

The Great Lakes Entomologist

Volume 34
Number 2 - Fall/Winter 2001 *Number 2 - Fall/
Winter 2001*

Article 6

October 2001

Hawkmoths (Lepidoptera: Sphingidae) Collected in Grand Traverse and Adjacent Counties, Michigan

Andrew W. Douglass

Christopher B. Douglass

John F. Douglass

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Douglass, Andrew W.; Douglass, Christopher B.; and Douglass, John F. 2001. "Hawkmoths (Lepidoptera: Sphingidae) Collected in Grand Traverse and Adjacent Counties, Michigan," *The Great Lakes Entomologist*, vol 34 (2)

Available at: <https://scholar.valpo.edu/tgle/vol34/iss2/6>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

HAWKMOTHS (LEPIDOPTERA: SPHINGIDAE) COLLECTED IN GRAND TRAVERSE AND ADJACENT COUNTIES, MICHIGAN

Andrew W. Douglass¹, Christopher B. Douglass¹, and John F. Douglass²

ABSTRACT

Thirty-two (32) species of hawkmoths (Sphingidae) are reported from Grand Traverse and adjacent counties, Michigan, based on collecting carried out in 1979-1997 and an inventory of museum records.

The Grand Traverse Region is in an especially interesting position biologically in that it is part of a zone of transition in Michigan in which Carolinian floral and faunal elements intergrade with species typical of the Canadian zone (biotic provinces of Dice 1938; Douglass 1977, 1983, 1985, 1992).

To date, 48 species of hawkmoths have been recorded from Michigan (Nielsen 1997); two additional species are of possible occurrence in the state. We have been motivated by the work of Nielsen (1997 and pers. comm. 1980 to present) to begin a survey of the hawkmoths of Grand Traverse County, in northwestern Lower Michigan.

MATERIALS AND METHODS

Specimens were obtained almost exclusively by searching areas brightly illuminated with artificial lights at night. The majority of records cited in this paper were obtained by Andrew W. Douglass (AWD) and Christopher B. Douglass (CBD) during numerous nighttime collecting trips made to such localities during the period 9 July 1994-14 October 1997. In addition, John F. Douglass (JFD) collected specimens and made scattered observations in the area between June 1979 and September 1985.

Principal collecting localities were as follow, in descending order of our frequency of collecting visits to them:

Site NCR - Lights just SE of jct. U.S. 31 & M-137 (T26N R12W, NE 1/4 Sec. 16);

Site CNR - Lights just SW of jct. U.S. 31 & M-137 (T26N R12W, NW 1/4 Sec. 16);

Site HBS - Lights just NW of jct. U.S. 31 & Co. 633 (T26N R11W, NW 1/4 Sec. 7), village of Grawn;

Site YRD - Douglass property overlooking Green Lake, 1 mi. SW of village of Interlochen (T26N R12W, SW 1/4 Sec. 21);

Site MCC - Monroe Center Cemetery (flowering shrubs), just E of Co. 633 (T26N R11W, NW 1/4 Sec. 31).

Small series of each species observed were collected: JFD's specimens have been donated to Michigan State University, East Lansing; those of AWD and CBD remain in their private collections.

In order that we might cite museum specimen records which put our Grand Traverse Co. findings in broader context, one of us (JFD) visited five public collections in Lower Michigan during 1999-2000, at each of which all hawkmoth specimens of special zoogeographic interest related to this report were examined: Michigan State

¹529 6th St., Traverse City, MI 49684.

²Corresponding author: 3347 Airport Hwy., Toledo, OH 43609.

