9TH REPORT OF THE

ENVIRONMENTAL AND ECOLOGICAL PLANNING ADVISORY COMMITTEE

Meeting held on November 19, 2015, commencing at 5:00 PM, in Committee Room #5, Second Floor, London City Hall.

PRESENT: S. Levin (Chair), L. Des Marteaux, C. Dyck, B. Gibson, S. Hall, D. Hiscott, C. Kushnir, K. Moser, M. Murphy, S. Peirce, N. St. Amour, J. Stinziano, M. Thorn and R. Trudeau and H. Lysynski (Secretary).

ABSENT: E. Arellano and P. Ferguson.

ALSO PRESENT: C. Creighton, T. Grawey, J. MacKay, A. Macpherson, H. McNeely and J. Ramsay.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it **BE NOTED** that no pecuniary interests were disclosed.

II. ORGANIZATIONAL MATTERS

2. Amendments to the Terms of Reference for the City of London Advisory Committees

That consideration of the Municipal Council resolution adopted at its meeting held on June 10, 2015, with respect to amendments to the Terms of Reference for the City of London Advisory Committees **BE POSTPONED** to the next meeting.

III. SCHEDULED ITEMS

3. Development Services Orientation

That it **BE NOTED** that the attached presentation from J. Ramsay, Manager, Development Services and Engineering Liaison and T. Grawey, Manager, Development Services and Planning Liaison, relating to an orientation of the Development Services Division, was received.

4. General Entomology

That it **BE NOTED** that the attached presentation from L. Des Marteaux, relating to general entomology, was received.

IV. CONSENT ITEMS

5. 8th Report of the Environmental and Ecological Planning Advisory Committee

That it **BE NOTED** that the 8th Report of the Environmental and Ecological Planning Advisory Committee, from its meeting held on September 17, 2015, was received.

6. 6th and 7th Reports of the Trees and Forests Advisory Committee

That it **BE NOTED** that the 6th and 7th Reports of the Trees and Forests Advisory Committee, from its meetings held on September 23, 2015 and October 28, 2015, respectively, were received.

7. 7th and 8th Reports of the Advisory Committee on the Environment

That it **BE NOTED** that the 7th and 8th Reports of the Advisory Committee on the Environment, from its meetings held on October 7, 2015 and November 4, 2015, respectively, were received.

8. Actions taken with respect to the 8th Report of the EEPAC

That it **BE NOTED** that the Municipal Council resolution adopted at its meeting held on October 13, 2015, with respect to the actions taken with the 8th Report of the Environmental and Ecological Planning Advisory Committee, was received.

9. Actions taken with respect to the 7th Report of the ACE

That it **BE NOTED** that the Municipal Council resolution adopted at its meeting held on October 27, 2015, with respect to the actions taken with the 7th Report of the Advisory Committee on the Environment (ACE), was received; it being noted that the Environmental and Ecological Planning Advisory Committee welcomed S. Hall, ACE representative, to the Committee.

10. Proposed Multi-Use Pathway in Westminster Neighbourhood to Commissioners Road East

That it **BE NOTED** that the Municipal Council resolution adopted at its meeting held on October 27, 2015, with respect to the proposed multi-use pathway in the Westminster Neighbourhood to Commissioners Road East, was received.

V. SUB-COMMITTEES & WORKING GROUPS

None.

VI. ITEMS FOR DISCUSSION

11. 2015 Activity Summary

That in accordance with the London Advisory Committee Terms of Reference for all Advisory Committees, the attached summary of the Environmental and Ecological Planning Advisory Committee (EEPAC) 2015 activity summary **BE RECEIVED**; it being noted that the EEPAC met nine times in the year.

12. Nature in the City - S. Levin

That it **BE NOTED** that the Nature in City, 2016 brochure from Nature London was received.

13. Ontario Legislature Passes *Invasive Species Act* - S. Levin

That it **BE NOTED** that the communication from S. Levin with respect to Ontario legislature passing the *Invasive Species Act*, was received.

14. Thames Valley Parkway North Branch Connection - Richmond Street to Adelaide Street - Class Environmental Assessment - Public Information Centre #2 – Update

That it **BE NOTED** that verbal updates from C. Dyck, K. Moser and A. Macpherson, Manager, Environmental and Parks Planning, with respect to the Public Information Centre meeting related to the Thames Valley Parkway North Branch Connection from Richmond Street to Adelaide Street, Class Environmental Assessment, was received.

15. "Preparing for the Invasion" Event – Update

That the attached presentation from C. Dyck, with respect to the "Preparing for the Invasion" event was received.

16. Baker Lands (Industrial Development Along Wilton Grove Road) Environmental Impact Study - Terms of Reference

That it **BE NOTED** that the Baker Lands Environmental Impact Study Terms of Reference from S. Levin was received.

17. Draft Eagle Ridge Subdivision Phase ll Environmental Impact Study

That it **BE NOTED** that the Environmental Impact Study Issues Summary Checklist Report for the draft Eagle Ridge Subdivision, Phase II, from S. Levin was received.

VII. DEFERRED MATTERS/ADDITIONAL BUSINESS

18. (ADDED) Dingman Creek EA Stakeholder Committee

That C. Kushnir and S. Peirce **BE APPOINTED** as the Environmental and Ecological Planning Advisory Committee representative and alternate, respectively, to the Dingman Creek Subwatershed: Stormwater Servicing Strategy, Schedule C Municipal Class Environmental Assessment.

