of the Kansas Entomological Society* 43(3): 329–331.
259. Michener, C.D. 1970. Superfamily Apoidea. In: Waterhouse, D.F. (Ed.), *The Insects of Australia: A Textbook for Students and Research Workers*: 943–951. Melbourne University Press; Melbourne, Australia; xiii+1029 pp.
260. Deevey, E.S., Jr., P.W. Frank, D.W. Goodall, D.H. Janzen, R.F. Johnston, C.D. Michener, H.T. Odum, & G.H. Orians. 1971. Preface. *Annual Review of Ecology and Systematics* 2: v.
261. Michener, C.D., D.J. Brothers, & D.R. Kamm. 1971. Interactions in colonies of primitively social bees: Artificial colonies of *Lasioglossum zephyrum*. *Proceedings of the National Academy of Sciences, U.S.A.* 68(6): 1241–1245.
262. Michener, C.D. 1971. [Book review: *A Criação de Abelhas Indígenas sem Ferrão (Meliponinae)*, P. Nogueira-Neto]. *Journal of the Kansas Entomological Society* 44(1): 112.

263. Wille, A., & C.D. Michener. 1971. Observations on the nests of Costa Rican *Halictus* with taxonomic notes on neotropical species (Hymenoptera: Halictidae). *Revista de Biología Tropical* 18(1–2): 17–31.
264. Michener, C.D., & D.J. Brothers. 1971. A simplified observation nest for burrowing bees. *Journal of the Kansas Entomological Society* 44(2): 236–239.
265. Michener, C.D., D.J. Brothers, & D.R. Kamm. 1971. Interactions in colonies of primitively social bees: II. Some queen-worker relations in *Lasioglossum zephyrum*. *Journal of the Kansas Entomological Society* 44(2): 276–279.
266. Michener, C.D. 1971. Remarks on training entomologists for research and teaching. *Bulletin of the Entomological Society of America* 17(3): 143–144.
267. Michener, C.D. 1971. Biologies of African allodapine bees (Hymenoptera, Xylocopinae). *Bulletin of the American Museum of Natural History* 145(3): 219–302.  
*Allodape brachycephala* Michener: 295  
*Braunsapis draconis* Michener: 295  
*Braunsapis stuckenbergerorum* Michener: 296  
*Braunsapis simplicipes* Michener: 296  
*Braunsapis acuticauda* Michener: 297  
*Allodapula rozeni* Michener: 297  
*Allodapula ornaticeps* Michener: 297  
*Allodapula xerica* Michener: 298  
*Allodapula hessei* Michener: 298  
*Allodapula maculithorax* Michener: 299  
*Exoneurula stigmoides* Michener: 299
268. Michener, C.D. 1971. [Book review: *William Morton Wheeler, Biologist*, M.A. Evans & H.E. Evans]. *Quarterly Review of Biology* 46(3): 277–278.
269. Michener, C.D. 1971. Notes on crabronine wasp nests. *Journal of the Kansas Entomological Society* 44(3): 405–407.
270. Michener, C.D. 1971. The bee genus *Macrogalea* (Hymenoptera: Xylocopinae: Ceratinini). In: Asahina, S., J.L. Gressitt, Z. Hikada, T. Mishida, & K. Namura (Eds.), *Entomological Essays to Commemorate the Retirement of Professor K. Yasumatsu*: 61–71. Hokuryukan Publishing Co.; Tokyo, Japan; vi+389 pp..
271. Johnston, R.F., P.W. Frank, C.D. Michener, E.S. Deevey, Jr., D.W. Goodall, D.H. Janzen, H.T. Odum, & G.H. Orians. 1972. Preface. *Annual Review of Ecology and Systematics* 3: v–vi.
272. Michener, C.D. 1972. Activities within artificial nests of an allodapine bee. *Journal of the Kansas Entomological Society* 45(2): 263–268.
273. Lin, N., & C.D. Michener. 1972. Evolution of sociality in insects. *Quarterly Review of Biology* 47(2): 131–159. [Nota bene: This paper was reprinted in a subsequent book, citation #283]
274. Michener, C.D. 1972. Direct food transferring behavior in bees. *Journal of the Kansas Entomological Society* 45(3): 373–376.
275. Michener, C.D. 1972. [Book review: *La Biologie des Abeilles Primitives*, C. Plateaux-Quénu]. *Quarterly Review of Biology* 47(4): 462.
276. Johnston, R.F., P.W. Frank, C.D. Michener, E.S. Deevey, Jr., D.W. Goodall, H.T. Odum, & G.H. Orians. 1973. Preface. *Annual Review of Ecology and Systematics* 4: v.
277. Michener, C.D. 1973. The Brazilian honeybee – possible problems for the future. *Clinical Toxicology* 6(1): 125–127.
278. Michener, C.D. 1973. Size and form of eggs of allodapine bees. *Journal of the Entomological Society of Southern Africa* 36(2): 281–285.
279. Wille, A., & C.D. Michener. 1973. The nest architecture of stingless bees with special reference to those of Costa Rica (Hymenoptera: Apidae). *Revista de Biología Tropical, Suplemento 1* 21: 1–278.
280. Michener, C.D. 1973. The Brazilian honeybee. *BioScience* 23(9): 523–527.
281. Menke, A.S., & C.D. Michener. 1973. *Sericogaster* Westwood, a senior synonym of *Holoheisma* Michener (Hymenoptera, Apoidea, Colletidae). *Journal of the Australian Entomological Society* 12(3): 173–174.



**Figure 20.** Michener in his office in 1974, depicted with a line drawing of an allodapine bee's wings (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

282. Michener, C.D. 1973. [Discussion of symposium papers on contemporary systematic philosophies]. *Systematic Zoology* 22(4): 394.
283. Lin, N., & C.D. Michener. 1974. Evolution of sociality in insects. In: Ackoff, R.L. (Ed.), *Systems and Management Annual*: 533–561. Petrocelli Books; New York, NY; xx+620 pp. [*Nota bene*: This is a book reprinting of citation #273]
284. Michener, C.D. 1974. Further notes on nests of *Ancyloscelis* (Hymenoptera: Anthophoridae). *Journal of the Kansas Entomological Society* 47(1): 19–22.
285. Michener, C.D., & D.J. Brothers. 1974. Were workers of eusocial Hymenoptera initially altruistic or oppressed? *Proceedings of the National Academy of Sciences, U.S.A.* 71(3): 671–674.
286. Brothers, D.J., & C.D. Michener. 1974. Interactions in colonies of primitively social bees III. Ethometry of division of labor in *Lasioglossum zephyrum* (Hymenoptera: Halictidae). *Journal of Comparative Physiology, A, Neuroethology, Sensory, Neural, and Behavioral Physiology* 90(2): 129–168.
287. Michener, C.D. 1974. *The Social Behavior of the Bees: A Comparative Study*. Harvard University Press; Cambridge, MA; xii+404 pp.
288. Bell, W.J., M.D. Breed, K.W. Richards, & C.D. Michener. 1974. Social, stimulatory and motivational factors involved in intraspecific nest defense of a primitively eusocial halictine bee. *Journal of Comparative Physiology, A, Neuroethology, Sensory, Neural, and Behavioral Physiology* 93(3): 173–181.
289. Michener, C.D. 1974. Superfamily Apoidea. In: Waterhouse, D.F. (Ed.), *The Insects of Australia: A Textbook for Students and Research Workers, Supplement 1974*: 109–111. Melbourne University Press; Melbourne, Australia; viii+146 pp.
290. Michener, C.D. 1974. Polymorphismus bei allodapinen Bienen. In: Schmidt, G.H. (Ed.), *Sozialpolymorphismus bei Insekten*: 246–256. Wissenschaftliche Verlagsgesellschaft MBH; Stuttgart, Germany; xxiv+974 pp.

# The Social Behavior of the Bees

A COMPARATIVE STUDY BY CHARLES D. MICHENER



**Figure 21.** The cover of Mich's extraordinarily influential, *The Social Behavior of the Bees* (1974, Harvard University Press). Born of the era in which the foundations of sociobiology were set in place (e.g., Wilson, 1975), this book distilled all of what was known regarding the social organization and evolution of societies among bees. It was a particularly powerful text when placed against the backdrop of seminal works that had appeared around the same time on termites (Krishna & Weesner, 1969, 1970) and on social insects in general (Wilson, 1971). It remains unrivaled to this day and immensely relevant. A companion book on the biology and behavior of solitary bees was discussed, according to documents in the University of Kansas Archives, but never undertaken.

291. Johnston, R.F., P.W. Frank, C.D. Michener, E.S. Deevey, Jr., G.H. Orians, E.C. Pielou, L.R. Pomeroy, P.H. Raven, P.R. Ehrlich, & H. Mooney. 1975. Preface. *Annual Review of Ecology and Systematics* 6: v-vi.



292. Michener, C.D. 1975. The Brazilian bee problem. *Annual Review of Entomology* 20: 399–416.
293. Michener, C.D. 1975. A taxonomic study of African allodapine bees (Hymenoptera, Anthophoridae, Ceratinini). *Bulletin of the American Museum of Natural History* 155(2): 67–240.  
*Braunsapis pallida* Michener: 98  
*Braunsapis ghanae* Michener: 116  
*Braunsapis aureoscopa* Michener: 137  
*Allodape australissima* Michener: 159  
*Allodape skaifeorum* Michener: 164  
*Allodapula empeyi* Michener: 205
294. Michener, C.D. 1975. Larvae of African allodapine bees. 1. The genus *Allodape* (Hymenoptera: Xylocopinae). *Journal of the Entomological Society of Southern Africa* 38(1): 1–12.
295. Michener, C.D. 1975. Nests of *Paranthidium jugatorium* in association with *Melitoma taurea* (Hymenoptera: Megachilidae and Anthophoridae). *Journal of the Kansas Entomological Society* 48(2): 194–200.
296. Barrows, E.M., W.J. Bell, & C.D. Michener. 1975. Individual odor differences and their social functions in insects. *Proceedings of the National Academy of Sciences, U.S.A.* 72(7): 2824–2828.
297. Toro, H., & C.D. Michener. 1975. The subfamily Xeromelissinae and its occurrence in Mexico (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 48(3): 351–357.  
*Chilicola (Hylaeosoma) mexicana* Toro & Michener: 353
298. Michener, C.D. 1975. [Book review: *A Subgeneric Revision of the Bees of the Genus Coelioxys of the Western Hemisphere*, T.B. Mitchell]. *Bulletin of the Entomological Society of America* 21(3): 219.
299. Michener, C.D. 1975. Larvae of African allodapine bees. 2. *Braunsapis* and *Nasutapis* (Hymenoptera: Xylocopinae). *Journal of the Entomological Society of Southern Africa* 38(2): 223–242.
300. Michener, C.D. 1975. Larvae of African allodapine bees. 3. The genera *Allodapula* and *Eucondylops*. *Journal of the Entomological Society of Southern Africa* 38(2): 243–250.  
*Allodapula (Dalloapula)* Michener: 246
301. Johnston, R.F., P.W. Frank, C.D. Michener, E.S. Deevey, Jr., C.S. Holling, E.C. Pielou, L.R. Pomeroy, P.H. Raven, J.C. Dickenson, J.T. Giesel, J.W. Hardy, & H.T. Odum. 1976. Preface. *Annual Review of Ecology and Systematics* 7: v.
302. Michener, C.D. 1976. [Book review: *Grzimek's Animal Life Encyclopedia, Volume 2, Insects*, H.C.B. Grzimek]. *Quarterly Review of Biology* 51(1): 138.
303. Michener, C.D. 1976. Sociobiology [Book review: *Sociobiology: The New Synthesis*, E.O. Wilson]. *BioScience* 26(3): 210.
304. Barrows, E.M., M.R. Chabot, C.D. Michener, & T.P. Snyder. 1976. Foraging and mating behavior in *Perdita texana* (Hymenoptera: Andrenidae). *Journal of the Kansas Entomological Society* 49(2): 275–279.
305. Michener, C.D. 1976. Larvae of African allodapine bees. 4. *Halterapis*, *Compsomelissa*, *Macrogalea*, and a key to African genera. *Journal of the Entomological Society of Southern Africa* 39(1): 33–37.
306. Michener, C.D., & J.F. Scheiring. 1976. Pupae of allodapine bees (Hymenoptera: Xylocopinae). *Journal of the Australian Entomological Society* 15(1): 63–70.
307. Michener, C.D. 1976. Evolution of the nests of bees. In: Collias, N., & E. Collias (Eds.), *External Construction by Animals*: 190–203. Halsted Press; Stroudsburg, PA; xv+413 pp. [Nota bene: This is a reprinting of citation #206].
308. Johnston, R.F., P.W. Frank, C.D. Michener, C.S. Holling, D.A. Livingstone, E.C. Pielou, L.R. Pomeroy, P.H. Raven, & P. Grant. 1977. Preface. *Annual Review of Ecology and Systematics* 8: [v–vi].
309. Winston, M.L., & C.D. Michener. 1977. Dual origin of highly social behavior among bees. *Proceedings of the National Academy of Sciences, U.S.A.* 74(3): 1135–1137.
310. Michener, C.D. 1977. Discordant evolution and the classification of allodapine bees. *Systematic Zoology* 26(1): 32–56.
311. Michener, C.D. 1977. Allodapine bees of Madagascar (Hymenoptera, Apoidea). *American Museum Novitates* 2622: 1–18.

- Braunsapis madecassella* Michener: 4  
*Effractapis* Michener: 6  
*Effractapis furax* Michener: 6  
*Allodapula benoisti* Michener: 11  
*Allodapula rufa* Michener: 13  
*Allodapula platyprosopon* Michener: 14  
*Halterapis kraussi* Michener: 15  
*Halterapis tulearensis* Michener: 17  
*Macrogalea infernalis* Michener: 17
312. Shiokawa, M., & C.D. Michener. 1977. Observations on the nests of *Braunsapis sauteriella* (Cockerell) (Hymenoptera, Apoidea) in Taiwan. *Kontyû* 45(1): 84–86.
313. Michener, C.D., & F.D. Bennett. 1977. Geographical variation in nesting biology and social organization of *Halictus ligatus*. *University of Kansas Science Bulletin* 51(7): 233–260.
314. Michener, C.D. 1977. Social behavior of bees. In: Wolmen, B.B. (Ed.), *International Encyclopedia of Psychiatry, Psychology, Psychoanalysis, and Neurology* [Volume 10]: 267–272. Aesculapius Publishers; New York, NY; 473 pp.
315. Michener, C.D. 1977. Aspects of the evolution of castes in primitively social insects. In: Velthuis, H.H.W., & J.T. Wiebes (Eds.), *Proceedings of the 8th International Congress of the International Union for the Study of Social Insects, Wageningen, The Netherlands, September 5–10, 1977*: 2–6. Centre for Agricultural Publishing and Documentation; Wageningen, The Netherlands; xi+325 pp.
316. Michener, C.D. 1977. Nests and seasonal cycle of *Neocorynura pubescens* in Colombia (Hymenoptera: Halictidae). *Revista de Biología Tropical* 25(1): 39–41.
317. Michener, C.D., & M. Amir. 1977. The seasonal cycle and habitat of a tropical bumble bee. *Pacific Insects* 17(2–3): 237–240.
318. Michener, C.D. 1977. Supplementary taxonomic observations on African allodapine bees (Hymenoptera: Anthophoridae, Ceratinini). *Journal of the Kansas Entomological Society* 50(3): 422–429.
- Macrogalea zanzibarica* Michener: 429
319. Michener, C.D. 1977. Review of studies of *Andrena* [Book review: *A Revision of North American Bees of the Subgenus Cnemidandrena*, B.J. Donovan & *A Revision of the Bees of the genus Andrena of the Western Hemisphere, Part VIII*, W.E. LaBerge]. *Journal of the Kansas Entomological Society* 50(4): 502.
320. Johnston, R.F., P.W. Frank, C.D. Michener, C.S. Holling, D.A. Livingstone, E.C. Pielou, L.R. Pomeroy, O.T. Solbrig, P. Ehrlich, B. Heinrich, H. Mooney, G. Oster, F. Pitelka, & D. Wake. 1978. Preface. *Annual Review of Ecology and Systematics* 9: [v].
321. Michener, C.D. 1978. The parasitic groups of Halictidae (Hymenoptera, Apoidea). *University of Kansas Science Bulletin* 51(10): 291–339.
- Ptilocleptis* Michener: 315  
*Sphecodes (Austrosphecodes)* Michener: 327  
*Ptilocleptis tomentosa* Michener: 328  
*Ptilocleptis polybioides* Michener: 330  
*Ptilocleptis eickworti* Michener: 331  
*Eupetersia (Eupetersia) guillarmodi* Michener: 332  
*Eupetersia (Nesoeupetersia) flava* Michener: 334  
*Sphecodes (Austrosphecodes) convergens* Michener: 335
322. Michener, C.D. 1978. Dr. Nelson on taxonomic methods. *Systematic Zoology* 27(1): 112–118.
323. Michener, C.D. 1978. [Book review: *Traité de Zoologie: Anatomie, Systématique, Biologie*, P.-P. Grassé]. *Quarterly Review of Biology* 53(2): 180–181.
324. Michener, C.D., & A. Fraser. 1978. A comparative anatomical study of mandibular structure in bees. *University of Kansas Science Bulletin* 51(14): 463–482.
325. Dew, H.E., & C.D. Michener. 1978. Foraging flights of two species of *Polistes* wasps (Hymenoptera: Vespidae). *Journal of the Kansas Entomological Society* 51(3): 380–385.

326. Michener, C.D. 1978. The classification of halictine bees: Tribes and Old World nonparasitic genera with strong venation. *University of Kansas Science Bulletin* 51(16): 501–538.  
*Patellapis (Lomatalictus)* Michener: 509  
*Patellapis (Chaetalictus)* Michener: 509  
*Zonalictus* Michener: 513  
*Pachyhalictus (Dictyohalictus)* Michener: 518  
*Patellapis (Patellapis) braunsella* Michener: 535  
*Thrinchostoma (Thrinchostoma) afasciatum* Michener: 537
327. Michener, C.D. 1978. The new Western Hemisphere section of the International Union for the Study of Social Insects, and a congress of the Union for 1982. *Journal of the Kansas Entomological Society* 51(4): 870.
328. Michener, C.D., M.L. Winston, & R. Jander. 1978. Pollen manipulation and related activities and structures in bees of the family Apidae. *University of Kansas Science Bulletin* 51(19): 575–601.
329. Michener, C.D. 1978. [Book review: *Imms' General Textbook of Entomology*, O.W. Richards & R.G. Davies]. *Quarterly Review of Biology* 53(4): 467–468.
330. Johnston, R.F., P.W. Frank, C.D. Michener, S.A. Levin, D.A. Livingstone, L.R. Pomeroy, O.T. Solbrig, S.J. Gould, E. Mayr, & E.O. Wilson. 1979. Preface. *Annual Review of Ecology and Systematics* 10: [vi].
331. Michener, C.D. 1979. New and little-known halictine bees from Colombia (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 52(1): 180–208.  
*Habralictus bimaculatus* Michener: 183  
*Caenohalictus eberhardorum* Michener: 189  
*Lasioglossum (Dialictus) breedi* Michener: 195  
*Microsphecodes truncaticaudus* Michener: 202  
*Microsphecodes trichommus* Michener: 206
332. Michener, C.D., M.D. Breed, & W.J. Bell. 1979. Seasonal cycles, nests, and social behavior of some Colombian halictine bees (Hymenoptera; Apoidea). *Revista de Biología Tropical* 27(1): 13–34.
333. Michener, C.D. 1979. The genus *Homalictus* in Fiji (Hymenoptera: Halictidae). *Pacific Insects* 21(2–3): 227–234.  
*Homalictus hadrander* Michener: 231  
*Homalictus achrostus* Michener: 232
334. Michener, C.D. 1979. Biogeography of the bees. *Annals of the Missouri Botanical Garden* 66(3): 277–347.
335. Johnston, R.F., P.W. Frank, C.D. Michener, S.A. Levin, D.A. Livingstone, O.T. Solbrig, G. Bush, & D. Levin. 1980. Preface. *Annual Review of Ecology and Systematics* 11: v–vi.
336. Michener, C.D. 1980. The large species of *Homalictus* and related Halictinae from the New Guinea area (Hymenoptera, Apoidea). *American Museum Novitates* 2693: 1–21.  
*Homalictus hirashimai* Michener: 4  
*Homalictus ocellaris* Michener: 6  
*Homalictus (Papualictus)* Michener: 8  
*Homalictus (Papualictus) megalochilus* Michener: 8  
*Homalictus (Papualictus) torulosus* Michener: 12  
*Homalictus (Papualictus) pelorodontus* Michener: 14  
*Homalictus (Papualictus) umbonis* Michener: 14  
*Homalictus (Papualictus) sedlaceki* Michener: 14  
*Urohalictus* Michener: 16  
*Urohalictus lieftincki* Michener: 16
337. Roubik, D.W., & C.D. Michener. 1980. The seasonal cycle and nests of *Epicharis zonata*, a bee whose cells are below the wet-season water table (Hymenoptera, Anthophoridae). *Biotropica* 12(1): 56–60.
338. Michener, C.D. 1980. [Book review: *Social Insects*, H.R. Hermann]. *American Scientist* 68(2): 200, 202.

339. Michener, C.D. 1980. [Book review: *Bumblebee Economics*, B. Heinrich]. *American Scientist* 68(2): 211.
340. Michener, C.D. 1980. A new Philippine *Homalictus* with unusual wing venation (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 53(2): 423–426.  
*Homalictus silvestris* Michener: 423
341. Linsley, E.G., J.W. MacSwain, & C.D. Michener. 1980. Nesting biology and associates of *Melitoma* (Hymenoptera, Anthophoridae). *University of California Publications in Entomology* 90: 1–45.
342. Michener, C.D., & L. Greenberg. 1980. Ctenoplectridae and the origin of long-tongued bees. *Zoological Journal of the Linnean Society* 69(3): 183–203.
343. McGinley, R.J., & C.D. Michener. 1980. Dr. Nelson on dendronomics. *Systematic Zoology* 29(1): 91–93.
344. Michener, C.D. 1980. [Book review: *Catalog of Hymenoptera in America North of Mexico*, K.V. Krombein, P.D. Hurd, Jr., D.R. Smith, & B.D. Burks]. *American Scientist* 68(4): 455–456.
345. Michener, C.D. 1980. Development and functions of caste differences in *Lasioglossum zephyrum*. In: *XVI International Congress of Entomology: Abstracts* [Kyoto, Japan, 3–9 August 1980]: 428. International Congress of Entomology; Kyoto, Japan; [ii]+480 pp.
346. Hölldobler, B., & C.D. Michener. 1980. Mechanisms of identification and discrimination in social Hymenoptera. In: Markl, H. (Ed.), *Evolution of Social Behavior: Hypotheses and Empirical Tests*: 35–58. Verlag Chemie GmbH; Weinheim, Germany; [ii]+253+[1] pp.
347. Harvey, P.H., M.C. Baker, P. Bateson, N. Bischof, S.T. Emlen, B. Hölldobler, B. Kramer, K.E. Linsenmair, H. Markl, P. Marler, E.W. Menzel, Jr., C.D. Michener, M. Milinski, & F. Trillmich. 1980. Mechanisms of kin-correlated behavior – group report. In: Markl, H. (Ed.), *Evolution of Social Behavior: Hypotheses and Empirical Tests*: 183–202. Verlag Chemie GmbH; Weinheim, Germany; [ii]+253+[1] pp.
348. Johnston, R.F., P.W. Frank, C.D. Michener, S.K. Jain, S.A. Levin, G.E. Likens, D.A. Livingstone, O.T. Solbrig, & D. Kavanaugh. 1981. Preface. *Annual Review of Ecology and Systematics* 12: vii.
349. Michener, C.D. 1981. Paint for nest construction. *Bee World* 62(1): 34.
350. Dew, H.E., & C.D. Michener. 1981. Division of labor among workers of *Polistes metricus* (Hymenoptera: Vespidae): Laboratory foraging activities. *Insectes Sociaux* 28(1): 87–101.
351. Michener, C.D. 1981. Comparative morphology of the middle coxae of Apoidea. *Journal of the Kansas Entomological Society* 54(2): 319–326.
352. Michener, C.D. 1981. Classification of the bee family Melittidae, with a review of species of Meganomiinae. *Contributions of the American Entomological Institute* 18(3): 1–135.
- Meganomiinae** Michener: 18  
**Ceratonomia** Michener: 20  
**Uromonia** Michener: 23  
**Agemmonia** Michener: 26  
**Redivivoides** Michener: 42  
**Macropis (Sinomacropis)** Michener: 51  
**Promelittini** Michener: 60  
**Sambini** Michener: 60  
**Haplomelitta (Prosamba)** Michener: 63  
**Haplomelitta (Atrosamba)** Michener: 65  
**Haplomelitta (Haplosamba)** Michener: 66  
**Haplomelitta (Metasamba)** Michener: 69  
**Eremaphanta (Popovapis)** Michener: 80  
**Capicola (Capicoloides)** Michener: 83  
**Ceratonomia rozenorum** Michener: 102  
**Uromonia stagei** Michener: 104  
**Meganomia gigas** Michener: 114  
**Meganomia (Meganomia) rossi** Michener: 118  
**Redivivoides simulans** Michener: 121



**Figure 22.** Michener in his Snow Hall office in 1982 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

- Rediviva longimanus* Michener: 123  
*Rediviva colorata* Michener: 124  
*Haplomelitta* (*Prosamba*) *griseonigra* Michener: 126  
*Haplomelitta* (*Atrosamba*) *atra* Michener: 128  
*Haplomelitta* (*Haplosamba*) *tridentata* Michener: 129  
*Haplomelitta* (*Metasamba*) *fasciata* Michener: 130
353. Johnston, R.F., P.W. Frank, C.D. Michener, S.J. Gould, S.K. Jain, G.E. Likens, O.T. Solbrig, W.D. Hamilton, & G.R. Smith. 1982. Preface. *Annual Review of Ecology and Systematics* 13: v.
354. Michener, C.D. 1982. Early stages in insect social evolution: Individual and family odor differences and their functions. *Bulletin of the Entomological Society of America* 28(1): 7–11.
355. Michener, C.D. 1982. A new interpretation of fossil social bees from the Dominican Republic. *Sociobiology* 7(1): 37–45.
- †*Trigona* (*Proplebeia*) Michener: 44
356. Wilson, E.O., & C.D. Michener. 1982. Alfred Edwards Emerson, December 31, 1896 – October 3, 1976. *Biographical Memoirs, National Academy of Sciences* 53: 158–177.
357. Breed, M.D., C.D. Michener, & H.E. Evans, editors. 1982. *The Biology of Social Insects*. Westview Press; Boulder, CO; xii+419+[1] pp.
358. Michener, C.D. 1982. Preface. In: Breed, M.D., C.D. Michener, & H.E. Evans (Eds.), *The Biology of Social Insects*: ix–xi. Westview Press; Boulder, CO; xii+419+[1] pp.
359. Michener, C.D. 1982. [Book review: *A Review of the North and Central American Species of Paravilla Painter (Diptera: Bombyliidae)*, J.C. Hall]. *Journal of the Kansas Entomological Society* 55(4): 728.
360. Johnston, R.F., P.W. Frank, C.D. Michener, S.J. Gould, S.K. Jain, S. Levin, G.E. Likens, P.A. Werner, F.J. Ayala, T.W. Schoener, & G.L. Stebbins. 1983. Preface. *Annual Review of Ecology and Systematics* 14: v–vi.



