**Animal Phenology of the Chicago Area from the 1920s and 1930s**

**Orlando Park**

**Northwestern University, deceased**

**Contributed by David Reichle**

**Oak Ridge National Laboratory, retired\***

Abstract

In sorting through my files of nearly 60 years on ecological phenomena, I came across my graduate school professor’s “Ecological Calendar of the Chicago Area” by Orlando Park (then of the Department of Zoology, Northwestern University), a copy of which I obtained in ca 1961. To my knowledge, this calendar was never published, but was used as a guide in field biology classes. This phenological calendar of mostly animals, and mainly invertebrates, covers the time period 1922-1937. Now nearly 100 years later, with the growing concerns about climate change and the keen interest in the effects of global warming upon ecological systems, I thought that it would be of value to the scientific community to have a record of how the timing of these ecological phenomena might have changed in the ensuing years. Incidentally, I found it fascinating to reminisce over the classic study areas of early “Chicago School” of ecologists and the locations of visits by generations of university field biology classes. The manuscript is submitted, without editing, in its original format.

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**Ecological Calendar of the Chicago Area**

**Orlando Park**

**Department of Zoology**

**Northwestern University**

**MARCH**

13. *Ambystoma punctatum* Linnaeus. Peak of oviposition. Mooney Pond, Deerfield, Illinois (1935)

16. White Ant (*Reticulitermes tibialis* Banks) Spring colonizing aggregations. Upper beach, Long Lake, Indiana (11:55 A.M. – 2 P.M.) (1927). See Park, O. Proc. Ent. Soc. Washington, 31:121-126:1929).

24. White Ant (*Reticulitermes tibialis* Banks) Spring colonization aggregation. Bare sand floor of Cottonwood Community, Ogden Dunes, Indiana. (See same reference cited for March 16).

30. *Canbarus* (*Faxonius*) *virilis* Hagon. Males moulting. Females in berry. Hickory Creek, New Lennox, Illinois. (1935)

**APRIL**

6. Snail: *Strobilops labyrinthiea* (Say). Aperture closed by epiphragm, in hibernation in leaf mold. Carle Woods, Evanston, Illinois. (1935).

6. Chrysomelidae: *Disbrotica vittata* (Fabricius). Hibernating in leaf mold. Care Woods, Evanston, Illinois (1935)

6. Eyed Elaterid (*Alaus oculatus* (Linnaeus). Imago emerging from pupal stage. Stage 4 log. Joliet, Illinois. (1927).

6 to 15. Lady-bird Beetles (Coccinellidae): Winter gregarious hibernation

 *Ceratomegilla fuscilabrus* (Muls.) aggregation breaking up and

 *Hippodamia tredecipunctata* (Linn.) beetles appearing on top of

 *Hippodamia parenthesis* (Say) leaf mold of forest floor.

 *Hippodamia convergens* Guer. Chicago Area in general. (1922-

 *Coccinella novemnotata* Herbst. 1928) (See Park, O. Ann. Ent. Soc. America, 23:57-80: 1930.)

12 to August 15 Leaf Beetles (Chrysomelidae): Feeding on foliage of Cotton-

 *Lina lapponica* (Linn.) wood (*Populus deltoides*) and Willow Community, Indiana dunes section (1922-28).

15. Diptera: *Pyrellia* species Hibernating in #4 log mold,

 Chrysomelidae: *Halictus* species the flies semi-gregariously.

 Carle Woods, Evanston, Illinois (1936).

15 to May 1. Coccinellids noted for April 6. Vertical migration from floor into herbaceous and shrub strata. Chicago area in general (1922-38).

18. Forest Cockroach (*Parcoblatta* Egg Cases (Oothecae) in log

 *pennsylvanica*) (De Greer). mold. Carle Woods, Evanston, Inninois. (1926).

18. Snail (*Polygyra profunda*) (Say). Immature (4-8 mm. diameter)

 On floor, with aperture thin lip

 unformed, Carle Woods, Evanston, Illinois (1936).

23 to July 23. Oak Chafer (*Serica scricea*) (Ill.) Scarabaeid adults emerging from floor hibernaculae and migrating upward at night to feed on foliage of black oak (*Quercus velutina*). Black Oak Community, Ogden Dunes, Indiana, (1922-28).