University (MSU), East Lansing; University of Michigan Museum of Zoology (UMMZ), Ann Arbor; Central Michigan University (CMU), Mt. Pleasant; Northwestern Michigan College (NwMC), Traverse City; University of Michigan Biological Station (UMBS), Pellston. To obviate ambiguity in any later workers' examination of museum specimens cited here, most of the latter have been uniquely identified by attachment of a numbered label (JFD series). Because of its strong emphasis on insects of the Grand Traverse area, the private collection made (esp. during 1981-1988) by Amy J. Dill (Hamlin), Becky E. Dill (Cookman), and Karen L. Dill of Traverse City, now housed at the family store (i.e., Enerdyne, in Suttons Bay), was also examined.

Each annual Season Summary published by the Lepidopterists' Society, from its inception (1947) to the present, was searched by JFD for Michigan sphingid records of special zoogeographic interest, and where applicable the latter are cited in this report. For simplicity in citing these, the abbreviation LSSS is used, followed in each case by the year of the field season itself and (in brackets) the year of publication. (See under "Lepidopterists' Society" in LITERATURE CITED for additional details on LSSS citations.)

Complete rosters of Michigan museum and literature records resulting from the searches described above are included in an unpublished report by JFD (hereafter designated DSum), as are summaries of information on distributional peculiarities, relative abundance, and larval foodplants for each sphingid species currently known or of possible occurrence in Michigan.

Mogens C. Nielsen (MCN) generously made available a complete set of unpublished dot maps (hereafter designated NMap) presenting the county-by-county distribution of each of the 48 sphingid species currently known from Michigan; these maps have been carefully compiled by MCN over a period of more than 50 years, and include records from private collections and a variety of other sources.

Technical nomenclature in this paper and the sequence in which taxa are arranged (incl. catalogue numbers) follows Hodges et al. (1983); common name usage follows Covell (1984), Hodges (1971), Mitchell and Zim (1977), Bosik (1997), and others. The prefix **S** indicates species of special zoogeographic interest; **P** designates species of possible occurrence in the Grand Traverse Region. The abbreviations NLP, SLP, and UP refer to the northern Lower Peninsula, southern Lower Peninsula, and Upper Peninsula of Michigan, respectively (Newman and Nielsen 1973). GT Co. indicates Grand Traverse Co.

RESULTS AND DISCUSSION

I. SPECIES ACCOUNTS

S 7771 *Agrius cingulata* (Fabricius), Pink-spotted Hawkmoth, Sweetpotato hornworm. **Grand Traverse Co.**, outskirts of Traverse City, T27N R11W, NW 1/4 Sec. 22, 14 Oct. 1997, 1 ♂ (very fresh condition), A. W. Douglass. This primarily southern species is occasionally encountered in Michigan as a stray (Moore 1955, Hodges 1971, Covell 1984). Our single GT Co. specimen was found perched on the wall of a building; it appears to represent the northernmost known occurrence of *cingulata* in the state. Other NLP records: **Isabella Co.**, 3 Sept. 1970, 1 specimen (very worn) [CMU]; **Mason and Newaygo counties** (NMap).

S 7775 *Manduca sexta* (Linnaeus), Carolina Sphinx, Tobacco hornworm. **Grand Traverse Co.**, Sites NCR & HBS, 1 ♂, 2 ♀ ♀, A. W. Douglass: 15 July 1995, 14 July 1996, 21 July 1997 (1 ♀, slight wear). Uncommon in GT Co. The northernmost previously reported Michigan locality for *sexta* is Eaton Co. in the SLP (Opler 1995). Our three specimens and one from Emmet Co. (below) appear to represent the northernmost known occurrences of *sexta* in the state.

Other NLP records: **Emmet Co.**, 31 Aug. 1945, 1 specimen [MSU]; **Grand Traverse Co.**? (no locality labels), 4 specimens [NwMC]; **Isabella Co.**, 2 Nov. 1997, 1 specimen (good condition) [CMU]; **Oceana Co.**, yrs. 1964-1975, 4 specimens [MSU].