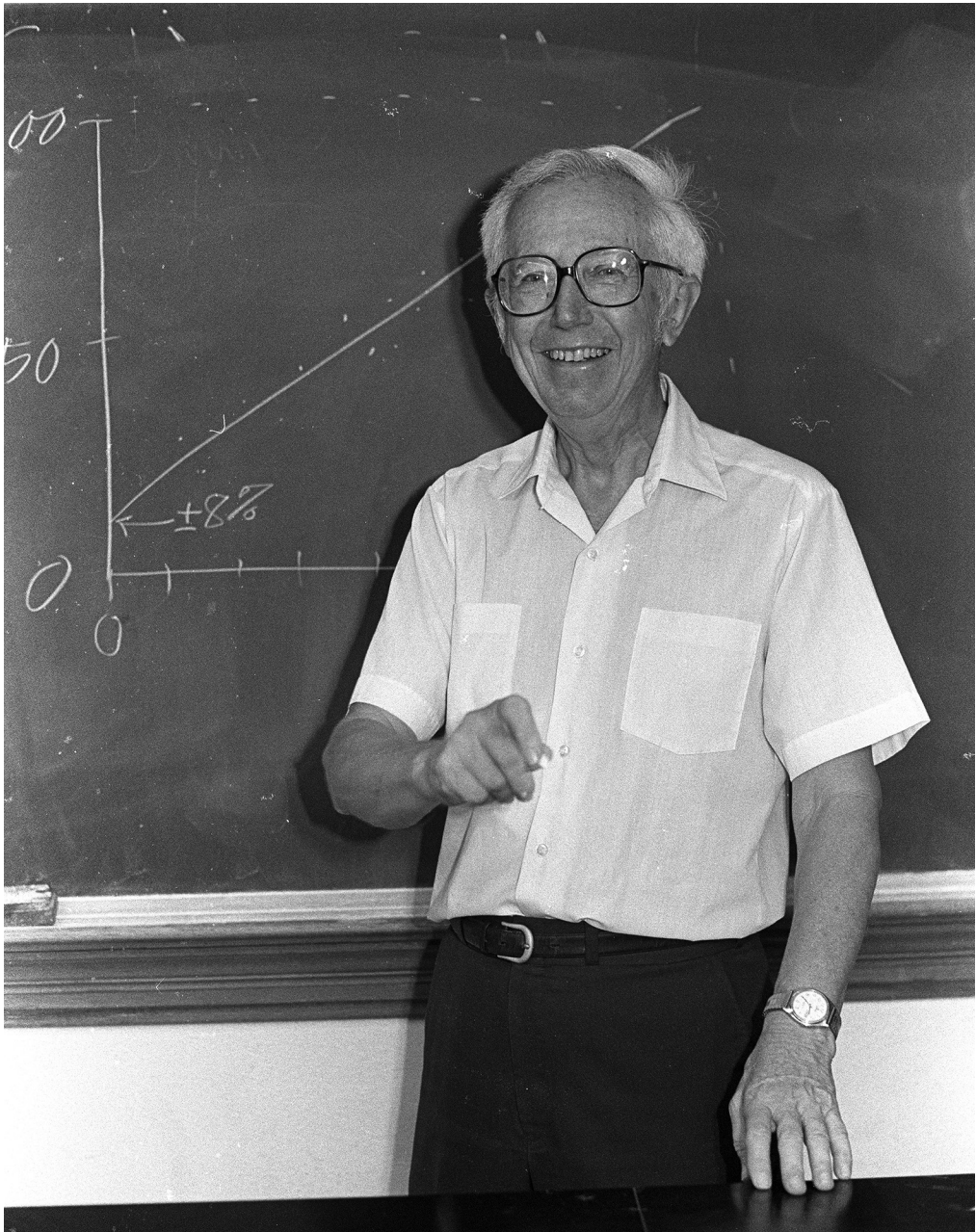
**Figure 23.** Michener collecting bees around Lawrence, Kansas, 8 May 1984 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

361. Michener, C.D. 1983. Bee. In: Bram, L.L. (Ed.), *Funk and Wagnalls New Encyclopedia* [Volume 3: Assisi to Berkshire Hills]: 376–380. Funk & Wagnalls Corporation; New York, NY; 448 pp.
362. Michener, C.D. 1983. [Book review: *Social Insects*, H.R. Hermann]. *Bulletin of the Entomological Society of America* 29(2): 72–73.

363. Michener, C.D. 1983. The problems of resistance of pests to pesticides. *Biology International* 7: 2–6.
364. Michener, C.D. 1983. *Lasioglossum zephyrum* (abejita, chupadora, sweat bee). In: Janzen, D.H. (Ed.), *Costa Rican Natural History: 732–733*. University of Chicago Press; Chicago, IL; xi+816 pp.
365. Michener, C.D. 1983. Systematics: An integrating discipline in biology. In: Highley, E., & R.W. Taylor (Eds.), *Australian Systematic Entomology: A Bicentenary Perspective*: 135–147. CSIRO; Melbourne, Australia; vii+147 pp.
366. Michener, C.D. 1983. The classification of the Lithurginae (Hymenoptera: Megachilidae). *Pan-Pacific Entomologist* 59(1–4): 176–187.  
*Microthurge* Michener: 181  
*Microthurge boharti* Michener: 186
367. Michener, C.D. 1983. The parasitic Australian allodapine genus *Inquilina* (Hymenoptera, Anthophoridae). *Journal of the Kansas Entomological Society* 56(4): 555–559.  
*Inquilina schwarzi* Michener: 558
368. Cane, J.H., & C.D. Michener. 1983. Chemistry and function of mandibular gland products of bees of the genus *Exoneura* (Hymenoptera, Anthophoridae). *Journal of Chemical Ecology* 9(12): 1525–1531.
369. Michener, C.D. 1983. Proposal to suppress the first designation of a type species for the generic name *Megilla* Fabricius, 1805, and to place *Macropis* Klug, 1809, on the official list of generic names (Hymenoptera, Apoidea). *Bulletin of Zoological Nomenclature* 40(4): 207–208.
370. Johnston, R.F., P.W. Frank, C.D. Michener, J. Felsenstein, S.J. Gould, S.K. Jain, G.E. Likens, P.A. Werner, J.L. Hamrick, R.D. Holt, D.W. Kaufman, L.D. Martin, W.J. O'Brien, & E.O. Wiley. 1984. Preface. *Annual Review of Ecology and Systematics* 15: v–vi.
371. Michener, C.D., & R.W. Brooks. 1984. Comparative study of the glossae of bees (Apoidea). *Contributions of the American Entomological Institute* 22(1): 1–73.  
*Ctenioschelini* Michener & Brooks, *nomen nudum*: 53
372. Maeta, Y., M. Shiokawa, S.F. Sakagami, & C.D. Michener. 1984. Field studies in Taiwan on nesting behavior of a social xylocopine bee, *Braunsapis sauteriella*. *Kontyû* 52(2): 266–277.
373. Michener, C.D. 1984. Proposal to emend Z.N.(S.) 2401 by designating *Apis pilipes* as type species of *Megilla* Fabricius. *Bulletin of Zoological Nomenclature* 41(3): 138–140.
374. Vogel, S., & C.D. Michener. 1984. [*Rediviva emdeorum* Vogel et Michener]. In: Vogel, S., *The Diascia flower and its bee – an oil-based symbiosis in southern Africa*: 515. *Acta Botanica Neerlandica* 33(4): 509–518. [Nota bene: The species established herein was intended for a subsequent publication (vide citation #383), but it was made available herein.]  
*Rediviva emdeorum* Vogel & Michener: 515 [unintentionally made available]
375. Johnston, R.F., P.W. Frank, C.D. Michener, J. Felsenstein, T.J.M. Schopf, H.H. Shugart, Jr., P.A. Werner, & J. Patton. 1985. Preface. *Annual Review of Ecology and Systematics* 16: [v].
376. Michener, C.D. 1984 [1985]. [Book review: *Comparative Ethology of the Vespine Wasps*, M. Mat-suura & S. Yamane]. *Journal of the Kansas Entomological Society* 57(4): 590.
377. Roubik, D.W., & C.D. Michener. 1984 [1985]. Nesting biology of *Crawfordapis* in Panama (Hymenoptera, Colletidae). *Journal of the Kansas Entomological Society* 57(4): 662–671.
378. Michener, C.D. 1984 [1985]. A comparative study of the mentum and lorum of bees (Hymenoptera: Apoidea). *Journal of the Kansas Entomological Society* 57(4): 705–714.
379. Maeta, Y., S.F. Sakagami, & C.D. Michener. 1985. Laboratory studies on the life cycle and nesting biology of *Braunsapis sauteriella*, a social xylocopine bee (Hymenoptera: Apidae). *Sociobiology* 10(1): 17–41.
380. Michener, C.D., & L. Greenberg. 1985. The fate of the lacinia in the Halictidae and Oxaeidae (Hymenoptera–Apoidea). *Journal of the Kansas Entomological Society* 58(1): 137–141.
381. Michener, C.D. 1985. From solitary to eusocial: Need there be a series of intervening species? In: Hölldobler, B., & M. Lindauer (Eds.), *Experimental Behavioral Ecology and Sociobiology: In Memoriam Karl von Frisch (1886–1982)*: 293–305. Gustav Fischer Verlag [Fortschritte der Zoologie, Volume 31]; Stuttgart, Germany; xiv+488 pp. [Nota bene: This book comprises

- volume 31 of the serial *Fortschritte der Zoologie* and therefore may be cited either as a section within the edited title, or as an article in volume 31 of the journal]
382. Michener, C.D. 1985. A fourth species of *Eulonchopria* and a key to the species (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 58(2): 236–239.
383. Vogel, S., & C.D. Michener. 1985. Long bee legs and oil-producing floral spurs, and a new *Rediviva* (Hymenoptera, Melittidae; Scrophulariaceae). *Journal of the Kansas Entomological Society* 58(2): 359–364. [Nota bene: *Rediviva emdeorum* was proposed as new but was actually made available in Vogel & Michener (1984): vide citation #374]
384. Brooks, R.W., & C.D. Michener. 1985. Nests of *Tetralonia lepida* (Hymenoptera, Anthophoridae). *Journal of the Kansas Entomological Society* 58(3): 559–561.
385. Johnston, R.F., P.W. Frank, C.D. Michener, J. Felsenstein, H.H. Shugart, Jr., B.B. Simpson, P.A. Werner, R.T. Paine, P.H. Raven, & J.M. Savage. 1986. Preface. *Annual Review of Ecology and Systematics* 17: v–vi.
386. Michener, C.D. 1986. New Peruvian genus and a generic review of Andreninae (Hymenoptera: Apoidea: Andrenidae). *Annals of the Entomological Society of America* 79(1): 62–72.  
*Alocandrena* Michener: 68  
*Alocandrena porteri* Michener: 69
387. Wu, Y., & C.D. Michener. 1986. Observations on Chinese *Macropis* (Hymenoptera: Apoidea: Melittidae). *Journal of the Kansas Entomological Society* 59(1): 42–48.
388. Michener, C.D. 1986. Family-group names among bees. *Journal of the Kansas Entomological Society* 59(2): 219–234.
389. Michener, C.D. 1986. A review of the tribes Diphaglossini and Dissoglottini (Hymenoptera, Colletidae). *University of Kansas Science Bulletin* 53(4): 183–214.  
*Cadegualina* Michener: 187  
*Mydrosomella* Michener: 194  
*Mydrosoma brooksi* Michener: 201  
*Mydrosoma bohartorum* Michener: 210  
*Mydrosoma sinaloa* Michener: 212
390. Michener, C.D. 1986. A *Lasioglossum* from Borneo with possible Australian affinities (Hymenoptera: Halictidae). *Journal of the Kansas Entomological Society* 59(4): 666–671.  
*Lasioglossum kinabaluense* Michener: 667
391. Michener, C.D. 1987. A forgotten paper on South American bees. *Melissa* 2: 6–7.
392. Michener, C.D., & R.W. Brooks. 1987. The family Melittidae in Madagascar (Hymenoptera, Apoidea). *Annales de la Société Entomologique de France* 23(1): 99–103.  
*Agemmonia (Dicromonia)* Michener & Brooks: 100  
*Agemmonia (Dicromonia) wenzeli* Michener & Brooks: 103
393. Michener, C.D. 1987. Taxonomy, phylogeny and zoogeography [Book review: *Taxonomy, Phylogeny and Zoogeography of Beetles and Ants, a Volume Dedicated to the Memory of Philip Jackson Darlington, Jr. (1904–1983)*, G.E. Ball]. *Evolution* 41(2): 449–450.
394. Fletcher, D.J.C., & C.D. Michener, editors. 1987. *Kin Recognition in Animals*. John Wiley and Sons, Ltd.; New York, NY; x+465 pp.
395. Fletcher, D.J.C., & C.D. Michener. 1987. Introductory remarks. In: Fletcher, D.J.C., & C.D. Michener (Eds.), *Kin Recognition in Animals*: 1–5. John Wiley and Sons, Ltd.; New York, NY; x+465 pp.
396. Michener, C.D., & B.H. Smith. 1987. Kin recognition in primitively eusocial insects. In: Fletcher, D.J.C., & C.D. Michener (Eds.), *Kin Recognition in Animals*: 209–242. John Wiley and Sons, Ltd.; New York, NY; x+465 pp.
397. Sakagami, S.F., & C.D. Michener. 1987. Tribes of Xylocopinae and origin of the Apidae (Hymenoptera: Apoidea). *Annals of the Entomological Society of America* 80(3): 439–450.  
**Manueliini** Sakagami & Michener: 439
398. Arduser, M.S., & C.D. Michener. 1987. An African genus of cleptoparasitic halictid bees (Hymenoptera, Halictidae). *Journal of the Kansas Entomological Society* 60(2): 324–329.
399. Michener, C.D. 1987. Origins of social structure in insect colonies. In: *International Ethological Conference XX* [7 August to 16 August 1987, University of Wisconsin, Madison USA]:





**Figure 24.** Michener at the blackboard in Snow Hall in 1987 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

- 118–119. University of Wisconsin; Madison, WI; 195 pp.
400. Daly, H.V., C.D. Michener, J.S. Moure, & S.F. Sakagami. 1987. The relictual bee genus *Manuelia* and its relation to other Xylocopinae (Hymenoptera: Apoidea). *Pan-Pacific Entomologist* 63(2): 102–124.
401. Rozen, J.G., Jr., & C.D. Michener. 1988. Nests and immature stages of the bee *Paratetrapedia swainsonae* (Hymenoptera: Anthophoridae). *American Museum Novitates* 2909: 1–13.

402. Danforth, B.N., & C.D. Michener. 1988. Wing folding in the Hymenoptera. *Annals of the Entomological Society of America* 81(2): 342–349.
403. Michener, C.D. 1988. The parasitic anthophorid genus *Xeromelecta* in Cuba (Hymenoptera: Apoidea). *Annals of the Entomological Society of America* 81(3): 377–379.  
*Xeromelecta* (*Nesomelecta*) **alayo**i Michener: 377
404. Michener, C.D., & D.A. Grimaldi. 1988. A *Trigona* from Late Cretaceous amber of New Jersey (Hymenoptera: Apidae: Meliponinae). *American Museum Novitates* 2917: 1–10.  
†*Trigona* (*Trigona*) **prisca** Michener & Grimaldi: 5
405. Griswold, T.L., & C. D. Michener. 1988. Taxonomic observations on Anthidiini of the Western Hemisphere (Hymenoptera: Megachilidae). *Journal of the Kansas Entomological Society* 61(1): 22–45.  
*Trachusa* (**Legnanthidium**) Griswold & Michener: 27  
*Dianthidium* (**Deranchanthidium**) Griswold & Michener: 34  
*Dianthidium* (*Adanthidium*) **discophorum** Griswold & Michener: 38  
*Dianthidium* (*Adanthidium*) **anophrys** Griswold & Michener: 40  
*Dianthidium* (*Deranchanthidium*) **chamela** Griswold & Michener: 41  
*Dianthidium* (*Deranchanthidium*) **bohartorum** Griswold & Michener: 43
406. Michener, C.D., & D.A. Grimaldi. 1988. The oldest fossil bee: Apoid history, evolutionary stasis, and antiquity of social behavior. *Proceedings of the National Academy of Sciences, U.S.A.* 85(17): 6424–6426.
407. Brooks, R.W., & C.D. Michener. 1988. The Apidae of Madagascar and nests of *Liotrigona* (Hymenoptera). *Sociobiology* 14(2): 299–323.  
*Liotrigona* **mahafalya** Brooks & Michener: 305  
*Liotrigona* **bitika** Brooks & Michener: 312
408. Michener, C.D. 1989. [Book review: *Biogeography and Taxonomy of Honeybees*, F. Rutter]. *Quarterly Review of Biology* 64(1): 79–80.
409. Michener, C.D. 1989. Mentors should wield their power lightly. *Viewpoints* [Newsletter of the Graduate School of the University of Kansas] 1989(Spring): 7.
410. Michener, C.D. 1989. Classification of American Colletinae (Hymenoptera, Apoidea). *University of Kansas Science Bulletin* 53(11): 622–703.  
*Leioproctus* (**Chilicolletes**) Michener: 640  
*Leioproctus* (**Kylopasiphae**) Michener: 641  
*Leioproctus* (**Glossopasiphae**) Michener: 643  
*Leioproctus* (**Sarocolletes**) Michener: 643  
*Leioproctus* (**Pygopasiphae**) Michener: 647  
*Leioproctus* (**Torocolletes**) Michener: 651  
*Leioproctus* (**Reedapis**) Michener: 656  
*Leioproctus* (**Cephalocolletes**) Michener: 657  
**Lonchorhyncha** Michener: 667  
*Eulonchopria* (**Ethalonchopria**) Michener: 670  
*Lonchopria* (**Lonchoprella**) Michener: 673  
*Lonchopria* (**Porterapis**) Michener: 678  
*Leioproctus* (*Perditomorpha*) **arnauellus** Michener: 688  
*Leioproctus* (*Perditomorpha*) **eulonchopriodes** Michener: 688  
*Leioproctus* (*Perditomorpha*) **inconspicuus** Michener: 689  
*Leioproctus* (*Kylopasiphae*) **pruinus** Michener: 690  
*Leioproctus* (*Leioproctus*) **fulvoniger** Michener: 691  
*Leioproctus* (*Glossopasiphae*) **plaumanni** Michener: 692  
*Leioproctus* (*Sarocolletes*) **duplex** Michener: 692  
*Leioproctus* (*Pygopasiphae*) **mourellus** Michener: 693  
*Leioproctus* (*Protodiscelis*) **spathigerus** Michener: 695  
*Leioproctus* (*Tetraglossula*) **anthracinus** Michener: 696  
*Leioproctus* (*Tetraglossula*) **fucosus** Michener: 697  
*Leioproctus* (*Nomiocolletes*) **simplicicrus** Michener: 697



**Figure 25.** Charles D. Michener and Alexandr P. Rasnitsyn outside of Snow Hall, 7 November 1989, and during the time in which they worked on the fossil bumble bee, *Bombus vetustus* Rasnitsyn & Michener (photograph by George W. Byers).

- Lonchopria* (*Lonchoprella*) *annectens* Michener: 699  
*Lonchopria* (*Biglossa*) *longicornis* Michener: 700  
*Lonchopria* (*Biglossa*) *robertsi* Michener: 702  
*Colletes* *grisellus* Michener: 703
411. Michener, C.D. 1988 [1989]. The genus *Lithurge* in the Antilles (Hymenoptera, Megachilidae). *Folia Entomologica Mexicana* 76: 159–164.  
*Lithurge antilleorum* Michener: 161
412. Laroca, S., C.D. Michener, & R.M. Hofmeister. 1989. Long mouthparts among “short-tongued” bees and fine structure of the labium in *Niltonia* (Hymenoptera, Colletidae). *Journal of the Kansas Entomological Society* 62(3): 400–410.
413. Michener, C.D. 1990. Reproduction and castes in social halictine bees. In: Engels, W. (Ed.), *Social Insects: An Evolutionary Approach to Castes and Reproduction*: 77–121. Springer Verlag; Berlin, Germany; [i]+264+[1] pp.
414. Michener, C.D. 1990. Castes in xylocopine bees. In: Engels, W. (Ed.), *Social Insects: An Evolutionary Approach to Castes and Reproduction*: 123–146. Springer Verlag; Berlin, Germany; [i]+264+[1] pp.
415. Michener, C.D., R.W. Brooks, & A. Pauly. 1990. Little-known Meganomiinae bees with a key to the genera (Hymenoptera: Melittidae). *Journal of African Zoology* 104(2): 135–140.  
*Uromonia* (*Nesomonia*) Michener, Brooks, & Pauly: 135
416. Michener, C.D. 1990. Wasps and our knowledge of insect social behaviour. In: Veeresh, G.K., B. Mallik, & C.A. Viraktamath (Eds.), *Social Insects and the Environment*: 61–62. Oxford & IBH Publishing Company; New Delhi, India; xxxi+765 pp.
417. Michener, C.D. 1990. Phylogeny and biogeography of the Meliponinae. In: Veeresh, G.K., B. Mallik, & C.A. Viraktamath (Eds.), *Social Insects and the Environment*: 583–584. Oxford & IBH Publishing Company; New Delhi, India; xxxi+765 pp.

418. Michener, C.D. 1990. Classification of the Apidae (Hymenoptera). *University of Kansas Science Bulletin* 54(4): 75–163.
419. Michener, C.C. [sic: D.], & S.F. Sakagami. 1990. Appendix: *Trigona genalis* Friese, a hitherto unplaced New Guinea species. *University of Kansas Science Bulletin* 54(4): 153–157.  
*Trigona (Papuatrigena)* Michener & Sakagami: 153
420. Michener, C.D. 1990. *Liotrigona* from Malagasy rain forests (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 63(3): 444–446.  
*Liotrigona nilssoni* Michener: 444
421. Reyes, S.G., & C.D. Michener. 1990. Observations on a parasitic allodapine bee and its hosts in Java and Malaysia (Hymenoptera Anthophoridae Allodapine [sic]). *Tropical Zoology* 3(2): 139–149.
422. Michener, C.D. 1991. [Book review: *Natural History of Social Wasps and Bees in Equatorial Sumatra*, S.F. Sakagami, R.I. Ohgushi, & D.W. Roubik]. *Journal of the Kansas Entomological Society* 64(1): 94.
423. Michener, C.D. 1991. Proposed precedence of some bee family-group names (Insecta, Hymenoptera): Names based on *Colletes* Latreille, 1802, on *Paracolletes* Smith, 1853, on *Halictus* Latreille, 1804, on *Anthidium* Fabricius, 1804 and on *Anthophora* Latreille, 1803 to have precedence over some senior names. *Bulletin of Zoological Nomenclature* 48(3): 227–235.
424. Michener, C.D., & T.F. Houston. 1991. Superfamily Apoidea. In: Naumann, I.D. (Ed.), *The Insects of Australia: A Textbook for Students and Research Workers* [2<sup>nd</sup> Edition, Volume II]: 993–1000. Cornell University Press; Ithaca, NY; vi+543–1137.
425. Rasnitsyn, A.P., & C.D. Michener. 1991. Miocene fossil bumble bee from the Soviet Far East with comments on the chronology and distribution of fossil bees (Hymenoptera: Apidae). *Annals of the Entomological Society of America* 85(6): 583–589.  
†*Bombus vetustus* Rasnitsyn & Michener: 583
426. Maeta, Y., S.F. Sakagami, & C.D. Michener. 1991. Laboratory studies on the biology and colony structure of *Braunsapis hewitti*, a xylocopine bee from Taiwan (Hymenoptera: Anthophoridae). *University of Kansas Science Bulletin* 54(9): 289–333.
427. Michener, C.D. 1992. Sexual dimorphism in the glossa of Colletidae (Hymenoptera, Apoidea). *Journal of the Kansas Entomological Society* 65(1): 1–9.
428. Michener, C.D. 1992. Nomenclatural problems in the Meganomiinae and a review of the genus *Pseudophilanthus* (Hymenoptera, Melittidae). *Journal of the Kansas Entomological Society* 65(2): 146–150.
429. Roig-Alsina, A., & C.D. Michener. 1992. Studies of the phylogeny and classification of long-tongued bees. In: *Program and Abstracts: International Workshop on Non-Apis Bees and Their Role as Crop Pollinators* [August 10–13, 1992, Logan, Utah]: 57. USDA [United States Department of Agriculture] Agricultural Research Service; Logan, UT; x+89 pp. [Nota bene: The new family-group names mentioned herein are nomenclatorially unavailable as this work does not meet the International Code of Zoological Nomenclature's criteria for publication for the purposes of nomenclature; regardless, they would be *nomina nuda* and are all treated again in #433, although some were made available by other authors: *vide* Engel (2005a)]
430. Reyes, S.G., & C.D. Michener. 1992. The genus *Halterapis* Michener 1969 in Madagascar (Hymenoptera Xylocopinae). *Tropical Zoology* 5(2): 249–253.
431. Michener, C.D., & D.W. Roubik. 1993. Observations on the labium of meliponine bees (Hymenoptera: Apidae). In: Inoue, T., & S. Yamane (Eds.), *Evolution of Insect Societies: Comparative Sociology of Bees, Wasps and Ants*: 251–266. Hakuhin-sha Publishing; Tokyo, Japan; vii+532 pp.
432. Michener, C.D. 1993. Series Apiformes. In: Goulet, H., & J.T. Huber (Eds.), *Hymenoptera of the World: An Identification Guide to Families*: 307–325, 347–357. Agriculture Canada; Ottawa, Canada; vii+668 pp.
433. Roig-Alsina, A., & C.D. Michener. 1993. Studies of the phylogeny and classification of long-tongued bees (Hymenoptera: Apoidea). *University of Kansas Science Bulletin* 55(4): 123–162.  
**Brachynomadini** Roig-Alsina & Michener: 157 [*vide* Engel (2005a)]
434. Michener, C.D. 1993. The status of *Prosopalictus*, a halictine bee from Taiwan (Hymenoptera,



**Figure 26.** Raghavendra Gadagkar at left, Charles D. Michener center, and at right the late Byron A. Alexander (1952–1996) outside of Snow Hall, 21 October 1994 (photograph by George W. Byers).