26 to May 24. *Formica ulkei* Emery. Period of oviposition in mounds at Palos Park and Palatine, Illinois. (1924-260

 (CF. Holmiquist, l.c.).

**MAY**

2. Cryptophagid beetle (*Tomarus pulchellum* Copulation. Joliet, Ill. (1927):

 Le Conte). Sugar Maple floor.

2. *Thamaphis radix* (Baird and Girard). Copulating frequently among

 A population. 9:00 A.M. Evanston, Illinois. (1937).

11. White-faced Hornet (*Vespula* Queen in hibernation chamber

 (*Dolichovascula*)  *maculata*  Linneaus)). in #4 log. Carle Woods, Evanston, Illinois. (1934).

11. Johnny Darter (*Boleosoma nigram* Males in breeding colors.

 (Rafinesque)). Hickory Creek, New Lennox, Illinois. (19135).

16. Polygyra profunda (Say). Immature (8-15 mm. diameter). On floor, with aperture thin and lip unformed. Carle Woods, Evanston, Illinois (1935).

16. Robber flies (Ashilidae) In pupal stage in leaf mold. Carle woods, Evanston, Illinois (1936).

16. Forest Cockroach (*Parcoblatta* Nymphs abundant in log mold.

 *pennsylvanica* (DeGeer)). Carle Woods, Evanston, Illinois. (1936).

16. Ten[e]brionid beetle (*Neracantha* Last instar larvae, pupa and

 *contracta* (Beauv.)). freshly emerged imagines. Log mold., Carle Woods, Evanston

 Illinois (1936).

17 to 18. Syrphid flies (Microdon). Adult flies emerging from larval pup[a]rium in nest of host ant. (*Formica ulkei* Emery). Palos Park, Illinois. (1934).

20 to October 15. Coccinellids noted for Scattered over shrub and

 April 6. herbaceous strata, hunting for and devouring aphids. Chicago Area in general.

22. *Bufo americanus* Holbrook. Copulating. Harms Road. Wilmette, Illinois. (Night) (1937).

23. Carabid beetle (*Chlaenius tricolor* Dej.) Copulating. Rhineforth Forest, Smith, Indiana (Night) (1936)

23. *Polygyra* (probably *thyroides*). Eggs in log mold, stage 4, Rhineforth Forest, Smith, Indiana. (Night) (1936)

23. Tenebrionid beetle (*Meracantha* Pupation to emerging

 *contracta* (Beauv.)). imagines. Pulcher Arboretum, Joliet, Illinois. (1926).

24. Red and black millipede (*Spirobolus* Copulating. Rhineforth Forest,

 *marginatum* (Say)). Smith, Indian. (Night) (1935, 1936).

25 to 26. Hornet Fungus beetle (*Boletotherus*

 *cornutus* Panz.)).

25 to 26. Red and Black Erotylid beetle Copulating, Rhineforth Forest,

 (*Magalodacne heros*) (Say). Smith, Indiana. (Night) (1935, 1936, 1937).

25 to 26. Clubionid spider (*Clubiona pallens*). Coppulating, Rhineforth Forest, Smith, Indiana. (Night) (1925).

 (For additional data and other references on the nocturnal activity of the above forms observed at Smith in May, consult: Park, O. and H. F. Strohacker, 1936. Ohio Jour. Science, 36:46-54.

31. Glow-worm Beetle (*Phengodes*). Larvae abundant on grassy floor. (10:00 P.M.). Park Ridge, Illinois (1937).

**J**

**JUNE**

8. Water Strider (*Gerris remiges* Say). Copulating. Coffee Creek, Chesterton, Indiana. (1935).

8. Silver Lamprey (*Ichthyomyson concolor* Immature group of twelve in

 (Kirtland)). swarm, performing circular evolutions in shallow water. Coffee Creek, Chesterton, Indiana (1935).

11. Poly*gyra thyroides* (Say). Abundant specimens with soft shell and aperture not yet formed. Floor and herbaceous stratum of Beech-Maple Climax. Chicago Area. (1935).

20. Firefly beetle (*Lucidota atra* (Fab.)). Imagines emerging from pupal cases. Southern part of Chicago Area. (1931).

26. Mud-puppy (*Necturus maculosus* Deposit of 115 embryos in jelly

 (Rafunesque)). capsules. Estimated age of embryos at 45 to 50 days old. On just-submerged wooden box in 1 inch of water. Coffee Creek, Chesterton, Indiana. (1937).