S 7776 *Manduca quinquemaculata* (Haworth), Five-spotted Hawkmoth, Tomato hornworm. **Grand Traverse Co.**, 21 & 26 July 1965, 2 specimens (one is in excellent condition) [NwMC]; **GT Co.**, 9 July 1985, 2 specimens [Dill collection]. Records of *quinquemaculata* exist from nine additional counties in the NLP (NMap, DSum).

S 7784 *Dolba hyloeus* (Drury), Pawpaw Sphinx. **Grand Traverse Co.**, Site NCR, 31 July 1996, 1 ♂ (extreme wear), A. W. Douglass; **GT Co.**, 17 July 1988, 1 specimen [Dill collection]. Uncommon in GT Co. Other NLP records: **Clare Co.**, MSU; **Crawford Co.**, on/near Roscommon Co. line (R. W. Holzman pers. comm. 2000), 6 July 1962, 1 specimen (LSSS 1962[1963]); **NMap**; **Mason Co.**, CMU; **Midland Co.**, Moore 1955, Opler 1995, MSU; **Otsego Co.**, LSSS 1982[1983], LSSS 1983[1984], LSSS 1984[1985], LSSS 2001[2002], **NMap**.

S 7786 *Ceratomia amyntor* (Geyer), Elm Sphinx. **Grand Traverse Co.**, Site NCR, 9 July 1994, 16-25 June 1995, 6 ♂♂ (all show moderate wear). Fairly common in GT Co.

7787 *Ceratomia undulosa* (Walker), Waved Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 5 ♂♂, 4 ♀♀: 10 August 1985 (1 ♀, fresh), 9-21 July 1994, 11-26 June 1995. Common in GT Co. Our freshest specimen is 1 ♂ collected 21 July 1994; a fresh ♀ was seen 30 July 2000.

S 7796 *Sphinx eremitus* (Hübner), Hermit Sphinx. **Antrim Co.**, 4 July 1960, 1 specimen [MSU]; this appears to represent the northernmost known Michigan locality for this species to date. Other NLP records: **Clare Co.**, MSU; **Isabella Co.**, NMap, CMU; **Lake Co.**, MSU; **Midland Co.**, MSU.

7802 *Sphinx chersis* (Hübner), Great Ash Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 10 August 1985 (1 ♂), 19 August 1996 (1 ♀) (both show moderate wear). Uncommon in GT Co.

7807 *Sphinx canadensis* Boisduval, Canadian Sphinx. **Grand Traverse Co.**, Site CNR, 13 July 1985 (1 fresh ♂, 1 ♀), 1 Sept. 1985 (1 ♂), J. F. Douglass. Uncommon in GT Co. Museum and literature records of *canadensis* exist from scattered counties in the SLP, NLP, and UP.

7809 *Sphinx kalmiae* J. E. Smith, Laurel Sphinx. **Grand Traverse Co.**, Sites NCR & HBS, 2 July 1994, 9 June-12 July 1995, 7 ♂♂, 1 ♀. Fairly common in GT Co. All eight of our specimens show moderate wear; two fresh individuals were seen 20 June 2000.

7810.1 *Sphinx poecila* Stephens, Northern Apple Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 6 specimens (2 ♂♂, 4 ♀♀), all det. M. C. Nielsen: 16 June 1982 (1 ♀, fresh), 10 August 1985 (1 ♂, very worn), 26 May 1986, 16 June 1995. An additional individual was seen 20 June 2000. Fairly common in GT Co. Caution must be used in distinguishing this taxon from the closely similar *S. gordius* and from worn ♀♀ of *S. luscitiosa* (M. C. Nielsen pers. comm.). Riette's (1980) distribution map indicates that *poecila* occurs throughout Upper and Lower Michigan. M. C. Nielsen (pers. comm.) reports having found a nearly full-grown larva of *poecila* (reported as *gordius* in Voss 1969) on sweet gale (*Myrica gale* L.) in **Cheboygan Co.**

7811 *Sphinx luscitiosa* Clemens, Clemens' Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 26 May 1985, 11 August 1985, 22 June 1995, 3 ♀♀ (all show slight wear). Uncommon in GT Co. Worn ♀♀ of this species are easily confused with members of the *S. poecila*-*S. gordius* complex.