Halictidae). *Japanese Journal of Entomology* 61(1): 67–72.

*Lasioglossum micante* Michener: 69

435. Michener, C.D. 1993. Possible range extension or increase in abundance of the parasitic bee *Leiopodus singularis*. *Melissa* 6: 7.

436. Michener, C.D. 1994. Melittology in Thailand. *Melissa* 7: 3–4.

437. Michener, C.D., R.J. McGinley, & B.N. Danforth. 1994. *The Bee Genera of North and Central America (Hymenoptera: Apoidea)*. Smithsonian Institution Press; Washington, D.C.; viii+209 pp.  
*Megachile (Carinula)* Michener, McGinley, & Danforth: 174

438. Michener, C.D. 1992 [1994]. Mexican and Central American species of *Chilicola* (Hymenoptera: Colletidae). *Folia Entomológica Mexicana* 85: 77–93.

*Chilicola (Hylaeosoma) griswoldi* Michener: 84

*Chilicola (Hylaeosoma) polita* Michener: 87

439. Michener, C.D. 1994. Native bees in seventeenth century Latin America. *Melissa* 8: 9.

440. Michener, C.D. 1993 [1994]. A new *Colletes* from Mexico (Hymenoptera: Colletidae). *Folia Entomológica Mexicana* 87: 43–48.

*Colletes everaetae* Michener: 43

441. Michener, C.D., & T.L. Griswold. 1994. The classification of Old World Anthidiini (Hymenoptera, Megachilidae). *University of Kansas Science Bulletin* 55(9): 299–327.

*Acanthidium* Michener & Griswold: 305

*Acanthidium batrae* Michener & Griswold: 305

*Afrantheidium (Zosterantheidium)* Michener & Griswold: 310

*Eoantheidium (Clistantheidium)* Michener & Griswold: 315

*Indantheidium* Michener & Griswold: 315

*Indantheidium crenulicauda* Michener & Griswold: 316

*Larinostelis* Michener & Griswold: 317

*Larinostelis scapulata* Michener & Griswold: 317

- Pachyanthidium (Trichanthidiodes)* Michener & Griswold: 319  
*Pseudoanthidium (Tuberanthidium) brachiatum* Michener & Griswold: 320  
*Trachusoides* Michener & Griswold: 324  
*Trachusoides simplex* Michener & Griswold: 324
442. Michener, C.D., & T.L. Griswold. 1994. The neotropical *Stelis*-like cleptoparasitic bees (Hymenoptera: Megachilidae). *Proceedings of the Entomological Society of Washington* 96(4): 674–678.  
*Hoplostelis (Austrostelis)* Michener & Griswold: 676
443. Michener, C.D. 1994 [1995]. Some genus-group names of bees (Hymenoptera, Apoidea). *Journal of the Kansas Entomological Society* 67(4): 373–377.
444. Alexander, B.A., & C.D. Michener. 1995. Phylogenetic studies of the families of short-tongued bees (Hymenoptera: Apoidea). *University of Kansas Science Bulletin* 55(11): 377–424.
445. Michener, C.D. 1995. *Dialictus* Robertson, 1902 and *Chloralictus* Robertson, 1902 (Insecta, Hymenoptera): Proposed precedence over *Paralictus* Robertson, 1901. *Bulletin of Zoological Nomenclature* 52(4): 316–318.
446. Michener, C.D. 1995. A classification of the bees of the subfamily Xeromelissinae (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 68(3): 332–345.
447. Michener, C.D. 1996. PCAM: An international study of the bees of Mexico. In: Matheson, A., S.L. Buchmann, C. O'Toole, P. Westrich, & I.H. Williams (Eds.), *The Conservation of Bees*: 233–245. Academic Press; London, UK; viii+254 pp.
448. Michener, C.D. 1996. A review of the genera of Brachynomadini and a new South American genus (Hymenoptera, Apidae, Nomadinae). *Journal of the Kansas Entomological Society* 69(1): 87–96.  
*Trichonomada* Michener: 90  
*Trichonomada roigella* Michener: 91
449. Michener, C.D. 1996. [Untitled comment on Discussion Draft of the International Code of Zoological Nomenclature]. *Bulletin of Zoological Nomenclature* 53(2): 82–83.
450. Michener, C.D. 1996. The first South American dioxyine bee and a generic review of the tribe Dioxyini (Hymenoptera, Megachilidae). *Memoirs of the Entomological Society of Washington* 17: 142–152.  
*Dioxoides alata* Michener: 147
451. Michener, C.D., & G.[O.] Poinar, Jr. 1996 [1997]. The known bee fauna of the Dominican amber. *Journal of the Kansas Entomological Society, Supplement* [Special Publication No. 2] 69(4): 353–361.  
†*Eickwortapis* Michener & Poinar: 354  
†*Eickwortapis dominicana* Michener & Poinar: 356  
†*Chilicola (Hylaeosoma) gracilis* Michener & Poinar: 358
452. Michener, C.D. 1997. Genus-group names of bees and supplemental family-group names. *Scientific Papers, Natural History Museum, University of Kansas* 1: 1–81.  
*Callistochlora* Michener: 12  
*Chelostoma (Gyrodromella)* Michener: 27  
*Megachile (Paracella)* Michener: 44
453. Michener, C.D. 1997. The identity of the type species of the bee genus *Tetralonia* (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 70(1): 18–20.
454. Alexander, B.A., C.D. Michener, & A.L. Gardner. 1998. Dasypodidae Börner, 1919 (Insecta, Hymenoptera): Proposed emendation of spelling to Dasypodidae, so removing the homonymy with Dasypodidae Gray, 1821 (Mammalia, Xenarthra). *Bulletin of Zoological Nomenclature* 55(1): 24–28.
455. Griswold, T.L., & C.D. Michener. 1998. The classification of the Osmiini of the Eastern Hemisphere (Hymenoptera, Megachilidae). *Journal of the Kansas Entomological Society* 70(3): 207–253.  
*Hoplitis (Nasutosmia)* Griswold & Michener: 225  
*Heriades (Rhopaloheriades)* Griswold & Michener: 237
456. Williams, P.H., & C.D. Michener. 1998. Distribution and diversity of the Apini, Bombini, Euglossini and Meliponini. In: Schwarz, M.P., & K. Hogendoorn (Eds.), *Social Insects at the*



**Figure 27.** Michener at left, Padre Jesus S. Moure (1912–2010), Michael S. Engel, and Jerome G. Rozen, Jr. (at right), at the IV Encontro sobre Abelhas held in Ribeirão Preto, Brazil in September 2000 (photograph courtesy Favízia F. de Oliveira).

*Turn of the Millennium*: 507. Flinders University Press; Adelaide, Australia; [iv]+535 pp.

457. Michener, C.D. 1999. The corbiculae of bees. *Apidologie* 30(1): 67–74.

458. Brooks, R.W., & C.D. Michener. 1999. The *Chilicola megalostigma* species group and notes on two lost types of *Chilicola* (Hymenoptera: Colletidae, Xeromelissinae). *Journal of Hymenoptera Research* 8(2): 132–138.

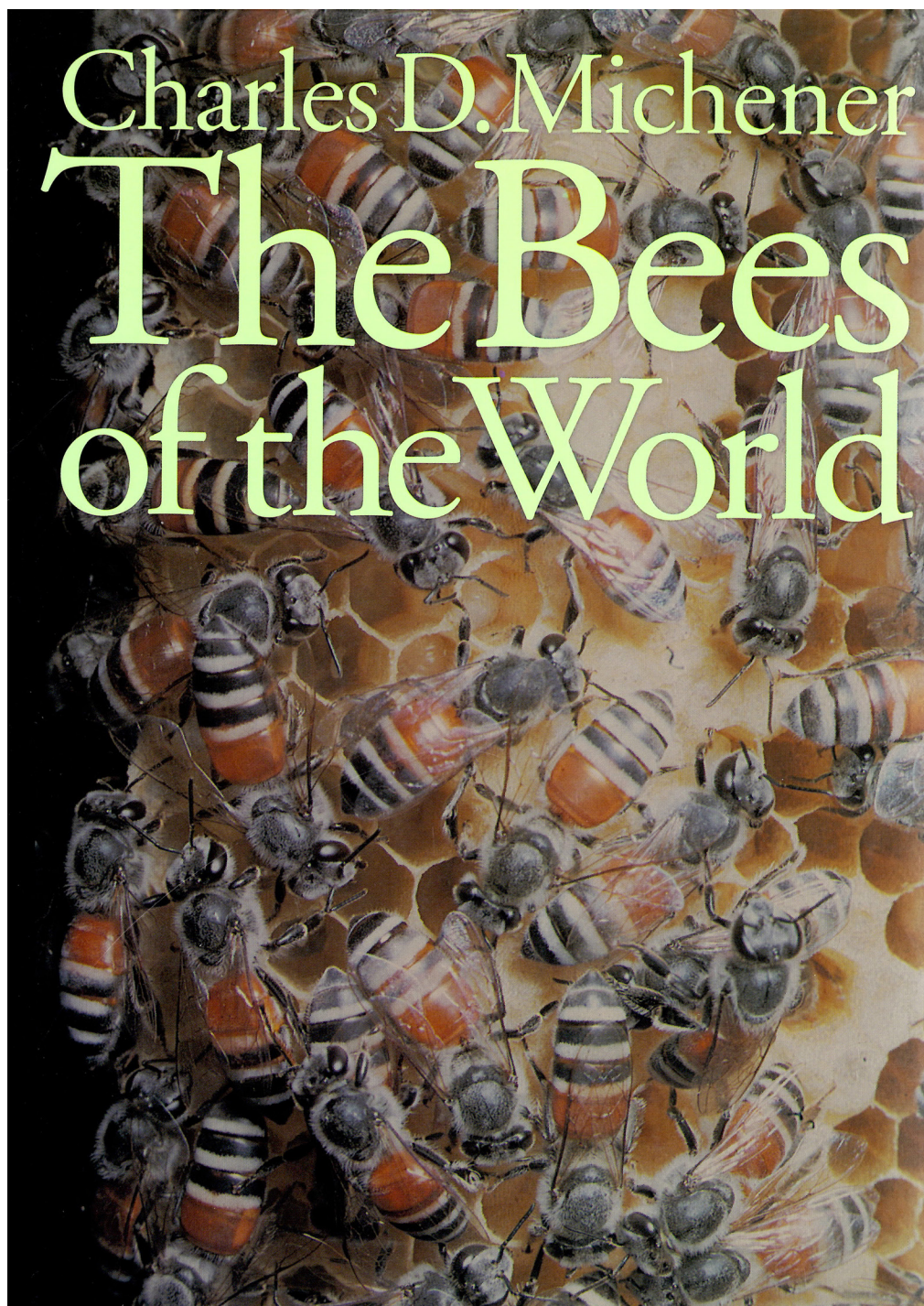
*Chilicola (Hylaeosoma) stenocephala* Brooks & Michener: 134

459. Michener, G.R., & C.D. Michener. 1999. Mating behavior of *Dianthidium curvatum* (Hymenoptera: Megachilidae) at a nest aggregation. *University of Kansas Natural History Museum Special Publication* 24: 37–43.

460. Michener, C.D., & J.G. Rozen, Jr. 1999. A new ground-nesting genus of xeromelissine bees from Argentina and the tribal classification of the subfamily (Hymenoptera: Colletidae). *American Museum Novitates* 3281: 1–10.

*Geodiscelis* Michener & Rozen: 2

*Geodiscelis megalophala* Michener & Rozen: 5



**Figure 28.** Cover of the first edition of Michener's acclaimed, *The Bees of the World* (2000, Johns Hopkins University Press). Representing the culmination of his lifelong efforts toward refining bee classification, the appearance of this unequaled, encyclopedic tome was as transformational to melittology as was Mich's 1944 monograph, if not more so given its greater scope.



461. Michener, C.D. 2000. *The Bees of the World*. Johns Hopkins University Press; Baltimore, MD; xiv+[i]+913 pp., +16 pls. [Nota bene: It might be said that with the publication of this book Mich had finally 'finished his doctoral dissertation', whereby he set out to provide a comprehensive, revised classification of the bees!]
- Alocandreninae** Michener: 228  
*Andrena (Osychnyukandrena)* Michener: 254  
**Liphanthini** Michener, *nomen nudum*: 262  
**Austropanurgini** Michener, *nomen nudum*: 262  
*Nomia (Paulynomia)* Michener: 326  
*Fidelia (Fideliana)* Michener: 422  
**Acedanthidium** Michener: 480  
*Ceratina (Rhysoceratina)* Michener: 599
462. Michener, C.D. 2000. What was the protobee? In: Bitondi, M.M.G., & K. Hartfelder (Eds.), *Anais do IV Encontro sobre Abelhas*: 2–7. Universidade de São Paulo; Ribeirão Preto, Brazil; xxix+[1]+363 pp.
463. Michener, C.D. 2000 [2001]. A high Andean subgenus and species of *Hylaeus* (Hymenoptera, Colletidae). *Journal of the Kansas Entomological Society* 73(1): 1–5.  
*Hylaeus (Orohylaeus)* Michener: 2  
*Hylaeus (Orohylaeus) benoisti* Michener: 4
464. Michener, C.D., & J.S. Moure. 2002. *Tetrapedia* Klug, 1810, *T. diversipes* Klug, 1819 [sic: 1810] and *Exomalopsis* Spinola, 1853 (Insecta, Hymenoptera): Proposed conservation of usage of the names by the designation of a neotype for *T. diversipes*. *Bulletin of Zoological Nomenclature* 59(1): 34–37.
465. Michener, C.D. 2001 [2002]. Comments on minute Meliponini and the male of the genus *Pariotrigona* (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 74(4): 231–236.
466. Michener, C.D. 2002. The bee genus *Chilicola* in the tropical Andes, with observations on nesting biology and a phylogenetic analysis of the subgenera (Hymenoptera: Colletidae, Xeromelissinae). *Scientific Papers, Natural History Museum, University of Kansas* 26: 1–47.  
*Chilicola (Anoediscelis) colombiana* Michener: 13  
*Chilicola (Anoediscelis) mistica* Michener: 13  
*Chilicola (Anoediscelis) venezuelana* Michener: 13  
*Chilicola (Anoediscelis) wygodzinskyi* Michener: 14  
*Chilicola (Anoediscelis) xanthostoma* Michener: 14  
*Chilicola (Anoediscelis) xanthognatha* Michener: 16  
*Chilicola (Anoediscelis) cooperi* Michener: 16  
*Chilicola (Anoediscelis) pedunculata* Michener: 16  
*Chilicola (Hylaeosoma) involuta* Michener: 20  
*Chilicola (Hylaeosoma) umbonata* Michener: 21  
*Chilicola (Hylaeosoma) canei* Michener: 21  
*Chilicola (Hylaeosoma) belli* Michener: 23  
*Chilicola (Hylaeosoma) smithpardoii* Michener: 24  
*Chilicola (Oroediscelis)* Michener: 26 [*recte Oroediscelis: vide* Michener (2003), #470]  
*Chilicola (Oroediscelis) espeleticola* Michener: 29  
*Chilicola (Oroediscelis) brooksi* Michener: 32  
*Chilicola (Oroediscelis) benoistiana* Michener: 32  
*Chilicola (Oroediscelis) cuzcoensis* Michener: 36  
*Chilicola (Oroediscelis) bigibbosa* Michener: 36  
*Chilicola (Oroediscelis) maculipes* Michener: 39  
*Chilicola (Oroediscelis) transversaria* Michener: 41  
*Chilicola (Oroediscelis) gibbosa* Michener: 42  
*Chilicola (Oroediscelis) brzoskai* Michener: 43  
*Chilicola (Oroediscelis) simplex* Michener: 45
467. Michener, C.D. 2002. E.L. Holmberg (1917, 1918), 'Las especies argentinas de *Coelioxys*' (Insecta, Hymenoptera): Proposed suppression of 139 names applied to groups of species.

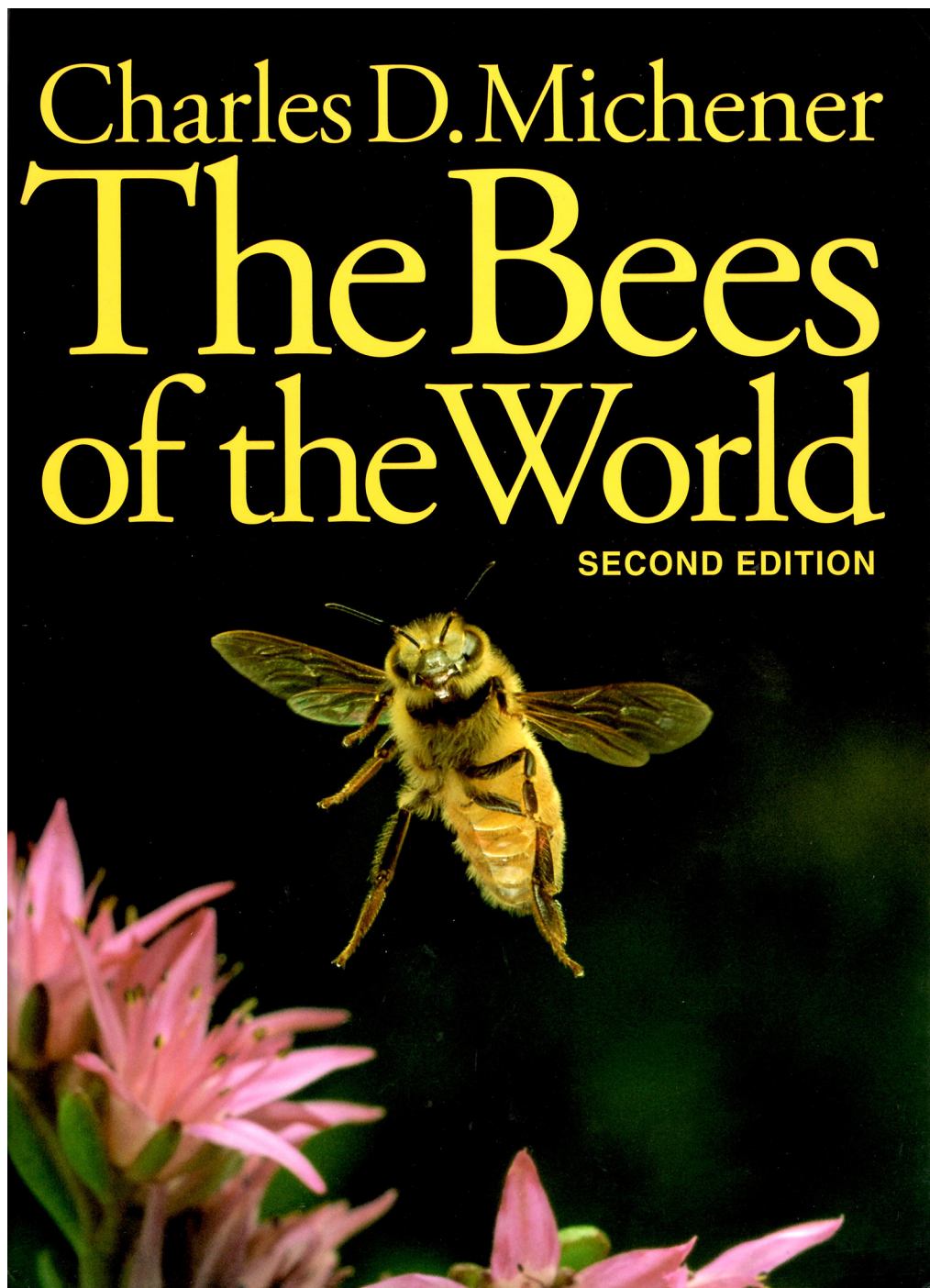


**Figure 29.** Michael S. Engel and Michener in the Snow Entomological Museum, June 2002 (photograph by Alexandr P. Rasnitsyn).

- Bulletin of Zoological Nomenclature* 59(2): 121–124.
468. Michener, C.D. 2002. A bee nest pseudofossil name not valid. *Journal of the Kansas Entomological Society* 75(2): 141.
469. Michener, C.D. 2002. *Duckeanthidium*, a genus new to Central America, with generic synonymy and a new species (Hymenoptera: Megachilidae). *Journal of the Kansas Entomological Society* 75(4): 233–240.  
*Duckeanthidium thielei* Michener: 235
470. Michener, C.D. 2003. *Oroediscelis* vs. *Oroediscelis* (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 76(2): 72. [Nota bene: This paper clarifies the proper spelling of the name *Oroediscelis* as established in Michener (2002), #466]
471. Michener, C.D., M.S. Engel, & R. Ayala. 2003. The bee genus *Caupolicana* in Central America (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 76(2): 160–171.  
*Caupolicana (Zikanapis) inbio* Michener, Engel, & Ayala: 164  
*Caupolicana (Zikanapis) rozenorum* Michener, Engel, & Ayala: 169
472. Michener, C.D., R.M. Borges, M. Zacharias, & M. Shenoy. 2003. A new parasitic bee of the genus *Braunsapis* from India (Hymenoptera: Apidae: Allodapini). *Journal of the Kansas Entomological Society* 76(3): 518–522.  
*Braunsapis bislensis* Michener & Borges: 520
473. Michener, C.D., & R.W. Brooks. 2003. Dispersal of brood cells in a Mesoamerican hylaeine bee: A probable risk-spreading behavior (Hymenoptera: Colletidae). In: Melo, G.A.R., & I. Alves dos Santos (Eds.), *Apoidea Neotropica: Homenagem aos 90 Anos de Jesus Santiago Moure*: 151–152. Editora UNESC [Universidade do Extremo Sul Catarinense]; Criciúma, Brazil; xvi+320 pp.
474. Engel, M.S., C.D. Michener, & M.G. Rightmyer. 2004. The cleptoparasitic bee tribe Rhathymini (Hymenoptera: Apidae): Description of a new genus and a tribal review. *Journal of Hymenoptera Research* 13(1): 1–12.  
*Rhathymodes* Engel, Michener, & Rightmyer: 6

475. Gonzalez, V.H., & C.D. Michener. 2004. A new *Chilicola* Spinola from Colombian Páramo (Hymenoptera: Colletidae: Xeromelissinae). *Journal of Hymenoptera Research* 13(1): 24–30.  
*Chilicola* (*Anoediscelis*) **paramo** Gonzalez & Michener: 25
476. Michener, C.D. 2003 [2004]. The bee genus *Mydrosoma* in Costa Rica (Hymenoptera: Colletidae). *Entomological News* 114(1): 54.
477. Ricketts, T.H., G.C. Daily, P.R. Ehrlich, & C.D. Michener. 2004. Economic value of tropical forest to coffee production. *Proceedings of the National Academy of Sciences, U.S.A.* 101(34): 12579–12582.
478. Engel, M.S., C.D. Michener, & M.G. Rightmyer. 2004. A replacement name for the cleptoparasitic bee genus *Rhathymodes* (Hymenoptera: Apidae). *Journal of Hymenoptera Research* 13(2): 316.  
**Nanorhathymus** Engel, Michener, & Rightmyer: 316
479. Michener, C.D., & S. Boongird. 2004. A new species of *Trigona* from peninsular Thailand (Hymenoptera: Apidae: Meliponini). *Journal of the Kansas Entomological Society* 77(2): 143–146.  
*Trigona* (*Tetragonula*) **sirindhornae** Michener & Boongird: 143
480. Gonzalez, V.H., & C.D. Michener. 2004. Application of specific names and association of sexes in *Cadegualina* Michener (Hymenoptera: Colletidae: Diphaglossini). *Proceedings of the Entomological Society of Washington* 106(4): 851–857.
481. Chinh, T.X., M.J. Sommeijer, W.J. Boot, & C.D. Michener. 2004. Nest architecture and colony characteristics of three stingless bees in North Vietnam with the first description of the nest of *Lisotrigona carpenteri* Engel (Hymenoptera: Apidae, Meliponini). In: Chinh, T.X., *Reproduction in Eusocial Bees (Apidae: Apini, Meliponini)* [Doctoral Dissertation]: 26–39. Utrecht Universiteit; Utrecht, The Netherlands; [9]+10–120 pp.
482. Michener, C.D., & M.J. West-Eberhard, editors. 2004. *Contributions Dedicated to Howard E. Evans*. *Journal of the Kansas Entomological Society* 77(4): 543 pp.
483. Michener, C.D., & M. Deyrup. 2004. *Caupolicana* from Florida (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 77(4): 774–782.  
*Caupolicana* (*Caupolicana*) **floridana** Michener & Deyrup: 777
484. Vergara, C.H., & C.D. Michener. 2004. A new species of *Caupolicana* s.str. from the Tehuacán-Cuicatlán Valley, Mexico, and a key to North American species of the subgenus (Hymenoptera: Colletidae). *Journal of the Kansas Entomological Society* 77(4): 783–787.  
*Caupolicana* (*Caupolicana*) **evansi** Vergara & Michener: 783
485. Hinojosa-Díaz, I.A., & C.D. Michener. 2005. A new bee of the genus *Chilicola* Spinola (Hymenoptera: Colletidae: Xeromelissinae) from central Mexico. *Proceedings of the Entomological Society of Washington* 107(1): 1–6.  
*Chilicola* (*Hylaeosoma*) **yanezae** Hinojosa-Díaz & Michener: 2
486. Michener, C.D. 2005. *Pseudoscolia*: A spheciform wasp with a pointed glossa (Hymenoptera: Crabronidae). *Journal of Hymenoptera Research* 14(1): 78–83.
487. Engel, M.S., & C.D. Michener. 2005. [Ancyloscelidina Engel and Michener, new subtribe]. In: Engel, M.S., *Family-group names for bees (Hymenoptera: Apoidea)*: 17. *American Museum Novitates* 3476: 1–33. [Nota bene: The name established here was used by Michener in an earlier paper, #433, but was an unintended *nomen nudum* as used therein. Its application in this work was its first, available usage and accordingly it was not tabulated for #433.]  
**Ancyloscelidina** Engel & Michener: 17
488. Chinh, T.X., M.J. Sommeijer, W.J. Boot, & C.D. Michener. 2005. Nest and colony characteristics of three stingless bee species in Vietnam with the first description of the nest of *Lisotrigona carpenteri* (Hymenoptera: Apidae: Meliponini). *Journal of the Kansas Entomological Society* 78(4): 363–372.
489. Michener, C.D. 2007. The professional development of an entomologist. *Annual Review of Entomology* 52: 1–15.
490. Michener, C.D. 2007. In memoriam: Alvaro Wille. *Journal of the Kansas Entomological Society* 80(2): 89.
491. Michener, C.D. 2007. *Lisotrigona* in Thailand, and the male of the genus (Hymenoptera: Apidae: Meliponini). *Journal of the Kansas Entomological Society* 80(2): 130–135.