26. *Cambarus* (*Faxonius*) *virilis* Hagen. Second F[or]m Males. Coffee Creek (1937).

26. *Cambarus* (*Faxonius*) *propinquus* Girard. First and Second Form Males. Coffee Creek, (1937).

27. Diptera: Chironomidae. Larvae abundant in Pitcher Plants. Sayler Bog, Volo, Illinois (1935).

27. *Hyla versicolor* LeConte. Metamorphis to adult. Mineral Springs, Indiana. (1937).

29. *Cambarus* (*Faxonius*) *virilis* Hagen. First Form Males. Scarce. Dead River, Waukegan, Illinois. (1935).

39. Pill-bug (*Tracheoniscus rathkei* (Brandt)). Young being bornin great numbers. Coffee Creek flood plain. Chesterton, Indiana. (1937).

**JULY**

2.Sinestral pond snail (*Physalla syrina* (Say)). Ovipositing. Deer Grove Park, Illinois. (1937).

3. Dytiscid water beetle (*Dytiscus*). Last instar larvae. Deer Grove Park, Illinois. (1937).

3. Green Sunfish (*Apomotis cyvanellus* Small fish (0. 25 – 1 inch)

 (Rafinesque)). abundant in permanent forest pond. Deer Grove Park, Deer Grove, Illinois. (1937).

3. *Cambarus* (*Cambarus*) *blandingii acutus* First Form Males. Temporary

 Girard. stream, Deer Grove Park, Deer grove, Illinois. (1937).

4 to 12. Mayflies (Ephemorida). Emerging and swarming, Evanston, Illinois. Maximum (1937) about eight to tenth, with swarm on wane by twelfth. (1937).

6. Green Tiger-Beetle (*Cincindela sexgutta* Copulating. Carle Woods.

 Fabricius). Evanston, Illinois (1935).

8 to 22. Red and black Erotylid beetle Copulating at night. Chicago

 (Legalodacne heros (Say)). Area in general. (1934-1937).

8 to August 10. Mordellid beetles: Feeding at flowers in

 *Mordella melaena* Germ. Herbaceous and shrub strata

 *Mordella strata* Nelsh. Of Black Oak community.

 *Mordella lecontei* Cai. (especially *Ceanothus*

 *Mordella oetopunctata* Fab. blossoms.) Indiana Dunes

 *Mordell marginata Nelsh.* section (1923-28).

10. *Rana pipiens* Schreber. Metamorphosis to adult. Willow Springs, Illinois (1933).

10 to 12 Leopard Frog (*Rana pipiens* Schreber). Metamorphosis to adult. Deer Grove Park, Illinois. Evanston, Illinois.

11. Smooth Green-snake (*Ophaedrya vernalis* Ovipositing in clutch of five

 (Harlan)). eggs. Evanston, Ill. (Night). (1937).

13. *Ophaedrya vernalis* (Harlan). Ovipositing in clutch of five eggs. Evanston, Ill. (Night). (1937).

13. *Dytiscus.* Last instar larvae. Dead River, Waukegan, Illinois (1933).

13. Water-penny beetle (*Psephenus lecontei* Imagines emerging from pupal

 (LeConte)) cases under stones marginal to stream. Hickory Creek, New Lennox, Illinois. (1926).

13. Cambarus (Cambarus) blandingii First Form Males abundant.

 acutus Girard. Dead River, Waukegan, Illinois. (1935).

13. Discodrillidae Abundant on both above species of Crayfish on same date.

13. Amphipod (Hyalella knickerbockeri) Abundant, Dead River,

 (Bate)). Waukegan, Illinois. (1935).

13. (Forest Pond, at *Formica ulkei*, Palos Park, Illinois, station wholly dried up.)

 1937.

13. Black Bullhead (*Ameiurus meles* Abundant schools of immature

 (Rafinesque)). specimens. Dead River, Waukegan, Illinois. (1935).

13. Common Sunfish or Pumpkin-seed Males in breeding color and

 (*Eupomotis gibbosus* (Linneaus)). guarding nests. Dead River, Waukegan, Illinois. (1935).

15. *Psephenus lecontei* (LeConte). Immatures emerging from pupal cases under stones marginal to stream. Hickory Creek, Joliet, Ill. (1935).