7812 *Sphinx drupiferarum* J. E. Smith, Wild Cherry Sphinx. **Grand Traverse Co.**, Site NCR, 21 July 1994, 20-26 June 1995, 2 ♂♂, 2 ♀♀. Fairly

common in GT Co. Our freshest specimen is a ♀ collected 26 June 1995; a ♀ collected 21 July 1994 shows much wear.

7817 *Lapara bombycoides* Walker, Northern Pine Sphinx. **Grand Traverse Co.**, Sites CNR, NCR, & YRD, 5♂♂: 16 June 1982 (our freshest specimen), 2 June 1985 (1♂, much wear), 2 July 1994, 26 June 1996 (2♂♂, much wear). A fresh individual was seen 25 May 1998. Fairly common in GT Co.

7821 *Smerinthus jamaicensis* (Drury), Twin-spotted Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 3♂♂: 11 August 1985 (1♂, fresh), 16-25 June 1995 (2♂♂, worn). Fairly common in GT Co.

7822 *Smerinthus cerisyi* W.F.Kirby, One-eyed Sphinx. **Grand Traverse Co.**, Site NCR, 16-20 June 1995, 3♂♂, 1♀ (all four specimens show moderate wear). Uncommon in GT Co.

7824 *Paonias excaecatus* (J. E. Smith), Blinded Sphinx. **Grand Traverse Co.**, Sites CNR, NCR, YRD, & Traverse City, 10 August 1985, 14 June-12 July 1995, 7 July 1996, 4♂♂, 3♀♀. Fairly common in GT Co. Our only fresh specimens are a ♀ collected 10 August 1985 and a ♀ collected 12 July 1995; an additional fresh individual was seen 2 July 2000.

7825 *Paonias myops* (J. E. Smith), Small-eyed Sphinx. **Grand Traverse Co.**, Sites YRD, CNR, & NCR, 14 July 1985, 11 June-12 July 1995, 26 June-3 July 1996, 8♂♂, 1♀. Common in GT Co. One ♂ collected 14 July 1985 appears fresh; other ♂♂ from mid-June to mid-July show considerable wear.

S 7827 *Laothoe juglandis* (J. E. Smith), Walnut Sphinx. **Grand Traverse Co.**, Site NCR, late June 1995, 1♀ (moderately worn), A. W. Douglass; GT Co., 16 May 1970, 1 specimen [NwMC]; GT Co., 12 July 1985, 4 specimens [Dill collection]. Uncommon in GT Co. Records of *juglandis* exist from seven additional counties in the NLP (NMap, DSum).

7828 *Pachysphinx modesta* (Harris), Big Poplar Sphinx. **Grand Traverse Co.**, Sites CNR & NCR, 2 June-14 July 1985, 9 July 1994, 16 June-12 July 1995, 5♂♂, 6♀♀. Common to abundant in GT Co. Our freshest specimens are from 2 June 1985 (1♂), 14 July 1985 (1♀), and 12 July 1995 (1♀).

7853 *Hemaris thysbe* (Fabricius), Hummingbird Clearwing, Hummingbird Moth. **Grand Traverse Co.**, Site MCC, 4 & 6 June 1979, 1♂, 1♀, J. F. Douglass. Apparently common in GT Co. Both individuals collected were seen avidly visiting flowers of lilac (*Syringa vulgaris* L.) during daylight (1400-1500 h EDT). In addition, two *thysbe* adults were watched avidly visiting flowers of spotted knapweed (*Centaurea maculosa* Lam.) on a sunny afternoon (1400 h EDT), 7 August 2002.