492. Michener, C.D. 2007. *The Bees of the World* [2<sup>nd</sup> Edition]. Johns Hopkins University Press; Baltimore, MD; xvi+[i]+953 pp., +20 pls.
493. Michener, C.D., & M.S. Engel. 2009. *Caupolicana* in Central America (Hymenoptera, Colletidae, Diphaglossinae). *ZooKeys* 5: 53–64.  
*Caupolicana (Zikanapis) wileyi* Michener & Engel: 58
494. Michener, C.D., & M.S. Engel. 2010. The bee genus *Thrinchostoma* Saussure in the southern Asian region (Hymenoptera: Halictidae). *Proceedings of the Entomological Society of Washington* 112(1): 129–139.
495. Boongird, S., & C.D. Michener. 2010. Pollen and propolis collecting by male stingless bees (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 83(1): 47–50.
496. Rasmussen, C., & C.D. Michener. 2010. The identity and neotype of *Trigona laeviceps* Smith (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 83(2): 129–133.
497. Gleick, P.H., R.M. Adams, R.M. Amasino, E. Anders, D.J. Anderson, W.W. Anderson, L.E. Anselin, M.L. Arroyo, B. Asfaw, F.J. Ayala, A. Bax, A.J. Bebbington, G. Bell, M.V.L. Bennett, J.L. Bennetzen, M.R. Berenbaum, O.B. Berlin, P.J. Bjorkman, E. Blackburn, J.E. Blamont, M.R. Botchan, J.S. Boyer, E.A. Boyle, D. Branton, S.P. Briggs, W.R. Briggs, W.J. Brill, R.J. Britten, W.S. Broecker, J.H. Brown, P.O. Brown, A.T. Brunger, J. Cairns, Jr., D.E. Canfield, S.R. Carpenter, J.C. Carrington, A.R. Cashmore, J.C. Castilla, A. Cazenave, F.S. Chapin III, A.J. Ciechanover, D.E. Clapham, W.C. Clark, R.N. Clayton, M.D. Coe, E.M. Conwell, E.B. Cowling, R.M. Cowling, C.S. Cox, R.B. Croteau, D.M. Crothers, P.J. Crutzen, G.C. Daily, G.B. Dalrymple, J.L. Dangel, S.A. Darst, D.R. Davies, M.B. Davis, P.V. de Camilli, C. Dean, R.S. DeFries, J. Deisenhofer, D.P. Delmer, E.F. DeLong, D.J. Derosier, T.O. Diener, R. Dirzo, J.E. Dixon, M.J. Donoghue, R.F. Doolittle, T. Dunne, P.R. Ehrlich, S.N. Eisenstadt, T. Eisner, K.A. Emanuel, S.W. Englander, W.G. Ernst, P.G. Falkowski, G. Feher, J.A. Ferejohn, A. Fersht, E.H. Fischer, R. Fischer, K.V. Flannery, J. Frank, P.A. Frey, I. Fridovich, C. Frieden, D.J. Futuyma, W.A. Gardner, C.J.R. Garrett, W. Gilbert, R.B. Goldberg, W.H. Goodenough, C.S. Goodman, M. Goodman, P. Greengard, S. Hake, G. Hammel, S. Hanson, S.C. Harrison, S.R. Hart, D.L. Hartl, R. Haselkorn, K. Hawkes, J.M. Hayes, B. Hille, T. Höckfelt, J.S. House, M. Hout, D.M. Hunten, I.A. Izquierdo, A.T. Jagendorf, D.H. Janzen, R. Jeanloz, C.S. Jencks, W.A. Jury, H.R. Kaback, T. Kailath, P. Kay, S.A. Kay, D. Kennedy, A. Kerr, R.C. Kessler, G.S. Khush, S.W. Kieffer, P.V. Kirch, K. Kirk, M.G. Kivelson, J.P. Klinman, A. Klug, L. Knopoff, H. Kornberg, J.E. Kutzbach, J.C. Lagarias, K. Lambeck, A. Landy, C.H. Langmuir, B.A. Larkins, X.T. Le Pichon, R.E. Lenski, E.B. Leopold, S.A. Levin, M. Levitt, G.E. Likens, J. Lippincott-Schwartz, L. Lorand, C.O. Lovejoy, M. Lynch, A.L. Mabogunje, T.F. Malone, S. Manabe, J. Marcus, D.S. Massey, J.C. McWilliams, E. Medina, H.J. Melosh, D.J. Meltzer, C.D. Michener, E.L. Miles, H.A. Mooney, P.B. Moore, F.M.M. Morel, E.S. Mosley-Thompson, B. Moss, W.H. Munk, N. Myers, G.B. Nair, J. Nathans, E.W. Nester, R.A. Nicoll, R.P. Novick, J.F. O'Connell, P.E. Olsen, N.D. Opdyke, G.F. Oster, E. Ostrom, N.R. Pace, R.T. Paine, R.D. Palmiter, J. Pedlosky, G.A. Petsko, G.H. Pettengill, S.G. Philander, D.R. Piperno, T.D. Pollard, P.B. Price, Jr., P.A. Reichard, B.F. Reskin, R.E. Ricklefs, R.L. Rivest, J.D. Roberts, A.K. Romney, M.G. Rossmann, D.W. Russell, W.J. Rutter, J.A. Sabloff, R.Z. Sagdeev, M.D. Sahlins, A. Salmond, J.R. Sanes, R. Schekman, J. Schnellhuber, D.W. Schindler, J. Schmitt, S.H. Schneider, V.L. Schramm, R.R. Sederoff, C.J. Shatz, F. Sherman, R.L. Sidman, K. Sieh, E.L. Simons, B.H. Singer, M.F. Singer, B. Skyrms, N.H. Sleep, B.D. Smith, S.H. Snyder, R.R. Sokal, C.S. Spencer, T.A. Steitz, K.B. Strier, T.C. Südhof, S.S. Taylor, J. Terborgh, D.H. Thomas, L.G. Thompson, R.T. Tjian, M.G. Turner, S. Uyeda, J.W. Valentine, J.S. Valentine, J.L. Van Etten, K.E. Van Holde, M. Vaughan, S. Verba, P.H. von Hippel, D.B. Wake, A. Walker, J.E. Walker, E.B. Watson, P.J. Watson, D. Weigel, S.R. Wessler, M.J. West-Eberhard, T.D. White, W.J. Wilson, R.V. Wolfenden, J.A. Wood, G.M. Woodwell, H.E. Wright, Jr., C. Wu, C. Wunsch, & M.L. Zoback. 2010. Climate change and the integrity of science. *Science* 328(5979): 689–690.
498. Michener, C.D. 2011. Identification guide to bees in sub-Saharan Africa [Book review: *The Bee Genera and Subgenera of Sub-Saharan Africa*, C. Eardley, M. Kuhlmann, & A. Pauly]. *Journal of the Kansas Entomological Society* 84(1): 83.
499. Rasmussen, C., & C.D. Michener. 2011. *Callosphcodes*, a little-known bee (Hymenoptera,



**Figure 30.** Twice the blessings. The cover of the second edition of Michener's, *The Bees of the World* (2007, Johns Hopkins University Press). This monumental edition, growing over the first by 40 densely packed pages, achieved the seemingly impossible when it made an already excellent work better. Eight further color plates were added, enhancing the text, and those genera and subgenera proposed since the first edition received Mich's uniquely informed critique alongside the incorporation of abundant new biological information.

- Halictidae, *Sphcodes*). *ZooKeys* 127: 61–68.
500. Michener, C.D. 2011. Memories of Padre Moure. *Chrysomela* 53: 11.
501. Warrit, N., C.D. Michener, & C. Lekprayoon. 2012. A review of small carpenter bees of the genus *Ceratina*, subgenus *Ceratinidia*, of Thailand (Hymenoptera, Apidae). *Proceedings of the Entomological Society of Washington* 114(3): 398–416.  
*Ceratina Chiangmaiensis* Warrit, Michener, & Lekprayoon: 404
502. Engel, M.S., D.A. Grimaldi, V.H. Gonzalez, I.A. Hinojosa-Díaz, & C.D. Michener. 2012. An exomalopsine bee in Early Miocene amber from the Dominican Republic (Hymenoptera: Apidae). *American Museum Novitates* 3758: 1–16.
503. Michener, C.D. 2012. In memoriam: Robert R. Sokal (1926–2012). *Journal of the Kansas Entomological Society* 85(2): 173–175.
504. Engel, M.S., & C.D. Michener. 2012. The melectine bee genera *Brachymelecta* and *Sinomelecta* (Hymenoptera, Apidae). *ZooKeys* 244: 1–19.
505. Engel, M.S., V.H. Gonzalez, I.A. Hinojosa-Díaz, & C.D. Michener. 2013. Introducing the *Journal of Melittology*: An outlet for disseminating bee research and raising melittological awareness. *Journal of Melittology* 1: 1–3.
506. Michener, C.D. 2013. The Meliponini. In: Vit, P., S.R.M. Pedro, & D.W. Roubik (Eds.), *Pot-Honey: A Legacy of Stingless Bees*: 3–17. Springer Verlag; Berlin, Germany; xxviii+654 pp.
507. Engel, M.S., & C.D. Michener. 2013. Geological history of the stingless bees (Apidae: Meliponini). In: Vit, P., & D.W. Roubik (Eds.), *Stingless Bees Process Honey and Pollen in Cerumen Pots*: 1–7. Facultad de Farmacia y Bioanálisis, Universidad de Los Andes; Mérida, Venezuela; xii+170 pp.
508. Engel, M.S., & C.D. Michener. 2013. A minute stingless bee in Eocene Fushan [sic] amber from northeastern China (Hymenoptera: Apidae). *Journal of Melittology* 14: 1–10.  
†*Exebotrigona* Engel & Michener: 2  
†*Exebotrigona velteni* Engel & Michener: 4
509. Rasmussen, C., V.H. Gonzalez, M.S. Engel, & C.D. Michener. 2013. In memoriam: Wallace Edmund LaBerge (1927–2013). *Journal of Melittology* 17: 1–22.
510. Michener, C.D. 2013. Notes on male and female facial patterns in bees (Hymenoptera: Apoidea), with comments on other aculeates. *Journal of Melittology* 26: 1–4.
511. Engel, M.S., V.H. Gonzalez, & C.D. Michener. 2014. *Journal of Melittology*: First year ‘abuzz’. *Journal of Melittology* 27: 1–6.
512. Engel, M.S., A.S. Alqarni, M.A. Hannan, I.A. Hinojosa-Díaz, & C.D. Michener. 2014. Allopapine bees in the Arabian Peninsula (Hymenoptera: Apidae): A new species of *Braunsapis* from the Sarawat Mountains, with an overview of the Arabian fauna. *American Museum Novitates* 3801: 1–15.  
*Braunsapis alqarnii* Engel & Michener: 3
513. Engel, M.S., V.H. Gonzalez, I.A. Hinojosa-Díaz, & C.D. Michener. 2015. Another year of growth for the *Journal of Melittology*. *Journal of Melittology* 45: 1–6.
514. Warrit, N., & C.D. Michener. 2015. A new bee of the genus *Ceylalictus* Strand, 1913 from Thailand (Hymenoptera: Halictidae). *Pan-Pacific Entomologist* 91(2): 128–134. [Nota bene: In connection with the publication of this paper the managing editor published a small note highlighting Michener’s 80 years of scientific contributions as well as the fact that his first paper appeared in *Pan-Pacific Entomologist*: MacRae (2015)]  
*Ceylalictus (Atronomioides) bantoonei* Warrit & Michener: 128

We all hope for more good things to come!



**Figure 31.** Michener in the bee collection at the University of Kansas in 1986 (photograph courtesy of the University Archives, Kenneth Spencer Research Library, University of Kansas).

## TITLES

From 1935 through September 2015, Michener published in a diverse array of outlets, highlighting the international scope of his interests, expertise, and collaborations. Some of those journals remain active and are important to many researchers today, while others are no longer in print and may be difficult to locate. Listed here are those titles in which Michener published (including titles of books to which he contributed, either partially or entirely), followed in parentheses by the number of contributions to that particular periodical or volume and indicating the first and last year in which one of his works may be found in that series. Of Michener's 514 contributions, 105 (20%) appeared in the *Journal of the Kansas Entomological Society*, a serial for which he similarly served on the Publications Committee for many years.

**Serials**

(88 total serials)

- Acta Botanica Neerlandica* (1: 1984)  
*Acta Hymenopterologica* (1: 1961)  
*American Journal of Tropical Medicine* (1: 1946)  
*American Midland Naturalist* (5: 1939–1961 [1 book review])  
*American Museum Novitates* (16: 1936–2014)  
*American Naturalist* (1: 1944)  
*American Scientist* (3: 1980 [3 book reviews])  
*American Zoologist* (2: 1963–1964)  
*Anais do IV Encontro sobre Abelhas* (1: 2000)  
*Animal Behaviour* (1: 1966)  
*Annales de la Société Entomologique de France* (1: 1987)  
*Annals of the Entomological Society of America* (19: 1938–1991 [1 book review])  
*Annals of the Missouri Botanical Garden* (1: 1979)  
*Annals and Magazine of Natural History* (3: 1936–1937)  
*Annotationes Zoologicae Japonenses* (1: 1965)  
*Annual Report of Gorgas Memorial Laboratory* (3: 1946–1947)  
*Annual Review of Ecology and Systematics* (11: 1970–1986 [11 prefaces])  
*Annual Review of Entomology* (7: 1956–2007 [4 prefaces])  
*Apidologie* (1: 1999)
- Bee World* (3: 1963–1981)  
*Biennial Report of the Kansas Entomological Commission* (3: 1951–1954)  
*Biographical Memoirs, National Academy of Sciences* (1: 1982)  
*Biology International* (1: 1983)  
*BioScience* (2: 1973–1976 [1 book review])  
*Biotropica* (1: 1980)  
*Bulletin of the American Museum of Natural History* (8: 1944–1975)  
*Bulletin of the Brooklyn Entomological Society* (1: 1936)  
*Bulletin of the California Insect Survey* (1: 1955)  
*Bulletin of the Ecological Society of America* (1: 1963)  
*Bulletin of the Entomological Society of America* (4: 1971–1983 [2 book reviews])  
*Bulletin of the Southern California Academy of Science* (2: 1936–1940)  
*Bulletin of the University of Nebraska State Museum* (1: 1963)  
*Bulletin of Zoological Nomenclature* (11: 1957–2002)
- Canadian Entomologist* (2: 1935–1936)  
*Chrysomela* (1: 2011)



*Clinical Toxicology* (1: 1973)

*Contributions of the American Entomological Institute* (2: 1981–1984)

*Dusenien* (6: 1955–1958)

*Ecology* (1: 1958)

*Entomological News* (8: 1936–2003 [2004] [1 book review])

*Entomologist* (1: 1966)

*Evolution* (6: 1947–1987 [3 book reviews])

*Evolutionary Biology* (1: 1970)

*Folia Entomológica Mexicana* (3: 1988 [1989]–1993 [1994])

*Insectes Sociaux* (6: 1955–1981)

*Japanese Journal of Entomology* (1: 1993)

*Journal of African Zoology* (1: 1990)

*Journal of the Australian Entomological Society* (3: 1968–1976)

*Journal of Chemical Ecology* (1: 1983)

*Journal of Comparative Physiology, A, Neuroethology, Sensory, Neural, and Behavioral Physiology* (2: 1974)

*Journal of the Entomological Society of Queensland* (1: 1962)

*Journal of the Entomological Society of Southern Africa* (8: 1968–1976)

*Journal of Hymenoptera Research* (5: 1999–2005)

*Journal of the Kansas Entomological Society* (105: 1949–2011 [12 book reviews])

*Journal of Melittology* (6: 2013–2015)

*Journal of the New York Entomological Society* (9: 1942–1964)

*Kontyû* (2: 1977–1984)

*Melissa* (4: 1987–1994)

*Memoirs of the Entomological Society of Washington* (1: 1996)

*Natural History* (4: 1945–1948)

*Pacific Insects* (3: 1964–1979 [1 book review])

*Pan-Pacific Entomologist* (20: 1935–2015)

*Papua and New Guinea Agricultural Journal* (1: 1960)

*Proceedings of the Entomological Society of Washington* (6: 1948–2012)

*Proceedings of the Linnean Society of London* (1: 1967)

*Proceedings of the National Academy of Sciences, U.S.A.* (6: 1971–2004)

*Proceedings of the 6<sup>th</sup> Pacific Science Congress* (1: 1941)

*Psyche* (4: 1938–1954)

*Quarterly Review of Biology* (9: 1964–1989 [9 book reviews])

*Queensland Naturalist* (1: 1960)

*Research Reviews* (1: 1952)

*Revista de Biología Tropical* (2: 1962–1979)

*Science* (7: 1952–2010 [4 book reviews])

*Science Digest* (1: 1947)

*Scientific Monthly* (4: 1942–1955 [3 book reviews])

*Scientific Papers, Natural History Museum, University of Kansas* (2: 1997–2002)

*Sociobiology* (3: 1982–1988)  
*Symposia Genetica et Biologica Italica* (1: 1963)  
*Systematic Zoology* (10: 1953–1980 [1 book review])

*Transactions of the American Entomological Society* (3: 1939–1968 [1969])  
*Transactions of the Kansas Academy of Science* (1: 1953)  
*Tropical Zoology* (2: 1990–1992)

*University of California Publications in Entomology* (1: 1980)  
*University of Kansas Natural History Museum Special Publication* (1: 1999)  
*University of Kansas Science Bulletin* (25: 1950–1995)

*Viewpoints* (1: 1989)

*ZooKeys* (3: 2009–2012)  
*Zoological Journal of the Linnean Society* (2: 1970–1980)

### **Books & Special Volumes**

Michener Edited or Authored

*American Social Insects: A Book About Bees, Ants, Wasps, and Termites* (1: 1951)  
*The Bee Genera of North and Central America (Hymenoptera: Apoidea)* (1: 1994)  
*The Bees of the World, 1<sup>st</sup> & 2<sup>nd</sup> Editions* (2: 2000 & 2007)  
*The Biology of Social Insects* (2: 1982)  
*Kin Recognition in Animals* (3: 1987)  
*The Nest Architecture of the Sweat Bees (Halictinae): A Comparative Study of Behavior* (1: 1962)  
*The Social Behavior of the Bees: A Comparative Study* (1: 1974)  
*Systematics in Support of Biological Research* (1: 1970)

### **Other Editors/Authors**

*XVI International Congress of Entomology: Abstracts* (1: 1980)  
*Apoidea Neotropica: Homenagem aos 90 Anos de Jesus Santiago Moure* (1: 2003)  
*Australian Systematic Entomology: A Bicentenary Perspective* (1: 1983)  
*The Book of Knowledge Annual* (3: 1953–1955)  
*The Book of Popular Science* (4: 1956–1965)  
*A Century of Progress in the Natural Sciences, 1853–1953* (1: 1955)  
*Collier's Encyclopedia; with Bibliography and Index* (1: 1958)  
*The Conservation of Bees* (1: 1996)  
*Costa Rican Natural History* (1: 1983)  
*The Encyclopædia Britannica* (2: 1967)  
*The Encyclopedia Americana* (1: 1951)  
*Entomological Essays to Commemorate the Retirement of Professor K. Yasumatsu* (1: 1971)  
*Evolution of Insect Societies: Comparative Sociology of Bees, Wasps and Ants* (1: 1993)  
*Evolution of Social Behavior: Hypotheses and Empirical Tests* (2: 1980)  
*Experimental Behavioral Ecology and Sociobiology: In Memoriam Karl von Frisch (1886–1982)* (1: 1985)  
*External Construction by Animals* (1: 1976)  
*Funk and Wagnalls New Encyclopedia* (1: 1983)  
*Hymenoptera of America North of Mexico: Synoptic Catalog* (1: 1951)  
*Hymenoptera of the World: An Identification Guide to Families* (1: 1993)  
*Insect Polymorphism* (1: 1961)  
*The Insects of Australia: A Textbook for Students and Research Workers, 1<sup>st</sup> Edition, Supplement, & 2<sup>nd</sup> Edition* (3: 1970, 1974, & 1991)  
*International Encyclopedia of Psychiatry, Psychology, Psychoanalysis, and Neurology* (1: 1977)

- Pot Honey: A Legacy of Stingless Bees* (1: 2013)  
*Proceedings of the 8th International Congress of the International Union for the Study of Social Insects, Wageningen, The Netherlands, September 5–10, 1977* (1: 1977)  
*Proceedings of the Tenth International Congress of Entomology* (2: 1958)  
*International Ethological Conference XX* (1: 1987)  
*Program and Abstracts: International Workshop on Non-Apis Bees and Their Role as Crop Pollinators* (1: 1992)  
*Reproduction in Eusocial Bees (Apidae: Apini, Meliponini)* (1: 2004)  
*The Story of Our Time: Encyclopedia Yearbook* (1: 1953)  
*Social Insects and the Environment* (2: 1990)  
*Social Insects: An Evolutionary Approach to Castes and Reproduction* (2: 1990)  
*Social Insects at the Turn of the Millennium* (1: 1998)  
*Sozialpolymorphismus bei Insekten* (1: 1974)  
*Stingless Bees Process Honey and Pollen in Cerumen Pots* (1: 2013)  
*Symbols and Values: An Initial Study* (1: 1954)  
*Systems and Management Annual* (1: 1974)  
*Taxonomist's Glossary of Genitalia in Insects* (1: 1956)

## TAXA PROPOSED BY CHARLES D. MICHENER

The following lists all of those taxa established by Michener from 1935 through September 2015, with names organized by nomenclatorial group (*i.e.*, specific, generic, familial). The names are presented in their original combinations and with their original rank (*i.e.*, if originally described as a subspecies but today recognized as a species, then the name appears in the list as it was initially proposed). The list also includes names which are today considered junior synonyms of other taxa and so should not be considered a statement of taxonomic validity. No attempt was made to ascertain the current validity or combination of each taxon.

In total, 26 family-group names, 262 genus-group names, and 618 species-group names appear in the list, and understandably most of the taxa are of bees (refer to Tables 1 and 2). Fossil taxa are denoted by a dagger (†). Taxonomic groups above the family-group are indicated to provide a general framework in which to understand the diversity of the taxa involved. Within the Hymenoptera, where Michener did the vast majority of his work, the hierarchy provided is a bit more enriched so as to break up otherwise long lists of names within individual families.

**Species-Group Names**

Of the 618 species-group names, 61 were first established as subspecies and the remaining 557 as species. Five names were proposed for fossil species.