20. *Formica ulkei* Emery. Possible period of mating (inferred from Holmquist data). Palos Park and Palatine. (1926).

20. Green Sunfish (*Apomotis cyanellus* Large females gravid. Small fish

 (Rafinesque)). (1 to 1.5 inches) abundant. Temporary stream, Deer Grove Park. (1935).

20. *Cambarus* (*Fraxonius*) *immunis* Hagen. First and Second Form Males. Many just molted. Temporary stream (reduced to pools only). Deer Grove Park, Ill. (1935).

21. Mud-puppy (*Necturus maculosus* Larvae emerging from egg jelly.

 (Rafinesque)). Chesterton, Ind. Coffee Creek: see entry of June 26. (1937).

24. *Belostoma flumineum* Say. Males carrying eggs. Dead River, Waukegan, Ill. (1937).

24. Mud Minnow (*Umbra limi* (Kirtland)). Males in breeding color and

 Sweet Sucker (*Erimyzon sucatta* head tubercles. Dead River,

 (Lacepede)). Waukegan, Ill. (1937).

24. *Hyallella knickerbockeri* (Bate). Abundant. Dead River. (1937).

29 to August 23 Imported carabid beetle: Copulating. Washington Park

 *Carabus nemoralis* Müll Chicago, Ill. (1926).

30 to August 30. Coccinellidae noted for April 6. Chicago Area in general. (1922-1928).

**AUGUST**

2. *Thamnophis sirtalis sirtalis* Linneaus. Females pregnant. Glenview Forest Preserve, Glenview, Illinois.

2. *Thamnophis radix* (Baird and Girard).Females pregnant. Glenview Forest Preserve, Glenview, Illinois

3. Common Water-snake (*Natrix sipedon* Yound being born. Hickory

 *sipedon* (Linne)). Creek, New Lennox, Illinois (1936).

3. Nine-spotted Lady-beetle (*Coccinella* Imagines emerging from pupal

 *novemnotata* Herbst). cases. Palos Park, Illinois, (1924).

6. Common Elaterid beetle (*Melanctus* Imagines emerging from pupal

 *communis* (Gyll.)). cases. Palatine, Illinois (1929).

8. *Thamnophis radix* (Baird and Girard).Females pregnant. Evanston.

14. Forned Fungus Beetle (*Boletotherus* Imagines emerging from pupal

  *cornutus* (Panz)). Cases. Smith, Indiana (1931).

15. Dytiscus Last instar larvae. Pond 5, Osborn, Indiana. (1924).

17. Burial Carrion-beetle (*Necrophorus* Imagines emerging from pupal

 *marginatus* (Fab.)). Cases, Chicago, Illinois. (1929).

19. Bryozoa: *Pectinatella*. Statoblasts abundant and maturing and matured. Deep River, East Gary.

23. Soldier-beetle (*Chauliognatus* Copulation. Riverside, Illinois

 *pennsylvanicus* DeGeer). (1929).

27. Scydmaenid beetle (Acholerops Copulating in nest of host ant

 *zimmermanni* (Schaum)). (*Aphaenogaster* t*ennesseensis*). Rhineforth Forest, Smith, Indiana

**SEPTEMBER**

LL. Black Blister-beetle (*Epicauta* Copulating. Coffee Creek flood

 *pennsylvanica* (DeGeer)). plain. Chesteron, Indiana. (1928).

14. Carabid beetle (*Calerita janus* Fab.). Last instar larval stage in stage four log mold. Joliet, Illinois. (1931).

14. Social Bess-bug beetle (Fassalus Last instar larvae, pupae, and

 cornutus Fab.) imagines emerging from pupal cases in stage four log mold. Joliet, Illinois. (1931).

15. Purple Carabid beetle (*Dicaelus* Last instar larvae on climax

 *purpuratus* Bon.). sugar maple floor. Pilcher Arboretum. Joliet, Illinois. (1934).

18. *Dicaelus purpuratus* Bon. Beginning of pupal period. Joliet, Illinois (1934).

20. Epicauta pennsylvanica (DeGeer). Copulation. Tremont, Indiana. (1934).

21. Turbellaria: *Euplanaria maculata* (Leidy). Abundant. Dead River, Waukegan, Illinois.

25 to 30 Winged Aphids. Swarms through Chicago Area from Evanston to Hinsdale.