7854 *Hemaris gracilis* (Grote & Robinson), Slender Clearwing. Species *gracilis* almost certainly occurs in GT Co. (M. C. Nielsen pers. comm.); records exist from as close to the Grand Traverse Region as **Mason, Roscommon, Crawford, and Otsego** counties (Moore 1955, LSSS 1967[1968], Voss 1969, LSSS 1978[1979], Opler 1995, LSSS 1997[1998], NMap, MSU, UMMZ).

7855 *Hemaris diffinis* (Boisduval), Snowberry Clearwing, Bumblebee Moth. **Grand Traverse Co.**, Site MCC & at a leatherleaf depression in T26N R12W, 4 & 5 June 1979, 3♂♂ (all show slight to moderate wear), J. F. Douglass. Apparently common in GT Co. Each of the ♂♂ collected was seen avidly visiting flowers: two were visiting lilac (*Syringa vulgaris* L.); the third and an additional individual were visiting chokeberry (*Aronia prunifolia* (Marsh.) Rehder) at the leatherleaf site. Additional observations of flower visitation by *diffinis* in GT Co.: one individual was seen avidly visiting flowers of lilac, 23 May 1980; one was avidly visiting flowers of lilac and honeysuckle (*Lonicera* sp.), 26 May 1980. Each of the preceding observations of flower visitation (involving six individual *diffinis*) occurred during daylight (1200-1400 h EDT).

S 7861 *Eumorpha achemon* (Drury), Achemon Sphinx. Voss's (1969) record of *achemon* from Cheboygan Co. [UMBS collection] was overlooked in an earlier report (Douglass 1992) in which a Benzie Co. ♀ (5 July 1984) was cited as Michigan's northernmost record to date. One of the Benzie Co. specimen's tarsi has a milkweed pollinarium (*Asclepias* sp.) attached. Other NLP records: Bay Co., MSU; Mason Co., MSU; Midland Co., UMMZ; Oceana Co., LSSS 1990[1991], LSSS 1997[1998], UMMZ.

S 7870 *Sphecodina abbottii* (Swainson), Abbot's Sphinx. Grand Traverse Co., Site YRD, 21 May 1988, 1 ♂ (Douglass 1992); Site NCR (3 specimens, A. W. Douglass), 22 June 1995 (slight wear), 21 June 1997 (fresh/slight wear), 28 June 1997 (moderate wear); GT Co., T27N R11W, 1 June 1970, 1 specimen [NwMC]. Uncommon to locally common in GT Co. The above records represent Michigan's northernmost known localities for this species. The only previously reported NLP locality for *abbottii* is Bay Co. (Opler 1995, NMap); the CMU collection contains one specimen from Kent Co. in the SLP (14 June 1983). The capture of rather fresh individuals at the same microlocality in GT Co. in successive years suggests that *abbottii* may be reproducing in the vicinity.

S 7871 *Deidamia inscripta* (Harris), Lettered Sphinx. Kalkaska Co., T28N R8W, 1 specimen [NwMC]; Manistee Co., 13 June 1997, 1 specimen [CMU]; Gladwin Co., 24 May 1959, 1 specimen [MSU]. The records above extend the known range of *inscripta* northward in Michigan. Other NLP records: Bay Co., NMap; Midland Co., Moore 1955, Opler 1995, MSU; Newaygo Co., Moore 1955, Opler 1995, UMMZ; Oceana Co., MSU.

S 7873 *Amphion floridensis* B. P. Clark, Nessus Sphinx. Grand Traverse Co., T26N R12W, SE 1/4 Sec. 34, 6 June 1982, 1 ♀ (much-worn), J. F. Douglass; GT Co., years 1963-1987, 4 specimens [NwMC]. Uncommon in GT Co. Our single specimen was collected during daylight (6 June 1982) as it alit near a stream crossing. Additional observations of *floridensis* made in GT Co.: one individual was seen hovering around oozing willow trunks, 8 June 1979; one alit in sun, 13 June 1979; one was seen hovering around fluid-stained (oozing) willow trunks, 16 June 1979 (several butterflies, i.e., *Vanessa atalanta*, *Polygonia comma*, and *P. interrogationis*, were seen visiting these trunks at the time, alighting and actively probing with their proboscises). Each of the three preceding observations was made during daylight (1400-1500 h EDT) at a willow thicket at the microlocality of capture of the 6 June 1982 specimen; Virginia creeper (*Parthenocissus* sp.), one of the reported foodplants of *floridensis* (Mitchell and Zim 1977), is common in and around this thicket.