Class ARACHNIDA Lamarck  
 Subclass Acari Leach  
 Order Trombidiformes Reuter  
 Suborder Prostigmata Kramer  
 Family Trombiculidae Ewing

*Trombicula (Megatrombicula) attenuata* Michener, 1946

Family Trombidiidae Leach

*Manriquia panamensis* Michener, 1946  
*Manriquia boshelli* Michener, 1946  
*Microtrombidium maculatum* Michener, 1946  
*Microtrombidium pistiae* Michener, 1946  
*Microtrombidium fluminis* Michener, 1946  
*Microtrombidium littorale* Michener, 1946

Class INSECTA Linnaeus  
 Order Lepidoptera Linnaeus  
 Suborder Glossata Fabricius  
 Family Libytheidae Boisduval

*Libytheana carinenta mexicana* Michener, 1943

Family Lycaenidae Leach

*Strymon strigosus aliparops* Michener & dos Passos, 1942  
*Strymon strigosus fletcheri* Michener & dos Passos, 1942

## Family Nymphalidae Rafinesque

- Agraulis vanillae forbesi* Michener, 1942  
*Agraulis vanillae nigrior* Michener, 1942  
*Calisto hysius batesi* Michener, 1943  
*Calisto obscura* Michener, 1943  
*Calisto bruneri* Michener, 1949

## Family Saturniidae Boisduval

- Bathyphebia johnsoni* Oiticica Filho & Michener, 1950  
*Bathyphebia johnsoni flavior* Oiticica Filho & Michener, 1950  
*Bathyphebia rufescens* Oiticica Filho & Michener, 1950  
*Eacles johnsoniella* Oiticica Filho & Michener, 1950  
*Eacles imperialis pini* Michener, 1950  
*Dysdaemonia raveni* Johnson & Michener, 1948  
*Dirphia rufescens* Johnson & Michener, 1948  
*Dirphia flavosignata* Johnson & Michener, 1948  
*Dirphia centralis* Johnson & Michener, 1948  
*Dirphia levis* Johnson & Michener, 1948  
*Dirphiopsis albofasciata* Johnson & Michener, 1948  
*Automeris lauta* Johnson & Michener, 1948  
*Automeris oaxaca* Johnson & Michener, 1948  
*Ceropoda johnsoni* Michener, 1949  
*Psilopygida basalis* Michener, 1952  
*Hylesia gamelioides* Michener, 1952

Order Hymenoptera Linnaeus  
 Suborder Apocrita Gerstaecker  
 Family Ichneumonidae Latreille

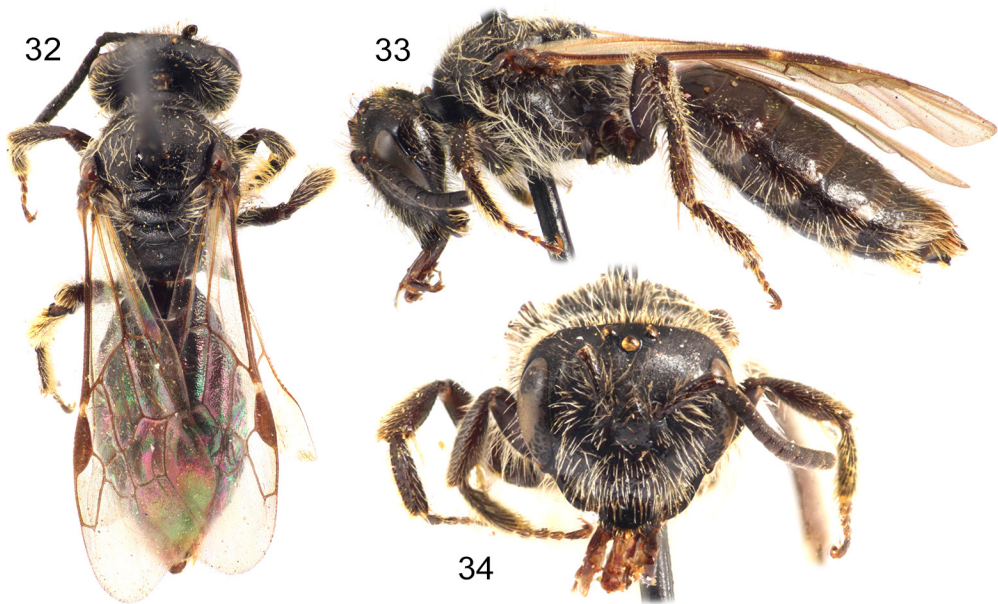
- Acerataspis sinensis* Michener, 1940  
*Metopius (Ceratopius) quadrifasciatus* Michener, 1941  
*Metopius (Ceratopius) vandykei* Michener, 1941  
*Metopius (Ceratopius) metallicus* Michener, 1941  
*Metopius (Ceratopius) gressitti* Michener, 1941  
*Metopius (Ceratopius) uchidai* Michener, 1941  
*Megarhyssa lunator phaeoptila* Michener, 1939  
*Megarhyssa lunator icterosticta* Michener, 1939

Anthophila Latreille [Bees]  
 Family Andrenidae Latreille  
 Subfamily Andreninae Latreille

- Alocandrena porteri* Michener, 1986  
*Andrena kraussi* Michener, 1954  
*Andrena vidalesi panamensis* Michener, 1954

## Subfamily Panurginae Leach

- Calliopsis bernardinensis* Michener, 1937  
*Calliopsis (Perissander) anomoptera* Michener, 1942  
*Panurginus ceanothi* Michener, 1935 [1936]  
*Panurginus gabrielis* Michener, 1935



**Figures 32–34.** Paratype female of *Panurginus gracilis* Michener, the first species described by Michener and from his second publication (appearing in the 1935 volume of *Canadian Entomologist*). The species occurs widely along the western coast of North America, ranging from Baja California (Mexico), coastally northward through the Central Coast and Central Valley west of the Sierra Nevada in California. **32.** Dorsal habitus. **33.** Lateral habitus. **34.** Facial view. Specimen from collected by Michener, 3 May 1933, on *Ceanothus crassifolius* Torr. (Rhamnaceae) at Altadena, California.

- Panurginus emarginatus* Michener, 1935 [1936]  
*Panurginus gracilis* Michener, 1935  
*Panurginus maritimus* Michener, 1935 [1936]  
*Panurginus nigrihirtus* Michener, 1935 [1936]  
*Pseudopanurgus aurifodinae* Michener, 1937  
*Pseudopanurgus bilobatus* Michener, 1937  
*Pseudopanurgus nebrascensis timberlakei* Michener, 1947  
*Pseudopanurgus (Heterosarus) nebrascensis muesebecki* Michener, 1951  
*Spinoliella edwardsii media* Michener, 1937  
*Spinoliella lawae* Michener, 1937  
*Xenopanurgus readioi* Michener, 1952

Family Apidae Latreille  
 Subfamily Apinae Latreille

- Alloscirtetica cinerea* Michener, LaBerge, & Moure, 1955  
*Alloscirtetica weyrauchi* Michener, LaBerge, & Moure, 1955  
*Amegilla (Asaropoda) albigenella* Michener, 1965  
*Ancyloscelis hertigi* Michener, 1954  
*Ancyloscelis panamensis* Michener, 1954  
*Anthophora chlorops* Michener, 1936  
*Anthophora chlorops utahensis* Michener, 1936  
*Anthophora erythrothorax* Michener, 1936

- Anthophora gohrmanae coloradensis* Michener, 1936  
*Anthophora rhodothorax* Michener, 1936  
*Anthophora simillima californiensis* Michener, 1935 [1936]  
 †*Bombus vetustus* Rasnitsyn & Michener, 1991  
*Centris obscurior* Michener, 1954  
*Dasyhalonia (Dasyhalonia) saltae* Michener & Moure, 1956  
*Dasyhalonia (Pachyhalonia) justii* Moure & Michener, 1955  
*Dasyhalonia (Pachyhalonia) phaeoptera* Moure & Michener, 1955  
*Deltoptila afimbriata* LaBerge & Michener, 1963  
*Deltoptila pexata* LaBerge & Michener, 1963  
*Diadasia schwarzi* Michener, 1954  
*Dithygater seabrai* Moure & Michener, 1955  
*Emphoropsis mucida ventralis* Michener, 1936  
*Emphoropsis salviae* Michener, 1936  
*Euplusia simillima* Moure & Michener, 1965  
 †*Exeobotrigona velteni* Engel & Michener, 2013  
*Exomalopsis mourei* Michener, 1954  
*Exomalopsis (Diomalopsis) bicellularis* Michener & Moure, 1957  
*Florilegus isthmicus* Michener, 1954  
*Florilegus (Eufloregus) barbiellini* Moure & Michener, 1955  
*Gaesischia (Gaesischiana) exul* Michener, LaBerge, & Moure, 1955  
*Gaesischia (Gaesischiopsis) flavoclypeata* Michener, LaBerge, & Moure, 1955  
*Gaesochira complanata* Moure & Michener, 1955  
*Lanthanmelissa (Lanthanella) completa* Michener & Moure, 1957  
*Liotrigona bitika* Brooks & Michener, 1988  
*Liotrigona mahafalya* Brooks & Michener, 1988  
*Liotrigona nilssoni* Michener, 1990  
*Melecta (Nesomelecta) haitensis* Michener, 1948  
*Neolarra (Neolarra) abdominalis* Michener, 1939  
*Neolarra (Neolarra) californica* Michener, 1939  
*Neolarra (Neolarra) linsleyi* Michener, 1939  
*Neolarra (Neolarra) vandykei* Michener, 1939  
*Neolarra (Phileremulus) coloradensis* Michener, 1939  
*Osiris mourei* Michener, 1954  
*Osiris obtusus* Michener, 1954  
*Paratetrapedia (Tropidopedia) seabrai* Michener & Moure, 1957  
*Paratetrapedia (Xanthopedia) tricolor* Michener & Moure, 1957  
*Svastrina anaroliata* Moure & Michener, 1955  
*Trigona (Hypotrigona) araujoii* Michener, 1959  
*Trigona (Tetragonula) sirindhornae* Michener & Boongird, 2004  
 †*Trigona (Trigona) prisca* Michener & Grimaldi, 1988  
*Xeromelecta (Nesomelecta) alayoi* Michener, 1988

Subfamily Nomadinae Latreille

- Hexepeolus mojavensis* Linsley & Michener, 1937  
*Hexepeolus rhodogyne* Linsley & Michener, 1937  
*Nomada panamensis* Michener, 1954  
*Nomada trapedoi* Michener, 1954  
*Odyneropsis gertschi* Michener, 1954  
*Paranomada nitida* Linsley & Michener, 1937  
*Protepeolus singularis* Linsley & Michener, 1937  
*Townsendiella californica* Michener, 1936  
*Trichonomada roigella* Michener, 1996

*Trophocleptria nigra* Michener, 1954  
*Trophocleptria odontothorax* Michener, 1954  
*Trophocleptria schraderi* Michener, 1954

Subfamily Xylocopinae Latreille

*Allodape australissima* Michener, 1975  
*Allodape brachycephala* Michener, 1971  
*Allodape greatheadi* Michener, 1970  
*Allodape skaifeorum* Michener, 1975  
*Allodapula associata* Michener, 1961  
*Allodapula benoisti* Michener, 1977  
*Allodapula empeyi* Michener, 1975  
*Allodapula guillarmodi* Michener, 1970  
*Allodapula hessei* Michener, 1971  
*Allodapula maculithorax* Michener, 1971  
*Allodapula minor* Michener & Syed, 1962  
*Allodapula occidentalis* Michener & Syed, 1962  
*Allodapula ornaticeps* Michener, 1971  
*Allodapula perkinsiella* Michener & Syed, 1962  
*Allodapula platyprosopon* Michener, 1977  
*Allodapula praesumptiosa* Michener, 1961  
*Allodapula rozeni* Michener, 1971  
*Allodapula rufa* Michener, 1977  
*Allodapula xerica* Michener, 1971  
*Braunsapis acuticauda* Michener, 1971  
*Braunsapis alqarnii* Engel & Michener, 2014  
*Braunsapis aureoscopa* Michener, 1975  
*Braunsapis bislensis* Michener & Borges, 2003  
*Braunsapis draconis* Michener, 1971  
*Braunsapis ghanae* Michener, 1975  
*Braunsapis madecassella* Michener, 1977  
*Braunsapis natalica* Michener, 1970  
*Braunsapis pallida* Michener, 1975  
*Braunsapis simplicipes* Michener, 1971  
*Braunsapis stuckenbergerorum* Michener, 1971  
*Ceratina breviceps* Michener, 1954  
*Ceratina Chiangmaiensis* Warrit, Michener, & Lekprayoon, 2012  
*Ceratina glossata* Michener, 1954  
*Ceratina kraussi* Michener, 1954  
*Ceratina nanula rigdenae* Michener, 1936  
*Ceratina nigritula* Michener, 1954  
*Ceratina rectangulifera* Schwarz & Michener, 1954  
*Ceratina sequoiae* Michener, 1936  
*Ceratina subpunctigena* Michener, 1936  
*Ceratina tricolor* Michener, 1954  
*Ceratina utahensis* Michener, 1936  
*Effractapis furax* Michener, 1977  
*Eucondylops reducta* Michener, 1970  
*Exoneura obscuripes* Michener, 1963  
*Exoneurula ocellata* Michener, 1966  
*Exoneurula stigmoides* Michener, 1971  
*Exoneurula zavattarii* Michener, 1966  
*Halterapis kraussi* Michener, 1977



*Halterapis tulearensis* Michener, 1977  
*Inquilina schwarzi* Michener, 1983  
*Macrogalea infernalis* Michener, 1977  
*Macrogalea zanzibarica* Michener, 1977  
*Nasutapis straussorum* Michener, 1970  
*Xylocopa orpifex androleuca* Michener, 1940  
*Xylocopa varians rufotegularis* Michener, 1954

Family Colletidae Lepeletier de Saint Fargeau  
 Subfamily Colletinae Lepeletier de Saint Fargeau

*Colletes everaetae* Michener, 1993 [1994]  
*Colletes grisellus* Michener, 1989  
*Colletes panamensis* Michener, 1954  
*Colletes rugicollis nigrrior* Michener, 1954  
*Colletes simulator* Michener, 1951

Subfamily Diphaglossinae Vachal

*Caupolicana (Caupolicana) evansi* Vergara & Michener, 2004  
*Caupolicana (Caupolicana) floridana* Michener & Deyrup, 2004  
*Caupolicana (Caupolicana) ocellata* Michener, 1966  
*Caupolicana (Zikanapis) inbio* Michener, Engel, & Ayala, 2003  
*Caupolicana (Zikanapis) rozenorum* Michener, Engel, & Ayala, 2003  
*Caupolicana (Zikanapis) wileyi* Michener & Engel, 2009  
*Mydrosoma bohartorum* Michener, 1986  
*Mydrosoma brooksi* Michener, 1986  
*Mydrosoma sinaloa* Michener, 1986

Subfamily Euryglossinae Michener

*Brachyhesma (Microhesma) cooki* Michener, 1965  
*Brachyhesma (Microhesma) dictaeta* Michener, 1965  
*Brachyhesma (Microhesma) incompleta* Michener, 1965  
*Dasyhesma robusta* Michener, 1965  
*Euryglossa (Callohesma) lacteipennis* Michener, 1965  
*Euryglossa (Callohesma) sulphurea* Michener, 1965  
*Euryglossa (Euhesma) australis* Michener, 1965  
*Euryglossa (Euhesma) hyphesmoides* Michener, 1965  
*Euryglossa (Euhesma) maculifera* Michener, 1965  
*Euryglossa (Euhesma) malaris* Michener, 1965  
*Euryglossa (Euhesma) palpalis* Michener, 1965  
*Euryglossa (Euhesma) perkinsi* Michener, 1965  
*Euryglossa (Euhesma) rufiventris* Michener, 1965  
*Euryglossa (Euhesma) wahlenbergiae* Michener, 1965  
*Euryglossa (Parahesma) tuberculipes* Michener, 1965  
*Euryglossa (Xenohesma) clypearis* Michener, 1965  
*Euryglossa (Xenohesma) evansi* Michener, 1965  
*Euryglossa (Xenohesma) federalis* Michener, 1965  
*Euryglossa (Xenohesma) flavicauda* Michener, 1965  
*Euryglossa (Xenohesma) primaria* Michener, 1965  
*Euryglossa (Xenohesma) scutellaris* Michener, 1965  
*Euryglossina (Euryglossella) perkinsi* Michener, 1965  
*Euryglossina (Euryglossina) intermedia* Michener, 1965

*Euryglossina* (*Turnerella*) ***flavolateralis*** Michener, 1965  
*Stenohesma* ***nomadiformis*** Michener, 1965  
*Xanthesma* ***flava*** Michener, 1965  
*Xanthesma* ***nigrior*** Michener, 1965

Subfamily Hylaeinae Sagemehl

*Hylaeorhiza* ***burnsi*** Michener, 1965  
*Hylaeus* ***panamensis*** Michener, 1954  
*Hylaeus* (*Edriohylaeus*) ***ofarrelli*** Michener, 1965  
*Hylaeus* (*Euprosopoides*) ***perconvergens*** Michener, 1965  
*Hylaeus* (*Hylaeteron*) ***hemirhodus*** Michener, 1965  
*Hylaeus* (*Orohylaeus*) ***benoisti*** Michener, 2000 [2001]  
*Hylaeus* (*Prosopisteron*) ***laevigatulus*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***albozebratus*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***douglasi*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***pictulus*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***simplex*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***tuamotuensis*** Michener, 1965  
*Hylaeus* (*Prosopisteron*) ***turgicollaris*** Michener, 1965  
*Hylaeus* (*Pseudhylaeus*) ***multigibbosus*** Michener, 1965  
*Hylaeus* (*Sphaerhylaeus*) ***bicolorellus*** Michener, 1965  
*Hylaeus* (*Xenohylaeus*) ***rieki*** Michener, 1965  
*Hylaeus* (*Zenohylaeus*) ***scutaticornis*** Michener, 1965 [*lapsus pro Xenohylaeus*]  
*Meroglossa* ***ocellata*** Michener, 1965  
*Palaeorhiza* (*Anchirhiza*) ***mandibularis*** Michener, 1965  
*Palaeorhiza* (*Palaeorhiza*) ***conica*** Michener, 1965  
*Palaeorhiza* (*Palaeorhiza*) ***infuscata*** Michener, 1965  
*Palaeorhiza* (*Palaeorhiza*) ***stygica*** Michener, 1965  
*Palaeorhiza* (*Palaeorhiza*) ***violacella*** Michener, 1965

Subfamily Paracolletinae Cockerell

*Eulonchopria* ***oaxacana*** Michener, 1963  
*Eulonchopria* ***punctatissima*** Michener, 1963  
*Hesperocolletes* ***douglasi*** Michener, 1965  
*Leioproctus* (*Andrenopsis*) ***douglasiellus*** Michener, 1965  
*Leioproctus* (*Andrenopsis*) ***nigrifrons*** Michener, 1965  
*Leioproctus* (*Baeocolletes*) ***calcaratus*** Michener, 1965  
*Leioproctus* (*Baeocolletes*) ***mas*** Michener, 1965  
*Leioproctus* (*Baeocolletes*) ***minimus*** Michener, 1965  
*Leioproctus* (*Bicolletes*) ***abdominis*** Michener, 1965  
*Leioproctus* (*Ceratocolletes*) ***ruficaudus*** Michener, 1965  
*Leioproctus* (*Ceratocolletes*) ***similior*** Michener, 1965  
*Leioproctus* (*Chrysocolletes*) ***crenulatus*** Michener, 1965  
*Leioproctus* (*Cladocerapis*) ***raymenti*** Michener, 1965  
*Leioproctus* (*Colletellus*) ***velutinellus*** Michener, 1965  
*Leioproctus* (*Colletopsis*) ***contrarius*** Michener, 1965  
*Leioproctus* (*Exocolletes*) ***impatellatus*** Michener, 1965  
*Leioproctus* (*Glossopasiphae*) ***plaumanni*** Michener, 1989  
*Leioproctus* (*Glossurocolletes*) ***bilobatus*** Michener, 1965  
*Leioproctus* (*Glossurocolletes*) ***xenoceratus*** Michener, 1965  
*Leioproctus* (*Goniocolletes*) ***dolosus*** Michener, 1965  
*Leioproctus* (*Kylopasiphae*) ***pruinusosus*** Michener, 1989

*Leioproctus* (*Leioproctus*) *frankiellus* Michener, 1965  
*Leioproctus* (*Leioproctus*) *friesellus* Michener, 1965  
*Leioproctus* (*Leioproctus*) *fulvoniger* Michener, 1989  
*Leioproctus* (*Leioproctus*) *lanhami* Michener, 1965  
*Leioproctus* (*Leioproctus*) *megachalcoides* Michener, 1965  
*Leioproctus* (*Leioproctus*) *melanoproctus* Michener, 1965  
*Leioproctus* (*Leioproctus*) *papuanus* Michener, 1965  
*Leioproctus* (*Leioproctus*) *simulator* Michener, 1965  
*Leioproctus* (*Leioproctus*) *unguidentatus* Michener, 1965  
*Leioproctus* (*Microcolletes*) *finkei* Michener, 1965  
*Leioproctus* (*Microcolletes*) *halictomimus* Michener, 1965  
*Leioproctus* (*Microcolletes*) *microsomus* Michener, 1965  
*Leioproctus* (*Microcolletes*) *wahlenbergiae* Michener, 1965  
*Leioproctus* (*Nodocolletes*) *pacificus* Michener, 1965  
*Leioproctus* (*Nomiocolletes*) *simplicicrus* Michener, 1989  
*Leioproctus* (*Perditomorpha*) *arnauellus* Michener, 1989  
*Leioproctus* (*Perditomorpha*) *eulonchopriodes* Michener, 1989  
*Leioproctus* (*Perditomorpha*) *inconspicuus* Michener, 1989  
*Leioproctus* (*Protodiscelis*) *spathigerus* Michener, 1989  
*Leioproctus* (*Pygopasiphae*) *mourellus* Michener, 1989  
*Leioproctus* (*Sarocolletes*) *duplex* Michener, 1989  
*Leioproctus* (*Tetraglossula*) *anthracinus* Michener, 1989  
*Leioproctus* (*Tetraglossula*) *fucosus* Michener, 1989  
*Leioproctus* (*Urocolletes*) *rhodurus* Michener, 1965  
*Lonchopria* (*Biglossa*) *longicornis* Michener, 1989  
*Lonchopria* (*Biglossa*) *robertsi* Michener, 1989  
*Lonchopria* (*Lonchoprella*) *annectens* Michener, 1989  
*Neopasiphae* *simplicior* Michener, 1965  
*Trichocolletes* (*Callocolletes*) *pulcherrimus* Michener, 1965  
*Trichocolletes* (*Trichocolletes*) *burnsi* Michener, 1965  
*Trichocolletes* (*Trichocolletes*) *marginatulus* Michener, 1965

Subfamily Xeromelissinae Cockerell

*Chilicola* (*Anoediscelis*) *colombiana* Michener, 2002  
*Chilicola* (*Anoediscelis*) *cooperi* Michener, 2002  
*Chilicola* (*Anoediscelis*) *mistica* Michener, 2002  
*Chilicola* (*Anoediscelis*) *paramo* Gonzalez & Michener, 2004  
*Chilicola* (*Anoediscelis*) *pedunculata* Michener, 2002  
*Chilicola* (*Anoediscelis*) *venezuelana* Michener, 2002  
*Chilicola* (*Anoediscelis*) *wygodzinskyi* Michener, 2002  
*Chilicola* (*Anoediscelis*) *xanthognatha* Michener, 2002  
*Chilicola* (*Anoediscelis*) *xanthostoma* Michener, 2002  
*Chilicola* (*Hylaeosoma*) *belli* Michener, 2002  
*Chilicola* (*Hylaeosoma*) *canei* Michener, 2002  
†*Chilicola* (*Hylaeosoma*) *gracilis* Michener & Poinar, 1996 [1997]  
*Chilicola* (*Hylaeosoma*) *griswoldi* Michener, 1992 [1994]  
*Chilicola* (*Hylaeosoma*) *involuta* Michener, 2002  
*Chilicola* (*Hylaeosoma*) *mexicana* Toro & Michener, 1975  
*Chilicola* (*Hylaeosoma*) *polita* Michener, 1992 [1994]  
*Chilicola* (*Hylaeosoma*) *smithpardoii* Michener, 2002  
*Chilicola* (*Hylaeosoma*) *stenocephala* Brooks & Michener, 1999  
*Chilicola* (*Hylaeosoma*) *umbonata* Michener, 2002  
*Chilicola* (*Hylaeosoma*) *yanezae* Hinojosa-Díaz & Michener, 2005

*Chilicola* (*Oroediscelis*) **benoistiana** Michener, 2002  
*Chilicola* (*Oroediscelis*) **bigibbosa** Michener, 2002  
*Chilicola* (*Oroediscelis*) **brooksi** Michener, 2002  
*Chilicola* (*Oroediscelis*) **brzuskai** Michener, 2002  
*Chilicola* (*Oroediscelis*) **cuzcoensis** Michener, 2002  
*Chilicola* (*Oroediscelis*) **espeleticola** Michener, 2002  
*Chilicola* (*Oroediscelis*) **gibbosa** Michener, 2002  
*Chilicola* (*Oroediscelis*) **maculipes** Michener, 2002  
*Chilicola* (*Oroediscelis*) **simplex** Michener, 2002  
*Chilicola* (*Oroediscelis*) **transversaria** Michener, 2002  
*Geodiscelis* **megacephala** Michener & Rozen, 1999

Family Halictidae Thomson  
 Subfamily Halictinae Thomson

*Agapostemon* **angelicus idahoensis** Michener, 1937  
*Augochlora* **antonita** Michener, 1954  
*Augochlora* **chiriquiana** Michener, 1954  
*Augochlora* **clarki** Michener, 1954  
*Augochlora* **hallinani** Michener, 1954  
*Augochlora* **hebescens fuscocyanea** Michener, 1954 [intended as *Augochloropsis*]  
*Augochlora* **mulleri mourei** Michener, 1954  
*Augochlora* **nominata** Michener, 1954  
*Augochlora* **utahensis** Michener, 1937  
*Augochlorella* **bidentata** Michener, 1954  
*Augochlorella* **edentata** Michener, 1954  
*Augochloropsis* **auriferina** Michener, 1954  
*Augochloropsis* **fairchildi** Michener, 1954  
*Caenaugochlora* **macswaini** Michener, 1954  
*Caenohalictus* **eberhardorum** Michener, 1979  
*Ceylalictus* (*Atronomioides*) **bantoonei** Warrit & Michener, 2015  
*Chlerogella* **elongaticeps** Michener, 1954  
†*Eickwortapis* **dominicana** Michener & Poinar, 1996 [1997]  
*Eupetersia* (*Eupetersia*) **guillarmodi** Michener, 1978  
*Eupetersia* (*Nesoeupetersia*) **flava** Michener, 1978  
*Habralictus* **bimaculatus** Michener, 1979  
*Halictus* **giffardi** Michener, 1937  
*Halictus* **szentivanyi** Michener, 1960  
*Halictus* (*Chloralictus*) **abietum** Michener, 1936  
*Halictus* (*Chloralictus*) **albuquerqueensis** Michener, 1937  
*Halictus* (*Chloralictus*) **bernardinensis** Michener, 1936  
*Halictus* (*Chloralictus*) **marinensis** Michener, 1936  
*Halictus* (*Chloralictus*) **pasadenae** Michener, 1936  
*Halictus* (*Evylaeus*) **humboldtensis** Michener, 1936  
*Halictus* (*Evylaeus*) **mendocinensis** Michener, 1936  
*Halictus* (*Evylaeus*) **sequoiae** Michener, 1936  
*Homalictus* **achrostus** Michener, 1979  
*Homalictus* **ctenander** Michener, 1965  
*Homalictus* **formosulus** Michener, 1965  
*Homalictus* **hadrander** Michener, 1979  
*Homalictus* **hirashimai** Michener, 1980  
*Homalictus* **ocellaris** Michener, 1980  
*Homalictus* **silvestris** Michener, 1980  
*Homalictus* **tricolor** Michener, 1965