25 to 30. Box-elder Bug (*Laptocoris trivittatus*). Abundant in yards and on foliage in Evanston, Ill.

25. *Dicaelus purpuratus* Bon. Adult emerging from pupal case. Joliet, Illinois (1934).

**OCTOBER**

1 to 4. *Cambarus* (*Faxonius*) virilis Hagen. Copulating. Coffee Creek, Chesterton, Indiana and Dead River, Waukegan, Ill. (1937).

1 to 15. Winged Aphids. Swarming through Chicago Area from Evanston to Hinsdale.

1 to 15. Box-elder Bug (*Laptocoris trivittatus*). Abundant in yerads and on foliage in Evanston, Ill. Going into hibernation toward latter part of period, under debris on floor, and in protected niches.

3. Algae: *Oscillatoria, Frustulia, Ananena* Abundant as plankton in the

 *and Navicula, Vaucharia*  permanent forest pond at

 Mastigophora*: Volvox* Deer Grove Park, Deer Grove,

 Cladocera*: Daphnis, Ceriodaphnia* Illinois.

 Copepoda*: Nauplii or Cyclops*

15. Sponge: *Ephydatia fluviatilis*? Gemmules formed and abundant on drift in Hickory Creek at New Lennox, Illinois.

17. Cladocera: *Ceriodaphnia, Simoccephslus* Abundant on plankton in the

 Ostracoda: ox-bow cut-offs in Coffee

 Copepda: Cyclops Creek flood-plain. Chesterton,

 Diptera: Mosquitoe larvae (*Aedes*) Indiana.

30 to March 30. Coccinellids noted for April 6 Beginning of gregarious hibernation in floor mold of

 Frequently hibernating with the above: forests. These aggregations

 *Tracheoniscus rathkei* (Brandt). heterotypic, and may run as

 *Psyllobora viginti-maculata (Say).* high as 10,000 beetles per

 *Cycloneda sanguinea (Linn.).* 8,000 cubic inches. Chicago

 *Tomarus pulchellus (LeConte).* Area in general. (1922-1928).

 *Lema trilineata (Oliver)*

 *Telephanus yelex Hald.*

 *Lina lauponica (Linn.).*

 *Serica sericea (ill.).*

**NOVEMBER**

1 to April 11. Mound-building ant (*Formica* Period of massed hibernation

 *ulkei* Emery) in deeper galleries of nest, above water table. Palos Park and Palatine, Illinois (1924-1926). (See Holmquist, A. H. 1938, Ann. Ent. Soc. Am., 19:395—428; 1928, Physiol. Zool., 1: 325357; 1928, Ecology, :70:87. Dreyer, A. 1938, Physiol. Zool., 3:301-331. Dreyer, A. and T. Park, 1932, Psyche, 39:127-133).

5. *Daphnia retrocurva* Forbes. Abundant plankton of Lake Michigan, off Evanston, Ill.

7. Algae: *Oscillatoria* and *Navicula* Abundant plankton of Palos

 Cladocera: *Simocephalus*  Park Forest pond, near *Fprmica ulkei* mounds.

7. *Pseudacris triserriata* (Wied.). In hibernation (?) in stump 50 feet from pond at Palos.

9. Elaterid beetle: *Alaus oculatus* (Linn.) Last instar larva in stage four log mold. Warren’s Wood, Lakeside, Michigan. (1934).

9. Eyed Elaterid Click-beetle (Alaus Last instar larva in stage four

 *oculatus*) (Linn.)). log mold. Warren’s Wood, Lakeside, Michigan. (1934).

17. Algae: *Phizoclonium, Mougeotia, Zygnema.* Abundant in Dead River,

 Amphipoda: *Hyalella knickerboackeri* (Bate) Waukegan, Illinois. The algae

 Dragonfly Nymphs: *Anax* as plankton; the amphipod and

 Long-spored Lymnaeid Snail: *Acalla* dragonfly nymphs on the

 *haldemani Binn.* stream bottom or vegetation; the snail on submerged marginal rushes.

17. Sponges: *Ephydatia fluviatilis*? Gemnules well formed and

 *Spongilla lacustris*? Abundant: sponge mats on drift in stream, Dead River, Waukegan, Illinois

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Note: Dates for some years are missing from the records. An index for species and

locations by date, was attached, but has not been reproduced for sake of brevity.