S 7884 *Darapsa versicolor* (Harris), Hydrangea Sphinx. Grand Traverse Co., Site NCR, 4 July 1996 (1 adult ♂, fresh), 23 June 1997 (1 adult ♂, moderate wear), A. W. Douglass. Uncommon in GT Co. These and the larval records reported below appear to represent the northernmost known occurrences of *versicolor* in the state. One mature (pre-pupal) *versicolor* larva was collected as it fed actively on leaves of *Decodon verticillatus* (L.) Ell. along the Little Betsie River (T26N R12W, SE 1/4 Sec. 20) on 12 August 2000. At the same microlocality on 20 August 2000, a smaller larva of the same species, with numerous braconid wasp cocoons attached, was collected as it rested on a sprig of *D. verticillatus*. *D. verticillatus* is abundant along streams in GT Co., and it appears that *versicolor* may be maintaining itself in the area. Other NLP records: Bay Co., NMap; Clare Co., 14 July 1969, 1 specimen [MSU]; NMap. The northernmost records of *versicolor* in the SLP are from Gratiot and Montcalm counties (NMap).

S 7885 *Darapsa myron* (Cramer), Hog Sphinx, Virginia creeper Sphinx. Grand Traverse Co., Site NCR, 16 June 1995 (1 ♂, fresh), 20 June 1995 (1 ♂, moderate wear), A. W. Douglass. Uncommon in GT Co.

7886 *Darapsa pholus* (Cramer), Azalea Sphinx. Grand Traverse Co., Sites CNR & NCR, 26 May-13 July 1985, 12 July 1994, 20 June 1995, 6 ♂♂, 1 ♀.

Additional individuals seen: 1 (fresh), 28 May 2000; 1, 20 June 2000. Common in GT Co. Most of our seven specimens show moderate wear; 1 ♀ collected 13 July 1985 appears fresh.

S 7893 *Hyles gallii* (Rottemburg), Galium Sphinx. Grand Traverse Co., Site HBS (i.e., village of Grawn), 7 July 1996, 1 ♀ (fresh condition), A. W. Douglass. Apparently rare in GT Co. In Michigan, *gallii* is known from the SLP (7 counties), NLP (6 counties), and UP (11 counties) (NMap, DSum).

7894 *Hyles lineata* (Fabricius), White-lined Sphinx. Grand Traverse Co., Sites CNR, NCR, & HBS, 3 ♂♂, 1 ♀: 11 August 1985 (found dead, dry), 24 August 1994 (1 ♂, moderate wear), 14 June 1995 (1 ♀, fresh), 26 June 1996 (1 ♂, fresh). Fairly common in GT Co. Voss (1969) reported this species to be very rare in the extreme NLP of Michigan (Emmet and Cheboygan counties).

II. SPECIES OF POSSIBLE OCCURRENCE

A number of additional hawkmoth species may be found to occur in the Grand Traverse Region of Michigan in the future. Most sphingids are strong fliers, and some species may occur infrequently in Michigan under unusual conditions of weather. It seems, too, that the present warming trend in climate will increase the likelihood that particular southern species will be recorded in the area as strays or colonists.