*Homalictus (Papualictus) megalochilus* Michener, 1980  
*Homalictus (Papualictus) pelorodontus* Michener, 1980  
*Homalictus (Papualictus) sedlaceki* Michener, 1980  
*Homalictus (Papualictus) torulosus* Michener, 1980  
*Homalictus (Papualictus) umbonis* Michener, 1980  
*Lasioglossum denticeps* Michener, 1954  
*Lasioglossum godmanae* Michener, 1968 [1969]  
*Lasioglossum kinabaluense* Michener, 1986  
*Lasioglossum kraussi* Michener, 1954  
*Lasioglossum micante* Michener, 1993  
*Lasioglossum strigosigena* Michener, 1954  
*Lasioglossum (Australictus) fulvofasciae* Michener, 1965  
*Lasioglossum (Dialictus) breedi* Michener, 1979  
*Lasioglossum (Chilalictus) cephalochilum* Michener, 1965  
*Lasioglossum (Chilalictus) gynochilum* Michener, 1965  
*Lasioglossum (Chilalictus) obscurissimum* Michener, 1965  
*Lasioglossum (Chilalictus) wahlenbergiae* Michener, 1965  
*Lasioglossum (Chloralictus) comulum* Michener, 1951  
*Lasioglossum (Chloralictus) robertsonellum* Michener, 1951  
*Lasioglossum (Chloralictus) sandhouseae* Michener, 1951  
*Lasioglossum (Parasphcodes) frenchellum* Michener, 1965  
*Lasioglossum (Parasphcodes) permetallicum* Michener, 1965  
*Lasioglossum (Pseudochilalictus) imitator* Michener, 1965  
*Microsphcodes trichomus* Michener, 1979  
*Microsphcodes truncaticaudus* Michener, 1979  
*Neocorynura nuda* Michener, 1954  
*Neocorynura perpectinata* Michener, 1954  
*Neocorynura rufa* Michener, 1954  
*Neocorynura villosissima* Michener, 1954  
*Patellapis (Patellapis) braunsella* Michener, 1978  
*Ptilocleptis eickworti* Michener, 1978  
*Ptilocleptis polybioides* Michener, 1978  
*Ptilocleptis tomentosa* Michener, 1978  
*Sphcodes macswaini* Michener, 1954  
*Sphcodes (Austrosphcodes) convergens* Michener, 1978  
*Thrinchostoma (Thrinchostoma) afasciatum* Michener, 1978  
*Urohalyctus lieftincki* Michener, 1980

Subfamily Nomiinae Robertson

*Nomia californiensis* Michener, 1937  
*Nomia (Austronomia) cheesmanae* Michener, 1965  
*Nomia (Austronomia) maai* Michener, 1965  
*Nomia (Mellitidia) gressitti* Michener, 1965  
*Nomia (Mellitidia) simplicinotum* Michener, 1965  
*Nomia (Ptilonomia) plumosa* Michener, 1965

Subfamily Rophitinae Schenck

*Conanthalictus seminiger* Michener, 1937  
*Dufourea (Halictoides) marginata halictella* Michener, 1951  
*Dufourea (Halictoides) versatilis rubriventris* Michener, 1951  
*Halictoides altadenae* Michener, 1937  
*Halictoides australis* Michener, 1937

*Halictoides bernardinus* Michener, 1937  
*Halictoides boregoensis* Michener, 1937  
*Halictoides californicus* Michener, 1935 [1936]  
*Halictoides eschscholtziae* Michener, 1937  
*Halictoides harveyi sierrae* Michener, 1937  
*Halictoides nemophilae* Michener, 1937  
*Halictoides rhamni* Michener, 1937  
*Halictoides ruficaudus* Michener, 1937  
*Halictoides sandhouseae* Michener, 1937  
*Penapis penai* Michener, 1965  
*Systropha punjabensis* Batra & Michener, 1966

Family Megachilidae Latreille  
 Subfamily Fideliinae Cockerell

*Neofidelia profuga* Moure & Michener, 1955

Subfamily Lithurginae Newman

*Lithurge antilleorum* Michener, 1988 [1989]  
*Microthurge boharti* Michener, 1983

Subfamily Megachilinae Latreille

*Acanthidium batrae* Michener & Griswold, 1994  
*Anthocopa anthodyta bequaerti* Michener, 1954  
*Anthocopa arizonensis* Michener, 1954  
*Anthocopa hebitis* Michener, 1954  
*Anthocopa hurdiana* Michener, 1954  
*Anthocopa matheranensis* Michener, 1966  
*Anthocopa mirifica* Michener, 1954  
*Anthocopa namatophila* Michener, 1954  
*Anthocopa rubrella macswaini* Michener, 1954  
*Anthocopa rubrella rubrior* Michener, 1954  
*Anthocopa segregata* Michener, 1954  
*Anthocopa triodonta usingeri* Michener, 1943  
*Anthocopa (Atoposmia) anthodyta* Michener, 1943  
*Anthocopa (Atoposmia) nigrior* Michener, 1943  
*Anthocopa (Atoposmia) oregona* Michener, 1943  
*Anthocopa (Atoposmia) panamintensis* Michener, 1943  
*Anthocopa (Atoposmia) pycnognatha* Michener, 1943  
*Anthocopa (Atoposmia) pycnognatha solatus* Michener, 1949  
*Anthocopa (Eremosmia) beameri* Michener, 1951  
*Anthocopa (Eremosmia) laevibullata* Michener, 1943  
*Anthocopa (Eremosmia) mallognatha* Michener, 1943  
*Anthocopa (Eremosmia) nitidivitta* Michener, 1943  
*Anthocopa (Phaeosmia) daleae* Michener, 1951  
*Anthocopa (Phaeosmia) hypostomalis* Michener, 1949  
*Anthocopa (Phaeosmia) maryae* Michener, 1949  
*Anthocopa (Phaeosmia) rubrella* Michener, 1949  
*Ashmeadiella altadenae* Michener, 1936  
*Ashmeadiella arizonensis* Michener, 1936  
*Ashmeadiella basalis basalis* Michener, 1936  
*Ashmeadiella basalis nigra* Michener, 1936

- Ashmeadiella clypeodentata* Michener, 1936  
*Ashmeadiella cockerelli* Michener, 1936  
*Ashmeadiella difugita emarginatula* Michener, 1951  
*Ashmeadiella florissantensis* Michener, 1936  
*Ashmeadiella lateralis* Michener, 1936  
*Ashmeadiella maxima* Michener, 1936  
*Ashmeadiella rhodopus* Michener, 1936  
*Ashmeadiella stevensi* Michener, 1937  
*Ashmeadiella submaxima* Michener, 1936  
*Ashmeadiella timberlakei* Michener, 1936  
*Ashmeadiella* (*Arogochila*) *barberi* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *cazieri* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *clypeodentata simplicior* Michener, 1951  
*Ashmeadiella* (*Arogochila*) *erema* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *eurynorhyncha* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *foxiella* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *leachi* Michener, 1949  
*Ashmeadiella* (*Arogochila*) *salviae* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *sculleni* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *stenognatha* Michener, 1939  
*Ashmeadiella* (*Arogochila*) *tiberlakei solida* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *cactorum astragali* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *californica sierraensis* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *difugita* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *dimalla* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *foveata* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *gillettei cismontanica* Michener, 1951  
*Ashmeadiella* (*Ashmeadiella*) *gillettei rubra* Michener, 1951  
*Ashmeadiella* (*Ashmeadiella*) *occipitalis* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *rufitarsis* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *rufiventris* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *sonora* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *titusi* Michener, 1939  
*Ashmeadiella* (*Ashmeadiella*) *truncativentris* Michener, 1951  
*Ashmeadiella* (*Ashmeadiella*) *vandykiella* Michener, 1949  
*Ashmeadiella* (*Chilosima*) *washingtonensis* Michener, 1939  
*Ashmeadiella* (*Corythochila*) *breviceps* Michener, 1939  
*Ashmeadiella* (*Corythochila*) *inyoensis* Michener, 1939  
*Ashmeadiella* (*Cubitognatha*) *xenomastax* Michener, 1939  
*Ashmeadiella* (*Titusella*) *biscopula* Michener, 1939  
*Aztecantidium cuauhtemocum* Michener & Ordway, 1964  
*Aztecantidium xochipillium* Michener & Ordway, 1964  
*Chalicodoma mystaceana* Michener, 1962  
*Chalicodoma* (*Callomegachile*) *cheesmanae* Michener, 1965  
*Chalicodoma* (*Callomegachile*) *szentivanyi* Michener, 1965  
*Chalicodoma* (*Hackeriapis*) *papuae* Michener, 1965  
*Chelostoma bernardinum* Michener, 1938  
*Chelostoma marginatum incisuloides* Michener, 1954  
*Chelostoma minutum cockerelli* Michener, 1938  
*Chelostoma minutum incisulum* Michener, 1938  
*Chelostoma minutum marginatum* Michener, 1938  
*Chelostoma phaceliae* Michener, 1938  
*Chelostoma tetramerum* Michener, 1942  
*Chlorosmia lawae* Michener, 1936

- Coelioxys barbata* Schwarz & Michener, 1954  
*Dianthidium* (*Adanthidium*) *anophrys* Griswold & Michener, 1988  
*Dianthidium* (*Adanthidium*) *discophorum* Griswold & Michener, 1988  
*Dianthidium* (*Deranchanthidium*) *bohartorum* Griswold & Michener, 1988  
*Dianthidium* (*Deranchanthidium*) *chamela* Griswold & Michener, 1988  
*Dioxoides alata* Michener, 1996  
*Duckeanthidium thielei* Michener, 2002  
*Heriades microphthalma* Michener, 1954  
*Heriades texana* Michener, 1938  
*Heriades* (*Neotrypetes*) *currani* Michener, 1943  
*Heriades* (*Physostetha*) *ressoni* Michener, 1938  
*Heriades* (*Physostetha*) *occidentalis* Michener, 1938  
*Heriades* (*Physostetha*) *timberlakei* Michener, 1938  
*Heteranthidium cordaticeps* Michener, 1949  
*Heteranthidium zebratum mississippi* Michener, 1947  
*Hoplitis anthodemnion* Michener, 1968  
*Hoplitis grinnelli septentrionalis* Michener, 1947  
*Hoplitis mazourka* Michener, 1954  
*Hoplitis producta bernardina* Michener, 1947  
*Hoplitis producta interior* Michener, 1947  
*Hoplitis producta panamintana* Michener, 1947  
*Hoplitis producta subgracilis* Michener, 1947  
*Hoplitis rufina* Michener, 1954  
*Hoplitis* (*Acrosmia*) *perissocera* Michener, 1947  
*Hoplitis* (*Acrosmia*) *plagiostoma* Michener, 1947  
*Hoplitis* (*Alcidamea*) *elongaticeps* Michener, 1947  
*Hoplitis* (*Dasyosmia*) *paroselae* Michener, 1947  
*Hoplitis* (*Hoplitina*) *bullifacies* Michener, 1947  
*Hoplitis* (*Hoplitina*) *bunocephala* Michener, 1947  
*Hoplitis* (*Hoplitina*) *linsdalei* Michener, 1947  
*Hoplitis* (*Hoplitina*) *mojavensis* Michener, 1947  
*Indanthidium crenulaticauda* Michener & Griswold, 1994  
*Larinostelis scapulata* Michener & Griswold, 1994  
*Nananthidium tamaulipanum* Michener & Ordway, 1964  
*Osmia abdominalis* Michener, 1935 [1936]  
*Osmia alta* Michener, 1936  
*Osmia austromaritima* Michener, 1936  
*Osmia brevior* Michener, 1936  
*Osmia claremontensis* Michener, 1936  
*Osmia crenulaticornis* Michener, 1936  
*Osmia dakotensis* Michener, 1937  
*Osmia elongata* Michener, 1936  
*Osmia femorata* Michener, 1936  
*Osmia gracilis* Michener, 1935 [1936]  
*Osmia integra nigrigena* Michener, 1936  
*Osmia latisulcata* Michener, 1936  
*Osmia lutzii* Michener, 1936  
*Osmia marginata* Michener, 1936  
*Osmia mixta* Michener, 1936  
*Osmia occidentalis* Michener, 1936  
*Osmia parallela* Michener, 1936  
*Osmia pingreeana* Michener, 1937  
*Osmia potentillae* Michener, 1936  
*Osmia punctata* Michener, 1936



*Osmia raritatis* Michener, 1957  
*Osmia ribifloris biedermannii* Michener, 1936  
*Osmia sequoiae* Michener, 1936  
*Osmia subpurpurea jamesi* Michener, 1937  
*Osmia thysanisca* Michener, 1957  
*Osmia tokopahensis* Michener, 1936  
*Osmia wardiana austromontana* Michener, 1936  
*Osmia (Acanthosmioides) depressa* Michener, 1937  
*Osmia (Acanthosmioides) erecta* Michener, 1936  
*Osmia (Acanthosmioides) unca* Michener, 1937  
*Osmia (Acanthosmioides) uncinata* Michener, 1936  
*Osmia (Acanthosmioides) wyomingensis* Michener, 1936  
*Paranthidium (Mecanthidium) sonorum* Michener, 1942  
*Proteriades basingeri* Timberlake & Michener, 1950  
*Proteriades bidenticauda* Timberlake & Michener, 1950  
*Proteriades boharti* Timberlake & Michener, 1950  
*Proteriades caudex* Timberlake & Michener, 1950  
*Proteriades cryptanthae* Timberlake & Michener, 1950  
*Proteriades deserticola* Timberlake & Michener, 1950  
*Proteriades evansi* Michener, 1936  
*Proteriades hamulicornis* Timberlake & Michener, 1950  
*Proteriades nigrella attonita* Michener, 1954  
*Proteriades incanescens nevadensis* Timberlake & Michener, 1950  
*Proteriades incanescens tota* Michener, 1954  
*Proteriades nanula* Timberlake & Michener, 1950  
*Proteriades nanula sparsa* Timberlake & Michener, 1950  
*Proteriades nigra* Timberlake & Michener, 1950  
*Proteriades nigrella* Michener, 1954  
*Proteriades pygmaea* Timberlake & Michener, 1950  
*Proteriades reducta* Timberlake & Michener, 1950  
*Proteriades seminigra* Timberlake & Michener, 1950  
*Proteriades seminigra yosemitensis* Timberlake & Michener, 1950  
*Proteriades similis* Timberlake & Michener, 1950  
*Proteriades tristis* Michener, 1936  
*Proteriades truicauda* Timberlake & Michener, 1950  
*Pseudoanthidium (Tuberanthidium) brachiatum* Michener & Griswold, 1994  
*Titusella clypeata* Michener, 1936  
*Trachusoides simplex* Michener & Griswold, 1994  
*Ulanthidium mitchelli* Michener, 1948

Family Melittidae Kawai  
 Subfamily Dasypodainae Sagemehl

*Haplomelitta (Atrosamba) atra* Michener, 1981  
*Haplomelitta (Haplosamba) tridentata* Michener, 1981  
*Haplomelitta (Metasamba) fasciata* Michener, 1981  
*Haplomelitta (Prosamba) griseonigra* Michener, 1981  
*Hesperapis arida* Michener, 1936  
*Hesperapis parva* Michener, 1937

Subfamily Meganomiinae Michener

*Agemmonia (Dicromonia) wenzeli* Michener & Brooks, 1987  
*Ceratomonnia rozenorum* Michener, 1981

*Meganomia gigas* Michener, 1981  
*Meganomia (Meganomia) rossi* Michener, 1981  
*Uromonia stagei* Michener, 1981

Subfamily Melittinae Kawall

*Macropis steironematis opaca* Michener, 1938  
*Rediviva colorata* Michener, 1981  
*Rediviva emdeorum* Vogel & Michener, 1984  
*Rediviva longimanus* Michener, 1981  
*Redivivoides simulans* Michener, 1981

Family Stenotritidae Cockerell

*Ctenocolletes albomarginatus* Michener, 1965  
*Ctenocolletes notabilis* Michener, 1965  
*Ctenocolletes ordensis* Michener, 1965

### Genus-Group Names

Of these 262 genus-group names, 173 were first established as subgenera and the remaining 89 at generic rank. Three names were established for fossils, one originally as a subgenus.

Class ARACHNIDA Lamarck  
 Subclass Acari Leach  
 Order Trombidiformes Reuter  
 Suborder Prostigmata Kramer  
 Family Trombiculidae Ewing

*Trombicula (Megatrombicula)* Michener, 1946

Class INSECTA Linnaeus  
 Order Lepidoptera Linnaeus  
 Suborder Glossata Fabricius  
 Family Libytheidae Boisduval

*Libytheana* Michener, 1943

Family Nymphalidae Rafinesque

*Dryadula* Michener, 1942  
*Podotricha* Michener, 1942

Family Saturniidae Boisduval

*Adelocephala (Oiticicia)* Michener, 1949  
*Adelowalkeria (Ceratesa)* Michener, 1949  
*Adelowalkeria (Megaceresa)* Michener, 1949  
*Adelowalkeria (Ptiloscola)* Michener, 1949  
*Adelowalkeria (Rachesa)* Michener, 1949  
*Adelowalkeria (Scolesa)* Michener, 1949  
*Adetomeris* Michener, 1949  
*Automerina* Michener, 1949  
*Automerina (Automerula)* Michener, 1949  
*Automeris (Automerella)* Michener, 1949

*Automeris* (*Automeroides*) Michener, 1949  
*Callodirphia* Michener, 1949  
*Cerodirphia* Michener, 1949  
*Ceropoda* Michener, 1949  
*Citheronia* (*Citheronula*) Michener, 1949  
*Citheronia* (*Procitheronia*) Michener, 1949  
*Eubergioides* Michener, 1949  
*Ormiscodes* (*Dirphiella*) Michener, 1949  
*Ormiscodes* (*Meroleucoides*) Michener, 1949  
*Ormiscodes* (*Paradirphia*) Michener, 1949  
*Ormiscodes* (*Rhodirphia*) Michener, 1949  
*Ormiscodes* (*Xanthodirphia*) Michener, 1949  
*Psilopygida* Michener, 1949  
*Psilopygoides* Michener, 1949  
*Syssphinx* (*Bouvierina*) Michener, 1949  
*Travassosula* Michener, 1949

Order Hymenoptera Linnaeus  
 Suborder Apocrita Gerstaecker  
 Family Ichneumonidae Latreille

*Metopius* (*Clemontia*) Michener, 1941

Anthophila Latreille [Bees]  
 Family Andrenidae Latreille  
 Subfamily Andreninae Latreille

*Alocandrena* Michener, 1986  
*Andrena* (*Osychnyukandrena*) Michener, 2000

Subfamily Panurginae Leach

*Calliopsis* (*Perissander*) Michener, 1942  
*Xenopanurgus* Michener, 1952

Family Apidae Latreille  
 Subfamily Apinae Latreille

*Alloscirtetica* (*Ascirtetica*) Moure & Michener, 1955  
*Alloscirtetica* (*Dasyscirtetica*) Michener, LaBerge, & Moure, 1955  
*Alloscirtetica* (*Scirteticops*) Moure & Michener, 1955  
*Anthedonia* Michener, 1942  
*Chaetostetha* Michener, 1942  
*Chalepogenoides* Michener, 1942  
*Dasyhalonia* Michener, LaBerge, & Moure, 1955  
*Dasyhalonia* (*Pachyhalonia*) Moure & Michener, 1955  
*Dasyhalonia* (*Zonalonia*) Moure & Michener, 1955  
*Deltoptila* LaBerge & Michener, 1963  
*Dithygater* Moure & Michener, 1955  
*Epicharis* (*Epicharana*) Michener, 1954  
*Eucerinoda* Michener & Moure, 1957  
 †*Exebotrigona* Engel & Michener, 2013  
*Exomalopsis* (*Anthophorisca*) Michener & Moure, 1957  
*Exomalopsis* (*Diomalopsis*) Michener & Moure, 1957

*Exomalopsis* (*Megomalopsis*) Michener & Moure, 1957  
*Exomalopsis* (*Phanomalopsis*) Michener & Moure, 1957  
*Florilegus* (*Floriraptor*) Moure & Michener, 1955  
*Gaesischia* Michener, LaBerge, & Moure, 1955  
*Gaesischia* (*Agaesischia*) Moure & Michener, 1955  
*Gaesischia* (*Gaesischiana*) Michener, LaBerge, & Moure, 1955  
*Gaesischia* (*Gaesischiopsis*) Michener, LaBerge, & Moure, 1955  
*Gaesochira* Moure & Michener, 1955  
*Isomalopsis* Michener & Moure, 1957  
*Lanthanomesella* (*Lanthanella*) Michener & Moure, 1957  
*Lophothygater* Moure & Michener, 1955  
*Martinapis* (*Svaestropsis*) Moure & Michener, 1955  
*Megascirtetica* Moure & Michener, 1955  
*Melecta* (*Nesomelecta*) Michener, 1948  
*Melissoptila* (*Comeptila*) Moure & Michener, 1955  
*Micronychapis* Moure & Michener, 1955  
*Nanorhathymus* Engel, Michener, & Rightmyer, 2004  
*Pachysvastra* Moure & Michener, 1955  
*Paratetrapedia* (*Amphipedia*) Michener & Moure, 1957  
*Paratetrapedia* (*Lophopedia*) Michener & Moure, 1957  
*Paratetrapedia* (*Tropidopedia*) Michener & Moure, 1957  
*Paratetrapedia* (*Xanthopedia*) Michener & Moure, 1957  
*Rhathymodes* Engel, Michener, & Rightmyer, 2004  
*Svastrides* Michener, LaBerge, & Moure, 1955  
*Svastrina* Moure & Michener, 1955  
*Tapinotaspis* (*Tapinorhina*) Michener & Moure, 1957  
*Trigona* (*Papuatrigona*) Michener & Sakagami, 1990  
†*Trigona* (*Proplebeia*) Michener, 1982

Subfamily Nomadinae Latreille

*Gnathopasites* Linsley & Michener, 1939  
*Hexepeolus* Linsley & Michener, 1937  
*Paranomada* Linsley & Michener, 1937  
*Protepeolus* Linsley & Michener, 1937  
*Trichonomada* Michener, 1996

Subfamily Xylocopinae Latreille

*Allodapula* (*Dalloapula*) Michener, 1975  
*Allodapulodes* Michener, 1969  
*Braunsapis* Michener, 1969  
*Ceratina* (*Rhysoceratina*) Michener, 2000  
*Effractapis* Michener, 1977  
*Exoneura* (*Brevineura*) Michener, 1965  
*Exoneurella* Michener, 1963  
*Exoneurula* Michener, 1966  
*Halterapis* Michener, 1969  
*Inquilina* Michener, 1961  
*Nasutapis* Michener, 1970  
*Xylocopa* (*Ctenoxylocopa*) Michener, 1942  
*Xylocopa* (*Maiella*) Michener, 1942  
*Xylocopa* (*Neoxylocopa*) Michener, 1954  
*Xylocopa* (*Xylocopoides*) Michener, 1954



**Figures 35–37.** Female of *Leipopodus singularis* (Linsley & Michener), type species for the first genus described by Mich (1937; as *Protepeolus* Linsley & Michener, but today a junior synonym of *Leipopodus* Smith). This species is a widespread cleptoparasite of species of *Diadasia* Patton. **35.** Dorsal habitus. **36.** Lateral habitus. **37.** Facial view. Specimen collected 24 August 1989 from northeast of Portal, Arizona.

Family Colletidae Lepeletier de Saint Fargeau  
Subfamily Diphaglossinae Vachal

*Caudegualina* Michener, 1986  
*Caupolicana* (*Alayoapis*) Michener, 1966  
*Caupolicana* (*Caupolicanoides*) Michener, 1966  
*Mydrosomella* Michener, 1986

Subfamily Euryglossinae Michener

*Brachyhesma* Michener, 1965  
*Brachyhesma* (*Microhesma*) Michener, 1965  
*Dasyhesma* Michener, 1965  
*Euryglossa* (*Callohesma*) Michener, 1965  
*Euryglossa* (*Dermatohesma*) Michener, 1965  
*Euryglossa* (*Euhesma*) Michener, 1965  
*Euryglossa* (*Parahesma*) Michener, 1965  
*Euryglossa* (*Xenohesma*) Michener, 1965  
*Euryglossula* Michener, 1965  
*Heterohesma* Michener, 1965  
*Holohesma* Michener, 1965  
*Hyphesma* Michener, 1965  
*Pachyprosopis* (*Pachyprosopina*) Michener, 1965

*Pachyprosopis* (*Pachyprosopula*) Michener, 1965  
*Stenohesma* Michener, 1965  
*Xanthesma* Michener, 1965

Subfamily Hylaeinae Sagemehl

*Amphylaeus* Michener, 1965  
*Amphylaeus* (*Agogenohylaeus*) Michener, 1965  
*Gephyrohylaeus* Michener, 1965  
*Hemirhiza* Michener, 1965  
*Hylaeorhiza* Michener, 1965  
*Hylaeus* (*Cephalylaeus*) Michener, 1942  
*Hylaeus* (*Edriohylaeus*) Michener, 1965  
*Hylaeus* (*Euprosopellus*) Michener, 1965  
*Hylaeus* (*Euprosopoides*) Michener, 1965  
*Hylaeus* (*Gnathoprosopoides*) Michener, 1965  
*Hylaeus* (*Hylaeana*) Michener, 1954  
*Hylaeus* (*Hylaeopsis*) Michener, 1954  
*Hylaeus* (*Hylaeteron*) Michener, 1965  
*Hylaeus* (*Macrohylaeus*) Michener, 1965  
*Hylaeus* (*Metziella*) Michener, 1942  
*Hylaeus* (*Orohylaeus*) Michener, 2000 [2001]  
*Hylaeus* (*Rhodohylaeus*) Michener, 1965  
*Hylaeus* (*Xenohylaeus*) Michener, 1965  
*Palaeorhiza* (*Anchirhiza*) Michener, 1965  
*Palaeorhiza* (*Xenorhiza*) Michener, 1965  
*Pharohylaeus* Michener, 1965

Subfamily Paracolletinae Cockerell

*Eulonchopria* (*Ethalonchopria*) Michener, 1989  
*Hesperocolletes* Michener, 1965  
*Leioproctus* (*Anacolletes*) Michener, 1965  
*Leioproctus* (*Baeocolletes*) Michener, 1965  
*Leioproctus* (*Cephalocolletes*) Michener, 1989  
*Leioproctus* (*Ceratocolletes*) Michener, 1965  
*Leioproctus* (*Chilicolletes*) Michener, 1989  
*Leioproctus* (*Chrysocolletes*) Michener, 1965  
*Leioproctus* (*Colletellus*) Michener, 1965  
*Leioproctus* (*Colletopsis*) Michener, 1965  
*Leioproctus* (*Exocolletes*) Michener, 1965  
*Leioproctus* (*Glossopasiphae*) Michener, 1989  
*Leioproctus* (*Glossurocolletes*) Michener, 1965  
*Leioproctus* (*Hoplocolletes*) Michener, 1965  
*Leioproctus* (*Kylopasiphae*) Michener, 1989  
*Leioproctus* (*Microcolletes*) Michener, 1965  
*Leioproctus* (*Nesocolletes*) Michener, 1965  
*Leioproctus* (*Pygopasiphae*) Michener, 1989  
*Leioproctus* (*Reedapis*) Michener, 1989  
*Leioproctus* (*Sarocolletes*) Michener, 1989  
*Leioproctus* (*Torocolletes*) Michener, 1989  
*Leioproctus* (*Urocolletes*) Michener, 1965  
*Lonchopria* (*Lonchoprella*) Michener, 1989  
*Lonchopria* (*Porterapis*) Michener, 1989

*Lonchorhyncha* Michener, 1989  
*Trichocolletes* (*Callocolletes*) Michener, 1965

Subfamily Xeromelissinae Cockerell

*Chilicola* (*Oroediscelis*) Michener, 2002 [*recte Oroediscelis: vide* Michener (2003), #470]  
*Geodiscelis* Michener & Rozen, 1999

Family Halictidae Thomson  
 Subfamily Halictinae Thomson

*Caenaugochlora* Michener, 1954  
*Caenaugochlora* (*Pseudaugochlora*) Michener, 1954  
*Callistochlora* Michener, 1997  
*Chlerogella* Michener, 1954  
 †*Eickwortapis* Michener & Poinar, 1996 [1997]  
*Homalictus* (*Papualictus*) Michener, 1980  
*Lasioglossum* (*Australictus*) Michener, 1965  
*Lasioglossum* (*Austrevylaeus*) Michener, 1965  
*Lasioglossum* (*Callalictus*) Michener, 1965  
*Lasioglossum* (*Chilalictus*) Michener, 1965  
*Lasioglossum* (*Glossalictus*) Michener, 1965  
*Lasioglossum* (*Pseudochilalictus*) Michener, 1965  
*Pachyhalictus* (*Dictyohalictus*) Michener, 1978  
*Patellapis* (*Chaetalictus*) Michener, 1978  
*Patellapis* (*Lomatalictus*) Michener, 1978  
*Ptilocleptis* Michener, 1978  
*Sphecodes* (*Austrosphecodes*) Michener, 1978  
*Urohalictus* Michener, 1980  
*Zonalictus* Michener, 1978

Subfamily Nomiinae Robertson

*Nomia* (*Austronomia*) Michener, 1965  
*Nomia* (*Curvinomia*) Michener, 1944  
*Nomia* (*Paranomia*) Michener, 1944  
*Nomia* (*Paulynomia*) Michener, 2000  
*Nomia* (*Ptilonomia*) Michener, 1965

Subfamily Rophitinae Schenck

*Conanthalictus* (*Phaceliapis*) Michener, 1942  
*Penapis* Michener, 1965

Family Megachilidae Latreille  
 Subfamily Fideliinae Cockerell

*Fidelia* (*Fideliana*) Michener, 2000  
*Neofidelia* Moure & Michener, 1955

Subfamily Lithurginae Newman

*Microthurge* Michener, 1983

## Subfamily Megachilinae Latreille

- Acanthidium* Michener & Griswold, 1994  
*Acedanthidium* Michener, 2000  
*Afranthidium* Michener, 1948  
*Afranthidium (Zosteranthidium)* Michener & Griswold, 1994  
*Allanthidium (Anthidianum)* Michener, 1948  
*Anthocopa (Eremosmia)* Michener, 1943  
*Anthocopa (Glossosmia)* Michener, 1943  
*Anthocopa (Hexosmia)* Michener, 1943  
*Anthocopa (Isosmia)* Michener & Sokal, 1957  
*Anthocopa (Othinosmia)* Michener, 1943  
*Anthocopa (Phaeosmia)* Michener, 1943  
*Anthocopa (Rhodosmia)* Michener, 1943  
*Anthocopa (Xerosmia)* Michener, 1943  
*Ashmeadiella (Arogochila)* Michener, 1939  
*Ashmeadiella (Chilosima)* Michener, 1939  
*Ashmeadiella (Corythochila)* Michener, 1939  
*Ashmeadiella (Cubitognatha)* Michener, 1939  
*Aztecanthidium* Michener & Ordway, 1964  
*Chalicodoma (Austrochile)* Michener, 1965  
*Chalicodoma (Callomegachile)* Michener, 1962  
*Chalicodoma (Chalicodomoides)* Michener, 1962  
*Chalicodoma (Chelostomoda)* Michener, 1962  
*Chalicodoma (Eumegachiliana)* Michener, 1965  
*Chalicodoma (Rhodomegachile)* Michener, 1965  
*Chalicodoma (Schizomegachile)* Michener, 1965  
*Chelostoma (Gyrodromella)* Michener, 1997  
*Dianthidium (Anthidulum)* Michener, 1948  
*Dianthidium (Deranchanthidium)* Griswold & Michener, 1988  
*Eoanthidium (Clistanthidium)* Michener & Griswold, 1994  
*Heriades (Physostetha)* Michener, 1938  
*Heriades (Rhopaloheriades)* Griswold & Michener, 1998  
*Hoplitis (Acrosmia)* Michener, 1947  
*Hoplitis (Cyrtosmia)* Michener, 1947  
*Hoplitis (Dasyosmia)* Michener, 1947  
*Hoplitis (Nasutosmia)* Griswold & Michener, 1998  
*Hoplostelis (Austrostelis)* Michener & Griswold, 1994  
*Icteranthisidium* Michener, 1948  
*Indanthidium* Michener & Griswold, 1994  
*Larinostelis* Michener & Griswold, 1994  
*Megachile (Callochile)* Michener, 1962  
*Megachile (Carinula)* Michener, McGinley, & Danforth, 1994  
*Megachile (Mitchellapis)* Michener, 1965  
*Megachile (Paracella)* Michener, 1997  
*Pachyanthisidium (Trichanthidiodes)* Michener & Griswold, 1994  
*Paranthidiellum* Michener, 1948  
*Paranthidium (Mecanthidium)* Michener, 1942  
*Paranthidium (Rapanthisidium)* Michener, 1948  
*Proteriades (Penteriades)* Michener & Sokal, 1957  
*Stenosmia* Michener, 1941  
*Trachusa (Legnanthisidium)* Griswold & Michener, 1988  
*Trachusoides* Michener & Griswold, 1994  
*Ulanthisidium* Michener, 1948



Family Melittidae Kawall  
Subfamily Dasypodainae Sagemehl

*Capicola* (*Capicoloides*) Michener, 1981  
*Eremaphanta* (*Popovapis*) Michener, 1981  
*Haplomelitta* (*Atrosamba*) Michener, 1981  
*Haplomelitta* (*Haplosamba*) Michener, 1981  
*Haplomelitta* (*Metasamba*) Michener, 1981  
*Haplomelitta* (*Prosamba*) Michener, 1981

Subfamily Meganomiinae Michener

*Agemmonia* Michener, 1981  
*Agemmonia* (*Dicromonia*) Michener & Brooks, 1987  
*Ceratomonina* Michener, 1981  
*Uromonia* Michener, 1981  
*Uromonia* (*Nesomonina*) Michener, Brooks, & Pauly, 1990

Subfamily Melittinae Kawall

*Macropis* (*Sinomacropis*) Michener, 1981  
*Redivivoides* Michener, 1981

**Family-Group Names**

This list includes 29 names in total, three of which are *nomina nuda* and have therefore been excluded from tallies of the total in the tables and text. Of the remaining 26 names, six were first proposed as subfamilies, 19 as tribes, and one at the subtribal rank. Family-group names for bees were most recently summarized by Engel (2005a).

Class INSECTA Linnaeus  
Order Lepidoptera Linnaeus  
Suborder Glossata Fabricius  
Family Saturniidae Boisduval

**Salassinae** Michener, 1949

Order Hymenoptera Linnaeus  
Suborder Apocrita Gerstaecker  
Anthophila Latreille [Bees]  
Family Andrenidae Latreille

**Alocandreninae** Michener, 2000  
**Austropanurgini** Michener, 2000, *nomen nudum*  
**Liphanthini** Michener, 2000, *nomen nudum*

Family Apidae Latreille

**Ammobatoidini** Michener, 1944  
**Ancylini** Michener, 1944 [now Ancylaini: *vide* Engel *et al.* (2008)]  
**Ancyluscelidina** Engel & Michener, 2005  
**Biastrini** Linsley & Michener, 1939  
**Brachynomadini** Roig-Alsina & Michener, 1993  
**Caenoprosopidini** Michener, 1944  
**Canephorulini** Michener, LaBerge, & Moure, 1955  
**Ctenioschelini** Michener, 1965, *nomen nudum*  
**Epeoloidini** Linsley & Michener, 1939  
**Eucerinodini** Michener & Moure, 1957

**Manueliini** Sakagami & Michener, 1987  
**Neolarrini** Linsley & Michener, 1939  
**Neopasitini** Linsley & Michener, 1939  
**Protepeolini** Linsley & Michener, 1939  
**Tetrapediini** Michener & Moure, 1957  
**Townsendiellini** Michener, 1944

Family Colletidae Lepeletier de Saint Fargeau

**Caupolicanini** Michener, 1944  
**Chilicolinae** Michener, 1944  
**Euryglossinae** Michener, 1944  
**Mydrosomini** Michener, 1966 [*recte* Mydrosomatini: *vide* Engel (2005a)]

Family Halictidae Thomson

**Caenohalictinae** Michener, 1954

Family Megachilidae Latreille

**Heriadini** Michener, 1941

Family Melittidae Kawai

**Meganomiinae** Michener, 1981  
**Promelittini** Michener, 1981  
**Sambini** Michener, 1981

## EPONYMY

Below are listed the eponymous epithets and generic names established in honor of Michener. This compilation is likely not complete for many reasons, and is only intended to reflect the broad impact of Michener's efforts, as his work has inspired those studying diverse organisms. Genus-group names are flush left, while those proposed within the species group are indented. Presented here are six honorifics as genus-group names [one in Lepidoptera, five in Hymenoptera (all bees)], and 92 within the species group [eight Arachnida (six Acari, one Opiliones, one Araneae) and 84 Insecta (one Ephemeroptera, one Phthiraptera, three Hemiptera, one Megaloptera, nine Diptera, four Lepidoptera, and nine wasps and 56 bees in Hymenoptera)].

Class ARACHNIDA Lamarck  
Order Araneae Clerck  
Suborder Araneomorphae Simon  
Family Theridiidae Sundevall

*Theridion micheneri* Levi, 1963: 586.

Order Opiliones Sundevall  
Suborder Laniatores Thorell  
Family Cranidae Roewer

*Santinezia micheneri* Goodnight & Goodnight, 1947: 11. [Today considered a junior synonym of *Phareicranaus ornatus* Roewer]

Subclass Acari Leach  
Order Sarcoptiformes Reuter  
Suborder Astigmata Kramer  
Family Chaetodactylidae Zachvatkin

*Chaetodactylus micheneri* Klimov & OConnor, 2008: 127.

Order Trombidiformes Reuter  
Suborder Prostigmata Kramer  
Family Eriophyidae Nalepa

*Vasates micheneri* Hall, 1967: 659. [Today in *Aculus* Keifer, as *Aculus micheneri* (Hall)]

Family Trombidiidae Leach

*Robauxia micheneri* Southcott, 1994: 79. [*Nomen novum pro Microtrombidium maculatum* Michener]

Family Trombiculidae Ewing

*Cheladonta micheneri* Lipovsky *et al.*, 1955: 137.

*Euschöngastia micheneri* Gould, 1956: 64. [*recte Euschoengastia* Ewing]

*Acomatacarus micheneri* Greenberg, 1952: 480. [Today in *Odontacarus* Ewing, as *Odontacarus micheneri* (Greenberg)]

Class INSECTA Linnaeus  
 Order Ephemeroptera Hyatt & Arms  
 Suborder Pannota McCafferty & Edmunds  
 Family Ephemerellidae Klapálek

*Ephemerella micheneri* Traver, 1934: 227. [Today in *Serratella* Edmunds, as *Serratella micheneri* (Traver)]

Order Phthiraptera Haeckel  
 Suborder Amblycera Kellogg  
 Family Trimenoponidae Neumann

*Cummingsia* (*Cummingsia*) *micheneri* Timm & Price, 1989: 577. [Louse parasite of *Gracilinanus dryas* (Thomas)]

Order Hemiptera Linnaeus  
 Suborder Auchenorrhyncha Duméril  
 Family Cicadellidae Latreille

*Erythroneura micheneri* Hepner, 1972: 271. [Today in *Eratoneura* Young, as *Eratoneura micheneri* (Hepner)]  
*Ronjpelana micheneri* Young, 1986: 513.

Suborder Heteroptera Latreille  
 Family Lygaeidae Schilling

*Scopiastes micheneri* Scudder, 1963: 387.

Order Megaloptera Latreille  
 Suborder †Siarapha Shcherbakov  
 Family †Nanosialidae Shcherbakov

†*Lydasialis micheneri* Shcherbakov, 2013: 54.

Order Diptera Linnaeus  
 Suborder Nematocera Latreille  
 Family Tipulidae Latreille

*Tipula* (*Lunatipula*) *micheneri* Alexander, 1944: 168. [Today in subgenus *Hesperotipula* Alexander]

Family Blephariceridae Loew

*Blepharocera micheneri* Alexander, 1959: 41. [*recte* *Blepharicera* Macquart]

Suborder Brachycera Macquart  
 Family Stratiomyidae Latreille

*Adoxomyia micheneri* James, 1950: 71.

*Labostigmia micheneri* James in James & Steyskal, 1952: 408. [Today in *Psellidotus* Rondani, as *Psellidotus micheneri* (James)]

## Family Mydidae Latreille

*Cephalocera micheneri* Hesse, 1969: 313.

*Nomoneura micheneri* James, 1938: 63. [Today in *Pseudonomoneura* Bequaert, as *Pseudonomoneura micheneri* (James)]

## Family Fanniidae Townsend

*Fannia micheneri* Chillcott, 1960: 164.

## Family Tabanidae Latreille

*Esenbeckia micheneri* Philip, 1954: 48.

## Family Syrphidae Latreille

*Lepidostola micheneri* Fluke, 1953: 126. [Today in *Lepidomyia* Loew, as *Lepidomyia micheneri* (Fluke)]

## Order Lepidoptera Linnaeus

## Suborder Glossata Fabricius

## Family Noctuidae Latreille

*Micheneria* Orfila & Rossi, 1956: 28. [An unnecessary replacement name for *Araea* Hampson]

## Family Nymphalidae Rafinesque

*Agathymus mariae micheneri* Stallings, Turner, & Stallings, 1961: 19.

*Calisto micheneri* Clench, 1943: 115. [*Nomen novum pro Calisto batesi* Clench; today as *Calisto grannus micheneri* Clench]

*Catagramma excelsior micheneri* Dillon, 1948: 86. [Today in *Callicore* Hübner, as *Callicore excelsior micheneri* (Dillon)]

*Hypothyris euclea micheneri* Fox in Fox & Real, 1971: 174.

## Order Hymenoptera Linnaeus

## Suborder Apocrita Gerstaecker

## Family Agaonidae Walker

*Idarnes micheneri* Gordh, 1975: 432.

## Family Ichneumonidae Latreille

*Venturia micheneri* Wahl, 1987: 321.

## Aculeata Scopoli

## Family Bethyridae Haliday

*Pseudisobrachium micheneri* Evans, 1961: 234.

## Family Vespidae Latreille

*Ceramius micheneri* Gess, 1968: 3.

*Pseudomasaris micheneri* Bohart in Richards, 1963: 298.

*Pterocheilus micheneri* Bohart, 1940: 196.

## Family Tiphidae Latreille

*Tiphia micheneri* Allen, 1971: 266.

## Family Crabronidae Latreille

*Cerceris micheneri* Scullen, 1972: 86. [Today considered a junior synonym of *Cerceris gandrai* Rohwer]

*Notocrabro micheneri* Leclercq, 1974: 41.

Anthophila Latreille  
Family Andrenidae Latreille

*Andrena (Callandrena) micheneriana* LaBerge, 1978: 592.

*Andrena (Callandrena) micheneriella* Gusenleitner & Schwarz, 2000: 111.

*Andrena (Micrandrena) micheneri* Ribble, 1968: 264.

*Calliopsis (Verbenapis) michenerella* Shinn & Engel, 2003: 653. [*Nomen novum pro Calliopsis micheneri* Shinn]

*Calliopsis (Verbenapis) micheneri* Shinn, 1967: 889. [*Nomen praeoccupatum*; replaced by *Calliopsis (Verbenapis) michenerella* Shinn & Engel]

*Liphanthus (Xenoliphanthus) micheneri* Ruz & Toro, 1983: 265.

*Nomadopsis micheneri* Rozen, 1958: 95. [Today in *Calliopsis* Smith, as *Calliopsis (Nomadopsis) micheneri* (Rozen)]

*Perdita micheneri* Timberlake, 1956: 294.

*Protoxaea micheneri* Hurd & Linsley, 1976: 38.

## Family Apidae Latreille

*Anthophora (Heliophila) micheneri* Brooks, 1988: 543.

*Ceratina micheneri* Daly, 1973: 59.

†*Electrapis micheneri* Wappler & Engel in Wappler, 2003: 123. [Intended to be proposed as new in Wappler & Engel (2003); *vide* Engel (2005b)]

*Eufriesea micheneri* Ayala & Engel, 2008: 228.

*Exomalopsis (Anthophorula) micheneri* Timberlake, 1947b: 105. [Today in *Anthophorula* Cockerell, as *Anthophorula micheneri* (Timberlake)]

*Melipona marginata micheneri* Schwarz, 1951: 1. [Today as *Melipona micheneri* Schwarz]

*Melissodes (Eumelissodes) micheneri* LaBerge, 1961: 642.

*Melissoptila (Ptilomelisa [sic]) micheneri* Genaro, 2001: 62.

*Melipona (Micheneria)* Kerr, Pisani, & Aily, 1967: 139. [*Nomen praeoccupatum*; replaced by *Michmelia* Moure]

*Melipona (Michmelia)* Moure, 1975: 621. [*Nomen novum pro Micheneria* Kerr *et al.*]

*Nasutopedia micheneri* Aguiar & Melo, 2011: 433.

*Nomada micheneri* Schwarz & Gusenleitner, 2004: 1468.

†*Succinapis micheneri* Engel, 2001: 118.

*Thygater (Thygater) micheneri* Urban, 1967: 261.

*Triepeolus micheneri* Rightmyer, 2008: 87.

*Triopasites micheneri* Linsley, 1943: 101. [Today considered a junior synonym of *Triopasites penniger* (Cockerell)]

*Xylocopa micheneri* Hurd, 1978: 755.

## Family Colletidae Lapeletier de Saint Fargeau

*Colletes micheneri* Stephen, 1954: 357.

*Colletes micheneriana* Moure, 1956b: 201. [Today *Colletes michenerianus* Moure]

- Euryglossina* (*Turnerella*) *micheneri* Exley, 1968: 991.  
*Mydrosoma* *micheneri* Packer, 2007: 277.  
*Palaeorhiza* (*Callorhiza*) *micheneri* Hirashima, 1989: 7.  
*Xanthesma* *micheneri* Exley, 1978: 783.

## Family Halictidae Thomson

- Andinaugochlora* *micheneri* Eickwort, 1969: 516.  
*Chloralictus* *micheneri* Moure, 1956a: 110. [Today in *Lasioglossum* Curtis, as *Lasioglossum* (*Dialictus*) *micheneri* (Moure)]  
*Dinagapostemon* *mentor* Roberts & Brooks, 1987: 379. [Although not based on his name, this species was named in honor of Michener's role as mentor to legions of melittologists]  
*Homalictus* *micheneri* Pauly, 1986: 20.  
*Ischnomelissa* *octogesima* Brooks & Engel, 1998: 187. [Although not based on his name, this species was named in honor of Michener's 80<sup>th</sup> birthday; today in *Chlerogella* Michener, as *Chlerogella* *octogesima* (Brooks & Engel)]  
*Mexalictus* *micheneri* Eickwort, 1978: 570.  
***Michenerula*** Bohart, 1965: 320. [Today considered a junior synonym of *Sphecodosoma* Crawford]  
*Nomia* (*Epinomia*) *micheneri* Cross, 1958: 1273. [Today in *Dieunomia* Cockerell, as *Dieunomia* (*Epinomia*) *micheneri* (Cross)]  
*Nomia* (*Ptilonomia*) *micheneri* Hirashima, 1966: 294. [Today in *Ptilonomia* Michener, as *Ptilonomia* *micheneri* (Hirashiam)]  
*Nomioides* (*Nomioides*) *micheneri* Pesenko & Pauly, 2005: 191.  
†*Oligochlora* *micheneri* Engel, 1996 [1997]: 340.  
*Patellapis* (*Chaetalictus*) *micheneri* Timmermann in Timmermann & Kuhlmann, 2009: 104.

## Family Megachilidae Latreille

- Anthidiellum* *micheneri* Pauly, 2001: 228.  
*Anthidium* *michenerorum* Gonzalez & Griswold, 2013: 325.  
*Anthidium palmarum* *micheneri* Schwarz, 1957: 132. [Today considered a junior synonym of *Anthidium palmarum* Cockerell]  
*Ashmeadiella* (*Arogochila*) *micheneri* Snelling, 1962: 231.  
*Heriades* (*Michenerella*) Krombein, 1950: 122.  
*Heriades* (*Heriades*) *micheneriana* Engel, 2015: 2.  
*Heriades* (*Neotrypetes*) *micheneri* Timberlake, 1947a: 26.  
*Hoplitis* (*Robertsonella*) *micheneri* Mitchell, 1962: 64.  
*Megachile* (*Xeromegachile*) *micheneri* Mitchell, 1936 [1937]: 373.  
***Michanthidium*** Urban, 1994 [1995]: 281. [Today considered a subgenus of *Hypanthidioides* Moure]  
*Orientoheriades* *micheneri* Gupta & Sharma in Gupta, 1993: 100. [Today in *Heriades* Spinola, as *Heriades* (*Heriades*) *micheneri* (Gupta & Sharma), and where it is a junior secondary homonym of *Heriades* (*Neotrypetes*) *micheneri* Timberlake. *Nomen praeoccupatum*; replaced by *Heriades* (*Heriades*) *micheneriana* Engel, 2015]  
*Pachyanthidium* (*Pachyanthidium*) *micheneri* Pasteels, 1968: 481.  
*Stelis* (*Stelidium*) *micheneri* Linsley, 1939: 253.  
*Xeroheriades* *micheneri* Griswold, 1986: 166.

## Family Melittidae Kawall

- Capicola* *micheneri* Michez in Michez *et al.*, 2007: 324.  
*Macropis* (*Sinomacropis*) *micheneri* Wu, 1993: 1387.  
*Rediviva* *micheneri* Whitehead & Steiner, 2001: 212.

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## REFERENCES

- Aguiar, A.J.C., & G.A.R. Melo. 2011. Revision and phylogeny of the bee genus *Paratetrapedia* Moure, with description of a new genus from the Andean cordillera (Hymenoptera, Apidae, Tapinotaspidini). *Zoological Journal of the Linnean Society* 162(2): 351–442.
- Alexander, C.P. 1944. New Nearctic crane-flies (Tipulidae, Diptera); part XXI. *Canadian Entomologist* 76(8): 166–172.
- Alexander, C.P. 1959. Undescribed species of nematocerous Diptera. Part VI. *Bulletin of the Brooklyn Entomological Society* 54(2): 37–43.
- Allen, H.W. 1971. A monographic study of the genus *Tiphia* (Hymenoptera: Tiphidae) of western North America. *Transactions of the American Entomological Society* 97(2): 201–359.
- Anonymous. 1980. Michener, Charles Duncan. In: Greene, J.E. (Ed.), *McGraw-Hill Modern Scientists and Engineers* [Volume 2: H–Q]: 308–309. McGraw-Hill; New York, NY; vii+449 pp.
- Ayala, R., & M.S. Engel. 2008. A new species of *Eufriesea* from Jalisco, México, with a key to Mexican species of the genus (Hymenoptera: Apidae). *Beiträge zur Entomologie* 58(2): 227–237.
- Benson, R.B. 1948. Prof. Theodore D.A. Cockerell. *Nature* 161(4085): 229–230.
- Bohart, G.E. 1965. A new genus of dufoureine bee from Texas (Hymenoptera: Halictidae). *Annals of the Entomological Society of America* 58(3): 319–321.
- Bohart, R.M. 1940. A revision of the North American species of *Pterocheilus* and notes on related genera (Hymenoptera, Vespidae). *Annals of the Entomological Society of America* 33(1): 162–208.
- Brooks, R.W. 1988. Systematics and phylogeny of the anthophorine bees (Hymenoptera: Anthophoridae; Anthophorini). *University of Kansas Science Bulletin* 53(9): 436–575.
- Brooks, R.W., & M.S. Engel. 1998. New bees of the genus *Ischnomelissa* Engel, with a key to the species (Hymenoptera, Halictidae, Augochlorini). *Deutsche Entomologische Zeitschrift* 45(2): 181–189.
- Byers, G.W. 1978. [Untitled preface]. *Journal of the Kansas Entomological Society* 51(4): 529–530.
- Chillcott, J.G. 1960. A revision of the Nearctic species of Fanniinae (Diptera: Muscidae). *Canadian Entomologist, Supplement* 92(14): 5–295.
- Clench, H.K. 1943. Supplementary notes on *Calisto* (Lepidoptera: Satyridae). *Psyche* 50(3–4): 115.
- Cross, E.A. 1958. A revision of the bees of the subgenus *Epinomia* in the New World (Hymenoptera-Halictidae). *University of Kansas Science Bulletin* 38, Part 2(16): 1261–1301.
- Daly, H.V. 1973. Bees of the genus *Ceratina* in America north of Mexico (Hymenoptera: Apoidea). *University of California Publications in Entomology* 74: 1–114.
- Dillon, L.S. 1948. The tribe Catagrammini (Lepidoptera-Nymphalidae): Part I, The genus *Catagramma* and allies. *Scientific Publications, Reading Public Museum and Art Gallery* 8: 1–113.