The following species are included here based on published reports (Moore 1955, Hodges 1971, Covell 1984, others cited in DSum), maps (Opler 1995, NMap), Nielsen's (1997) checklist, and discussions with M. C. Nielsen (pers. comm. 2000). Two species not appearing in Nielsen (1997) are added here, bringing the total number of species treated in this report (i.e., those collected (above) plus those of possible occurrence (below)) to 50. Although 7877 *Proserpinus flavofasciata* (Walker), the Yellow-banded Day Sphinx, is occasionally encountered in the UP (uncommon resident), its possible occurrence in the Grand Traverse Region is doubtful (M. C. Nielsen pers. comm.).

Species of possible occurrence as strays or colonists in the NW Lower Peninsula (details are in DSum):

1) Species known as residents in the SLP

- P 7789 *Ceratomia catalpae* (Boisduval), Catalpa Sphinx.
- P 7790 *Ceratomia hageni* Grote, Hagen's Sphinx.
- P 7793 *Paratrea plebeja* (Fabricius), Plebeian Sphinx.
- P 7810 *Sphinx gordius* Cramer, Apple Sphinx.
- P 7859 *Eumorpha pandorus* (Hübner), Pandorus Sphinx.

2) Primarily southern or tropical species, known in Michigan as strays

- P 7774 *Neococytius cluentius* (Cramer), Cluentius Sphinx.
- P 7834 *Erinnyis ello* (Linnaeus), Ello Sphinx.
- P 7837 *Erinnyis obscura* (Fabricius), Obscure Sphinx.
- P 7847 *Aellopos tantalus* (Linnaeus), Tantalus Sphinx.
- P 7849 *Aellopos titan* (Cramer), Titan Sphinx.
- P 7851 *Enyo lugubris* (Linnaeus), Mournful Sphinx.
- P 7864 *Eumorpha vitis* (Linnaeus), Vine Sphinx.
- P 7865 *Eumorpha fasciata* (Sulzer), Banded Sphinx.
- P 7866 *Eumorpha labruscae* (Linnaeus), Gaudy Sphinx.
- P 7890 *Xylophanes tersa* (Linnaeus), Tersa Sphinx.

3) Species not yet recorded from Michigan

P 7803 *Sphinx vashiti* Strecker, Vashiti Sphinx. Expected as a stray from the west.

P 7892 *Hyles euphorbiae* (Linnaeus), Spurge Hawkmoth. Expected as a stray or colonist from the east.

ACKNOWLEDGMENTS

We are greatly appreciative of help we have received from Mogens C. Nielsen of Lansing, who has been a wonderful source of encouragement and has provided determinations of specimens and distributional information on hawkmoth species in Michigan. For their promotion of our shared interest and their tireless provision of logistical support, we sincerely thank Katharine C. Douglass and Dr. Bruce G. Douglass of Traverse City, parents of AWD and CBD, without whose help this study would never have been possible. Thomas W. Carr of Whitehouse, Ohio, provided invaluable help in verifying sex and species determinations.

For facilitating access to collections for examination of specimens in their care, we sincerely thank the following persons: Mogens C. Nielsen, Department of Entomology, MSU; Mark F. O'Brien, Insect Division, UMMZ; Dr. Roger G. Bland, CMU; Kirk Waterstripe, Dr. William C. Scharf, and Dr. Keith E. Overbaugh, NwMC; Dr. Brian G. Scholtens and Robert J. Vande Kopple, UMBS; the Dill family (Traverse City).

We thank B. T. Sandys (Interlochen, MI) for finding, T. E. Harms (Whitehouse, OH) for photographing, and J. P. Tuttle (Tucson, AZ) for identifying the larval *Darapsa versicolor* found in August 2000. Dr. Ronald W. Hodges and Ronald J. Priest provided helpful comments on an earlier draft of the manuscript, and M. P. Crawford (Maumee, OH) aided in its revision.

In addition, we are appreciative of the efforts of the many collectors who over the years have generously deposited specimens in public collections (incl. M. C. Nielsen, E. A. Herig Jr., F. W. Stehr, E. H. Metzler, W. P. Westrate Jr., R. W. Hodges, many others).