- Eickwort, G.C. 1969. A comparative morphological study and generic revision of the augochlorine bees (Hymenoptera: Halictidae). *University of Kansas Science Bulletin* 48(13): 325–524.
- Eickwort, G.C. 1978. *Mexalictus*, a new genus of sweat bees from North America (Hymenoptera: Halictidae, Halictinae). *Journal of the Kansas Entomological Society* 51(4): 567–580.
- Engel, M.S. 1996 [1997]. New augochlorine bees (Hymenoptera: Halictidae) in Dominican amber, with a brief review of fossil Halictidae. *Journal of the Kansas Entomological Society, Supplement* 69(4): 334–345.
- Engel, M.S. 2001. A monograph of the Baltic amber bees and evolution of the Apoidea (Hymenoptera). *Bulletin of the American Museum of Natural History* 259: 1–192.
- Engel, M.S. 2005a. Family-group names for bees (Hymenoptera: Apoidea). *American Museum Novitates* 3476: 1–33.
- Engel, M.S. 2005b. A note on the taxonomy of some fossil bees from Germany (Hymenoptera: Apidae). *Journal of the Kansas Entomological Society* 78(1): 82–83.
- Engel, M.S. 2015. A replacement name in the genus *Heriades* (Hymenoptera: Megachilidae). *Journal of Melittology* 51: 1–2.
- Engel, M.S., J.S. Ascher, & D.A. Yanega. 2008. Ancylini Michener, 1944 (Insecta, Hymenoptera): Proposed emendation of spelling to Ancylaini, to remove homonymy with Ancylini Rafinesque, 1815 (Mollusca, Gastropoda). *Bulletin of Zoological Nomenclature* 65(3): 198–201.
- Evans, H.E. 1961. A revision of the genus *Pseudisobrachium* in North and Central America (Hymenoptera, Bethyridae). *Bulletin of the Museum of Comparative Zoology* 126(2): 211–318, +5 pls.
- Exley, E.M. 1968. Revision of the genus *Euryglossina* Cockerell (Apoidea: Colletidae). *Australian Journal of Zoology* 16(6): 915–1020.
- Exley, E.M. 1978. A new species of *Xanthesma* from Australia (Apoidea: Colletidae: Euryglossinae). *Journal of the Kansas Entomological Society* 51(4): 781–786.
- Fluke, C.L. 1953. New Syrphidae from North America (Diptera). *Journal of the Kansas Entomological Society* 26(4): 125–129.
- Fox, R.M., & H.G. Real. 1971. A monograph of the Ithomiidae (Lepidoptera). Part IV. The tribe Napeogenini Fox. *Memoirs of the American Entomological Institute* 15: i–vi+1–368.
- Genaro, J.A. 2001. Especie nueva de *Melissoptila* para Cuba y La Española (Hymenoptera: Apidae). *Avicennia* 14: 61–64.
- Gess, F.W. 1968. Further contribution to the knowledge of the South African species of the genus *Ceramius* Latreille (Hymenoptera: Masaridae). *Novos Taxa Entomológicos* 57: 3–14.
- Gonzalez, V.H., & T.L. Griswold. 2013. Wool carder bees of the genus *Anthidium* in the Western Hemisphere (Hymenoptera: Megachilidae): Diversity, host plant associations, phylogeny, and biogeography. *Zoological Journal of the Linnean Society* 168(2): 221–425.
- Goodnight, C.J., & M.L. Goodnight. 1947. Studies on the phalangid fauna of Central America. *American Museum Novitates* 1340: 1–21.
- Gordh, G. 1975. The comparative external morphology and systematics of the Neotropical parasitic fig wasp genus *Idarnes* (Hymenoptera: Torymidae). *University of Kansas Science Bulletin* 50(9): 389–455.
- Gould, D.J. 1956. The larval trombiculid mites of California (Acarina: Trombiculidae). *University of California Publications in Entomology* 11(1): 1–116.
- Gould, J. 2015. Q&A Charles Michener: A life with bees. *Nature* 521(7552, Supplement): S66.
- Greenberg, B. 1952. A review of the New World *Acomatacarus* (Acarina, Trombiculidae). *Annals of the Entomological Society of America* 45(3): 473–491.
- Griswold, T.L. 1986. A new heriadine bee from the Mojave Desert. *Southwestern Entomologist* 11(3): 165–169.
- Gupta, R.K. 1993. *Taxonomic Studies on the Megachilidae of North-Western India (Insecta, Hymenoptera, Apoidea)*. Scientific Publishers; Jodhpur, India; [iv]+294 pp.
- Gusenleitner, F., & M. Schwarz. 2000. Nomenklatorische Aktualisierungen in der Bienengattung *Andrena* sowie Beschreibung einer neuen Art (Hymenoptera: Apidae: Andreninae). *Entomofauna* 21(10): 105–116.
- Hall, C.C., Jr. 1967. The Eriophyoidea of Kansas. *University of Kansas Science Bulletin* 47(9): 601–675.

- Hepner, L.W. 1972. New species of *Erythroneura* (Homoptera: Cicadellidae). *Florida Entomologist* 55(4): 266–272.
- Hesse, A.J. 1969. The Mydidae (Diptera) of southern Africa. *Annals of the South African Museum* 54: 1–388, +2 pls.
- Hinkle, N.C. 2010. Ekbom Syndrome: The challenge of “invisible bug” infestations. *Annual Review of Entomology* 55: 77–94.
- Hirashima, Y. 1966. Comments on *Nomia* (*Ptilonomia*) with descriptions of two new species from New Guinea (Hymenoptera, Halictidae). *Kontyû* 34(4): 293–297.
- Hirashima, Y. 1989. A synopsis of the bee genus *Palaeorhiza* Perkins (Hymenoptera, Colletidae) of New Guinea. Part VIII. Subgenus *Callorhiza*. *Esakia* 28: 1–9, +1 pl.
- Hurd, P.D., Jr. 1978. Bamboo-nesting carpenter bees (genus *Xylocopa* Latreille) of the subgenus *Stenoxycopa* Hurd and Moure (Hymenoptera: Anthophoridae). *Journal of the Kansas Entomological Society* 51(4): 746–764.
- Hurd, P.D., Jr., & E.G. Linsley. 1976. The bee family Oxaeidae with a revision of the North American species (Hymenoptera: Apoidea). *Smithsonian Contributions to Zoology* 220: 1–75.
- James, M.T. 1938. Notes on some North American Mydidae (Diptera). *Entomological News* 49(3): 63–64.
- James, M.T. 1950. Some new and poorly-known Adoxomyiinae (Diptera, Stratiomyidae) from the Southwest. *Journal of the Kansas Entomological Society* 23(2): 71–73.
- James, M.T., & G.C. Steyskal. 1952. A review of the Nearctic Stratiomyini (Diptera, Stratiomyidae). *Annals of the Entomological Society of America* 45(3): 385–412.
- Kerr, W.E., J.F. Pisani, & D. Aily. 1967. Aplicação de princípios modernos à sistemática do gênero *Melipona* Illiger, com a divisão em dois subgêneros (Hymenoptera, Apoidea). *Papéis Avulsos de Zoologia* 20(13): 135–145.
- Klimov, P.B., & B.M. OConnor. 2008. Morphology, evolution, and host associations of bee-associated mites of the family Chaetodactylidae (Acari: Astigmata) with a monographic revision of North American taxa. *Miscellaneous Publications Museum of Zoology University of Michigan* 199: vi+1–243.
- Krishna, K., & F.M. Weesner, editors. 1969. *Biology of Termites* [Volume I]. Academic Press; New York, NY; xiii+598 pp.
- Krishna, K., & F.M. Weesner, editors. 1970. *Biology of Termites* [Volume II]. Academic Press; New York, NY; xiv+[i]+643 pp.
- Krombein, K.V. 1950. The aculeate Hymenoptera of Micronesia. II. Colletidae, Halictidae, Megachilidae, and Apidae. *Proceedings of the Hawaiian Entomological Society* 14(1): 101–142.
- LaBerge, W.E. 1961. A revision of the bees of the genus *Melissodes* in North and Central America. Part III (Hymenoptera, Apidae). *University of Kansas Science Bulletin* 42(5): 283–663.
- LaBerge, W.E. 1978. *Andrena* (*Callandrena*) *micheneriana*, a remarkable new bee from Arizona and Mexico (Apoidea: Andrenidae). *Journal of the Kansas Entomological Society* 51(4): 592–596.
- Leclercq, J. 1974. Crabroniens d’Australie (Hymenoptera Sphecidae Crabroninae). *Bulletin et Annales de la Société Royal Belge d’Entomologie* 110(1–3): 37–57.
- Levi, H.W. 1963. American spiders of the genus *Theridion* (Araneae, Theridiidae). *Bulletin of the Museum of Comparative Zoology* 129(10): 481–592, +13 pls.
- Linsley, E.G. 1939. New species of *Stelis* from California (Hymenoptera, Megachilidae). *Entomological News* 50(9): 250–255.
- Linsley, E.G. 1943. Revisions of the genera *Townsendiella*, *Triopasites* and *Paranomada* (Hymenoptera: Nomadidae). *Transactions of the American Entomological Society* 69(2–3): 93–106.
- Lipovsky, L.J., D.A. Crossley, Jr., & R.B. Loomis. 1955. A new genus of chigger mites (Acarina, Trombiculidae). *Journal of the Kansas Entomological Society* 28(4): 136–143.
- MacRae, T.C. 2015. Charles D. Michener: 80 years of scientific publications. *Pan-Pacific Entomologist* 91(2): 207–209.
- Michener, C.D. 2000. *The Bees of the World*. Johns Hopkins University Press; Baltimore, MD; xiv+[i]+913 pp., +16 pls.
- Michener, C.D. 2007. The professional development of an entomologist. *Annual Review of Entomology* 52: 1–15.

- Michener, H. 1925. Polygamy practiced by the house finch. *Condor* 27(3): 116.
- Michener, H. 1927. Traps for banders. *Condor* 29(2): 116–117.
- Michener, H. 1928. Banding records. *News from the Bird Banders* 3(2): 22.
- Michener, H., & J.R. Michener. 1926. Studies on 1170 banded house finches. *Condor* 28(6): 254–257.
- Michener, H., & J.R. Michener. 1931. Variation in color of male house finches. *Condor* 33(1): 12–19.
- Michener, J.R. 1953. Molt and variations in plumage patterns of mockingbirds at Pasadena, California. *Condor* 55(2): 75–89.
- Michez, D., C. Eardley, M. Kuhlmann, & S. Patiny. 2007. Revision of the bee genus *Capicola* (Hymenoptera: Apoidea: Melittidae) distributed in the southwest of Africa. *European Journal of Entomology* 104(2): 311–340.
- Mitchell, T.B. 1936 [1937]. A revision of the genus *Megachile* in the Nearctic Region. Part V. Taxonomy of subgenus *Xeromegachile* (Hymenoptera: Megachilidae). *Transactions of the American Entomological Society* 62(4): 323–382.
- Mitchell, T.B. 1962. Bees of the eastern United States [Volume II]. *North Carolina Agricultural Experiment Station Technical Bulletin* 152: 1–557.
- Moure, J.S. 1956a. Seis espécies novas de *Chloralictus* do Sul do Brasil (Hymenopt.-Apoidea). *Dusenía* 7(2): 107–117.
- Moure, J.S. 1956b. Algumas espécies novas de *Colletes* do Brasil e do Chile (Hymenopt.-Apoidea). *Dusenía* 7(4): 197–210.
- Moure, J.S. 1975. Notas sobre as espécies de *Melipona* descritas por Lepeletier em 1836 (Hymenoptera-Apidae). *Revista Brasileira de Biologia* 35(4): 615–623.
- Needham, J.G., J.R. Traver, & Y.-C. Hsu. 1935. *The Biology of Mayflies, with a Systematic Account of North American Species*. Comstock Publishing; Ithaca, NY; xiv+759 pp.
- Orfila, R.N., & N.H. Rossi. 1956. Nuevos nombres genéricos en Lepidoptera. *Revista de la Sociedad Entomológica Argentina* 19: 27–29.
- Ortiz-Sánchez, J. 2007. Charles Duncan Michener (1918– ), una larga vida dedicada a la Entomología (I). Biografía y publicaciones. *Boletín de la Asociación Española de Entomología* 31(1–2): 17–63.
- Packer, L. 2007. *Mydrosoma micheneri* Packer, new species, a new diploglossine bee from Brazil (Hymenoptera: Colletidae). *Journal of Hymenoptera Research* 16(2): 277–280.
- Pasteels, J.J. 1968. A new species of *Pachyanthidium* (Hymenoptera: Megachilidae). *Journal of the Kansas Entomological Society* 41(4): 481–483.
- Pauly, A. 1986. Les abeilles de la sous-famille des Halictinae en Nouvelle-Guinée et dans l'Archipel Bismarck (Hymenoptera: Apoidea: Halictidae). *Zoologische Verhandlungen* 227: 1–58.
- Pauly, A. 2001. Tribu Anthidiini. *Koninklijk Museum voor Midden-Afrika, Annalen, Zoologische Wetenschappen* [Musée Royal de l'Afrique Centrale, Annales, Sciences Zoologiques] 286: 226–231, +1 pl.
- Pennisi, L. 1984. Nature's best bee student. *Explore* [Research and Service at the University of Kansas, Bulletin] 1984(Summer): 9–11.
- Pesenko, Y.A., & A. Pauly. 2005. Monograph of the bees of the subfamily Nomioiinae (Hymenoptera: Halictidae) of Africa (excluding Madagascar). *Annales de la Société Entomologique de France* 41(2): 129–236.
- Philip, C.B. 1954. New North American Tabanidae. VIII. Notes on and keys to the genera and species of Pangoniinae exclusive of *Chrysops*. *Revista Brasileira de Entomologia* 2: 13–60.
- Ribble, D.W. 1968. Revisions of two subgenera of *Andrena*: *Micrandrena* Ashmead and *Derandrena*, new subgenus (Hymenoptera: Apoidea). *Bulletin of the University of Nebraska State Museum* 8(5): 237–394.
- Rice, M.E. 2014. Charles D. Michener: I'm pretty sure it was not fatal. *American Entomologist* 60(4): 201–206.
- Richards, O.W. 1963. The species of *Pseudomasaris* Ashmead (Hymenoptera, Masaridae). *University of California Publications in Entomology* 27(4): 283–304, +3 pls.
- Rightmyer, M.G. 2008. A review of the cleptoparasitic bee genus *Triepeolus* (Hymenoptera: Apidae).—Part I. *Zootaxa* 1710: 1–170.
- Roberts, R.B., & R.W. Brooks. 1987. Agapostemonine bees of Mesoamerica (Hymenoptera: Hal-

- ictidae). *University of Kansas Science Bulletin* 53(7): 357–392.
- Rozen, J.G., Jr. 1958. Monographic study of the genus *Nomadopsis* Ashmead (Hymenoptera: Andrenidae). *University of California Publications in Entomology* 15: 1–202.
- Ruse, M., & J. Travis, eds. 2009. *Evolution: The First Four Billion Years*. Harvard University Press; Cambridge, MA; xii+979 pp. [Nota bene: the section treating Michener is titled, “Michener, Charles D. (b. 1918).” and appears on pp. 732–733]
- Ruz, L., & H. Toro. 1983. Revision of the bee genus *Liphanthus* (Hymenoptera: Andrenidae). *University of Kansas Science Bulletin* 52(8): 235–299.
- Schwarz, H.F. 1951. New stingless bees (Meliponidae) from Panama and the Canal Zone. *American Museum Novitates* 1505: 1–16.
- Schwarz, H.F. 1957. Anthidiinae, mainly from Kansas and Texas (Hymenoptera: Megachilidae). *Journal of the Kansas Entomological Society* 30(4): 131–137.
- Schwarz, M., & F. Gusenleitner. 2004. Beitrag zur Klärung und Kenntnis parasitärer Bienen der Gattungen *Coelioxys* and [sic] *Nomada* (Hymenoptera, Apidae). *Linzer Biologische Beiträge* 36(2): 1413–1485.
- Scudder, G.G.E. 1963. A revision of the genus *Astacops sensu lat.* (Hemiptera: Lygaeidae). *Pacific Insects* 5(2): 315–416.
- Scullen, H.A. 1972. Review of the genus *Cerceris* Latreille in Mexico and Central America (Hymenoptera: Sphecidae). *Smithsonian Contributions to Zoology* 110: 1–121.
- Shcherbakov, D.E. 2013. Permian ancestors of Hymenoptera and Raphidioptera. *ZooKeys* 358: 45–67.
- Shelomi, M. 2013. Mad scientist: The unique case of a published delusion. *Science and Engineering Ethics* 13(2): 381–388.
- Shinn, A.F. 1967. A revision of the bee genus *Calliopsis* and the biology and ecology of *C. andreniformis* (Hymenoptera, Andrenidae). *University of Kansas Science Bulletin* 46(21): 753–936.
- Shinn, A.F., & M.S. Engel. 2003. Three replacement names in the bee genus *Calliopsis* (Hymenoptera: Andrenidae). *Journal of the Kansas Entomological Society* 76(4): 653–654.
- Snelling, R.R. 1962. Notes on the distribution of some southwestern megachilids, with descriptions of three new forms (Hymenoptera: Apoidea). *Pan-Pacific Entomologist* 38(4): 225–234.
- Southcott, R.V. 1994. Revision of the larvae of the Microtrombidiinae (Acarina: Microtrombidiidae), with notes on life histories. *Zoologica* 48(144): 1–155.
- Stallings, D.B., J.R. Turner, & V.N. Stallings. 1961. A new subspecies of *Agathymus mariae* from Mexico (Megathymidae). *Journal of the Lepidopterist's Society* 15(1): 19–22.
- Stephen, W.P. 1954. A revision of the bee genus *Colletes* in America north of Mexico (Hymenoptera, Colletidae). *University of Kansas Science Bulletin* 36, Part 1(6): 149–527.
- Timberlake, P.H. 1947a. Two new species of bees from Arizona (Hymenoptera, Apoidea). *Pan-Pacific Entomologist* 23(1): 26–30.
- Timberlake, P.H. 1947b. A revision of the species of *Exomalopsis* inhabiting the United States (Hymenoptera, Apoidea). *Journal of the New York Entomological Society* 55(2): 85–106.
- Timberlake, P.H. 1956. A revisional study of the bees of the genus *Perdita* F. Smith, with special reference to the fauna of the Pacific coast (Hymenoptera, Apoidea) Part II. *University of California Publications in Entomology* 11(5): 247–350.
- Timm, R.M., & R.D. Price. 1989. *Cummingsia micheneri*, a new species of Mallophaga (Trimenoponidae) from a Venezuelan mouse-opossum (Marsupalia). *Journal of the Kansas Entomological Society* 62(4): 575–580.
- Timmermann, K., & M. Kuhlmann. 2009. Taxonomic revision of the African bee subgenera *Patellapis*, *Chaetalictus* and *Lomatalictus* (Hymenoptera: Halictidae, genus *Patellapis* Friese 1909). *Zootaxa* 2099: 1–188.
- Traver, J.R. 1934. New North American species of mayflies (Ephemera). *Journal of the Elisha Mitchell Scientific Society* 50(1–2): 189–254, +1 pl. [Nota bene: Despite her major advances to the study of mayflies (e.g., Needham *et al.*, 1935), Traver is more known today, tragically, for her challenges with Ekbohm Syndrome and controversy over her published ‘observations’ (Traver, 1951; Hinckle, 2009; Shelomi, 2013)]

- Traver, J.R. 1951. Unusual scalp dermatitis in humans caused by the mite, *Dermatophagoides* (Acarina, Epidermoptidae). *Proceedings of the Entomological Society of Washington* 53(1): 1–25.
- Urban, D. 1967. As espécies do gênero *Thygater* Holmberg, 1884 (Hymenoptera, Apoidea). *Boletim da Universidade Federal do Paraná, Zoologia* 2(12): 177–309.
- Urban, D. 1994 [1995]. *Tylanthidium*, gen. n. de Anthidiinae da América do Sul (Hymenoptera, Megachilidae) e nota taxonômica. *Revista Brasileira de Zoologia* 11(2): 277–281.
- Wahl, D.B. 1987. A revision of *Venturia* north of Central America (Hymenoptera: Ichneumonidae). *University of Kansas Science Bulletin* 53(6): 275–356.
- Wappler, T. 2003. Systematik, Phylogenie, Taphonomie und Paläoökologie der Insekten aus dem Mittel-Eozän des Eckfelder Maeres, Vulkaneifel. *Clausthaler Geowissenschaften* 2: i–viii, 1–241, +18 pls.
- Wappler, T., & M.S. Engel. 2003. The middle Eocene bee faunas of Eckfeld and Messel, Germany (Hymenoptera: Apoidea). *Journal of Paleontology* 77(5): 908–921.
- Weber, W.A. 1965. Theodore Dru Alison Cockerell, 1866–1948. *University of Colorado Studies, Series in Bibliography* 1: 1–124.
- Whitehead, V.B., & K.E. Steiner. 2001. Oil-collecting bees of the winter rainfall area of South Africa (Melittidae, *Rediviva*). *Annals of the South African Museum* 108(2): 143–277, +2 pls.
- Wilson, E.O. 1971. *The Insect Societies*. Harvard University Press; Cambridge, MA; x+[i]+548 pp.
- Wilson, E.O. 1975. *Sociobiology: The New Synthesis*. Harvard University Press; Cambridge, MA; ix+697 pp.
- Wu, Y.-R. 1993. Hymenoptera: Apoidea [sic] (1). In: Chen, S.-X., J.-M. Zhao, J.-J. Tan, & Y.-Q. Liu (Eds.), *Insects of the Hengduan Mountains Region* [Volume 2]: 1378–1421. Science Press; Beijing, China; xvi+867–1547 pp. [In Chinese, with English summary]
- Young, D.A. 1986. Taxonomic study of the Cicadellinae (Homoptera: Cicadellidae). Part 3. Old World Cicadellini. *North Carolina Agricultural Experiment Station Technical Bulletin* 281: 1–639.

## APPENDIX

Through the kind courtesy of the Pacific Coast Entomological Society and the *Pan-Pacific Entomologist*, reproduced on the following pages is Michener's first paper [1935, *Pan-Pacific Entomologist* 11(1): 23–24]. As noted in the Introduction, this article was published when Michener was but only 16 years of age.

JAN., 1935]

EBELING—A NEW SCOLYTID

23

The burrows of *Hypothenemus citri* n. sp. (figure 2) appear to have no definite arrangement but wind about at random. Upon removing the dead bark, many burrows are exposed in the sapwood, although the beetles occur more abundantly in the bark.

The insects occur only in dying or dead wood, which is in accord with the habits of the genus as far as they are known. Members of the genus are found in dying or dead bark, seed hulls, etc., of a great variety of plants.

The native flora nearest to the grove in which the beetles were found is about a mile distant. The writer has been unable to find the beetle in a number of other neglected orange and lemon groves in various parts of southern California. The fact that it has been found to be so abundant in a single grove and absent in other groves favorable for its development which have been examined, indicates that the species may have been introduced from elsewhere, or that it may have recently become established on citrus from one or more native hosts.

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#### A NOTE ON DIANTHIDIUM SINGULARE PERLUTEUM

T. & W. CKLL.

BY CHARLES D. MICHENER

*Pasadena, California*

Mr. P. H. Timberlake has kindly identified as this form two insects from my collection. He also advises me that the nest has not hitherto been recorded. One bee is a female from Mill Creek, San Bernardino Mts., California, August 31, 1930 (Michener, Coll.), which agrees with Dr. Cockerell's description (Bull. So. Calif. Acad. of Sciences, 1904), supplemented by that of Cresson (Trans. Am. Ent. Soc., 1878), except that it is about 1.5 mm. shorter and has no median black line on the last abdominal segment. The other is a male which emerged the following spring from a nest taken at the same locality September 1, 1930 (Michener, Coll.). The following notes are added to Dr. Cockerell's remarks concerning the male (Proc. Calif. Acad. of Sciences, 1925).

This male resembles the female but is a little larger with the yellow markings a little less extensive on the abdomen; pubescence deep ochraceous, possibly because it has never been exposed to the sun; punctures on the abdomen sparser and finer, those of the clypeus coarser; hind coxal spines very large, nearly as long as the rest of the coxa; posterior edges of the abdominal tergites 2 to 5 dilated and elongated posteriorly at the sides much more than in the

female, these processes being largest on segments 2 to 3, where they extend half way to the posterior edges of the following segments, their apices standing out from the sides of the following segments; sixth segment with a narrow impunctate longitudinal median line; pygidium yellow, except for the extreme base, and deeply trilobed, the lateral lobes divergent, rather narrowly rounded, narrower than the space between them and the median lobe, with a slight angle about half way from the apex of the lobe to the lowest part of the emargination; median lobe narrower than the lateral, narrowly rounded (almost pointed), about equal in length to the lateral lobes and to another narrow lobe beneath the median, with a longitudinal impunctate line occupying the dorsal surface of the lobe and extending about two-thirds of the way to the base of the pygidium.

The nest from which this specimen was bred consisted of a single cell of cemented gravel attached to the face of a large boulder. It could not be removed entire, but its estimated size was about 2 by 2.5 cm. The granite pebbles used ranged from 1 to 4 mm. in diameter, and showed no special arrangement as to size except that those forming the lining of the cell were mostly small and presented a flat surface within. About half of the outer surface was covered with cement, only the larger pebbles projecting above this coating. The cement was thin, except for this outer layer. The cocoon was opaque, dark brown, about 14 mm. long, with a paler brown nipple at the end from which the bee emerged.

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# Journal of JM Melittology

A Journal of Bee Biology, Ecology, Evolution, & Systematics

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The *Journal of Melittology* is an international, open access journal that seeks to rapidly disseminate the results of research conducted on bees (Apoidea: Anthophila) in their broadest sense. Our mission is to promote the understanding and conservation of wild and managed bees and to facilitate communication and collaboration among researchers and the public worldwide. The *Journal* covers all aspects of bee research including but not limited to: anatomy, behavioral ecology, biodiversity, biogeography, chemical ecology, comparative morphology, conservation, cultural aspects, cytogenetics, ecology, ethnobiology, history, identification (keys), invasion ecology, management, melittopalynology, molecular ecology, neurobiology, occurrence data, paleontology, parasitism, phenology, phylogeny, physiology, pollination biology, sociobiology, systematics, and taxonomy.

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