Finally, we thank Charlotte N. Douglass and Dr. Bruce E. Douglass (parents of JFD, Rochester, MN) and the Jesuit Community of St. John's (Toledo, OH) for their steadfast support.

LITERATURE CITED

- Bosik, J. J., ed. 1997. Common names of insects and related organisms, 1997. Entomol. Soc. Amer., iii + 232 +vi pp.
- Covell, C. V., Jr. 1984. A field guide to the moths of eastern North America. Houghton Mifflin Co., Boston. xv + 496 pp., 64 pls.
- Dice, L. R. 1938. The Canadian biotic province with special reference to the mammals. Ecology 19: 503-514.
- Douglass, J. F. 1977. Reptile records new for Grand Traverse County, Michigan. Jack-Pine Warbler 55: 154-155.
- Douglass, J. F. 1983. New northernmost records of the spicebush swallowtail in Lower Michigan. Jack-Pine Warbler 61: 15-16.
- Douglass, J. F. 1985. Annotated list of butterflies observed in Grand Traverse County, Michigan. Jack-Pine Warbler 63: 83-106.
- Douglass, J. F. 1992. Northerly-outlying records of two species of hawkmoths (Lepidoptera: Sphingidae) in Michigan. Great Lakes Entomol. 25: 237-238.

- Hodges, R. W. 1971. The moths of America north of Mexico, Fasc. 21. Sphingoidea. E. W. Classey Ltd. and R. B. D. Publications Inc., London. 158 + xii pp., 14 pls.
- Hodges, R. W., et al., eds. 1983. Check list of the Lepidoptera of America north of Mexico. E. W. Classey Ltd. and The Wedge Entomol. Res. Foundation, London. xxiv + 284 pp.
- Lepidopterists' Society. 1947-2002. Season Summary reports, published annually. [Abbreviated LSSS in the present paper.] The periodical in which these reports appear is called "The Lepidopterists' News" (1947-1958), and later "News of the Lepidopterists' Society" (1959-2002). There was a hiatus in publication of Season Summaries from 1953[1954] through 1958[1959]. Michigan was included in Zone 5 ("Central Region", "Eastern-Midwest") in the early reports (1947[1947]-1983[1984]), and is currently included in Zone 8 ("Midwest") (1984[1985]-2001[2002]).
- Mitchell, R. T., and H. S. Zim. 1977. Butterflies and moths: a guide to the more common American species, revised ed. Golden Press, New York, and Western Publishing Co., Inc., Racine, Wisc. 160 pp.
- Moore, S. 1955. An annotated list of the moths of Michigan exclusive of Tineoidea (Lepidoptera). Misc. Publ., Mus. Zool., Univ. Mich., No. 88. 87 pp.
- Newman, J. H., and M. C. Nielsen. 1973. Moth species new to Michigan. Great Lakes Entomol. 6: 33-45.
- Nielsen, M. C. 1997. Preliminary checklist of Michigan moths (superfamilies Bombycoidea, Drepanoidea, Geometroidea, Mimallonoidea, Noctuoidea, Sphingoidea). Newsl. Mich. Entomol. Soc. 42 (2-4):16-26.
- Opler, P. A. 1995. Lepidoptera of North America 1. Distribution of silkmoths (Saturniidae) and hawkmoths (Sphingidae) of eastern North America, 2nd printing with corrections. Contrib. C. P. Gillette Mus. Insect Biodiv., Dept. Entomol., Colo. State Univ., Fort Collins. ii + 121 pp.
- Riotte, J. C. E. 1980. *Sphinx poecila*, a valid North American hawkmoth species (Lepidoptera: Sphingidae). Great Lakes Entomol. 13:115-130.
- Voss, E. G. 1969. Moths of the Douglas Lake Region (Emmet and Cheboygan counties), Michigan: I. Sphingidae-Ctenuchidae (Lepidoptera). Mich. Entomol. 2: 48-54.