VIII. ADJOURNMENT

The meeting adjourned at 7:55 PM.

NEXT MEETING DATE: Wednesday, December 16, 2015

DEVELOPMENT SERVICES

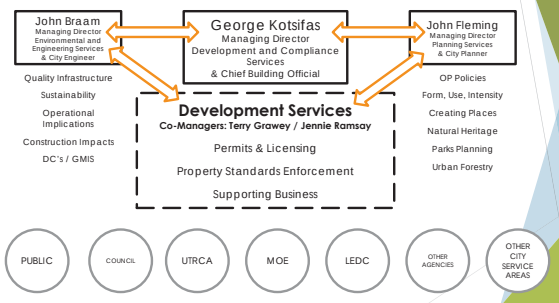
EEPAC ORIENTATION

NOVEMBER 19, 2015

What We Do …

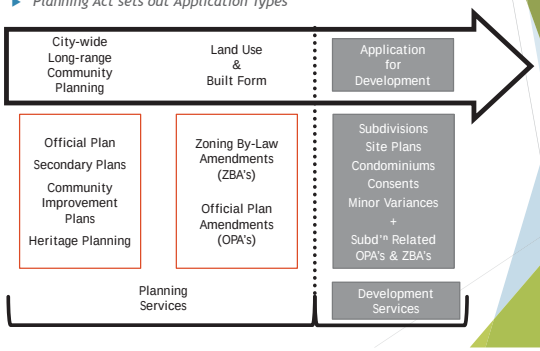
- Applications under the Planning Act **subdivisions**, **site plans**, **vacant land condominiums**, **consents** and **minor variances**
- Coordination of comments for other Planning Act applications related to **re-zonings**, **OP amendments**.
- administer development **agreement compliance** through inspection, assumption and security management.

WHERE WE **FIT**



CONTINUUM OF **APPLICATIONS**

- *Planning Act sets out Application Types*



SUBDIVISION applications

CONSULTATION
- Applicant submits Proposal outlining their assumptions for development
- Staff Review Proposal & provide feedback via Mandatory Consultation
- Applicants receives a Record of Consultation: Listing Requirements for Complete Subdivision Application

DRAFT APPROVAL
- Only take in Complete Applications as per policy in Planning Act
- Within 180 days - Review Application, Resolve Issues, Redline Plan & Craft Conditions of Draft Plan Approval & reach a decision.
- **PEC REPORT** – Public meeting to consider, Plan of Subdivision, Conditions of Draft Approval & recommended zoning.

DESIGN STUDIES
- Applicants submit functional studies to confirm how servicing & design elements of the subdivision will work
- Must clear all design studies to progress to Detailed Servicing Drawings

DETAILED ENGINEERING
- Servicing drawings reviewed in accordance with City Standards
- Ensure sustainable infrastructure / Protect public & private property
- Prepare Draft Subdivision Agreement with input from Liaison Partners

FINAL APPROVAL
- **PEC REPORT** – Present Special Provisions for Approval (consent item)
- Confirm all Draft Plan Conditions Satisfied either by Agreement or Servicing Drawings
- Execute and Register Subdivision Agreement

SITE PLAN applications

CONSULTATION
- Applicant submits Request for Consultation outlining their assumptions for development
- Staff Review Proposal & provide feedback via Mandatory Consultation
- Applicant receives a Record of Consultation: Lists Requirements for Complete Site Plan Application

APPLICATION REVIEW
- Only take in Complete Applications
- Review Application and identify Issues
- Within 30 Days – Release Conditions of Site Plan Approval Package
- Applicant begins working to satisfy the conditions

SP PUBLIC MEETING
- **PEC REPORT** – Present proposed site plan at Public Meeting of PEC
- collect comments from the Public
- Council advises the Approval Authority on any additional SP conditions

SITE PLAN APPROVAL
- Distribute and Execute site plan approval documents
- Development Registered on Title
- Applicant is eligible to obtain full permits

OTHER applications

PLANS OF CONDOMINIUM

- Standard Condo: Typically row housing format, Units consist of inside dwelling space
- Vacant Land Condo: Freehold Private Units served by common elements
- Variations to Standard Condo: Phased Condominium; Common Elements Condominium; Condo Conversions; Condo Amalgamation

REMOVAL OF HOLDING PROVISIONS (h's)

- 'h's applied to properties through Zoning By-law to ensure orderly development
- Building Permits cannot be issued while an 'h' remains on the property
- Once satisfied, the 'h' can be removed with a report to PEC (consent item)

LIFTING OF PART LOT CONTROL

- Exemption from part-lot control is used for re-lotting in a plan of subdivision to either;
- a) re-size lots or b) create lots for semi-detached/townhouse developments
- Suspending Part Lot Control allows an owner to legally divide lots in a registered plan of subdivision

OTHER REPORT TYPES WE BRING TO PEC

- Boulevard Parking Agreements, Municipal Addressing and Street Naming
- Reports seeking direction for Applications appealed to the OMB

EIS'S and DEVELOPENT APPROVALS

- CONSULTATION
  - All proposal submissions must speak to Natural Heritage and include a Subject Lands Status Report
  - Record of Consultation for subdivisions clearly indicates whether EIS required
  - The Issues Summary Checklist (Terms of Reference) to be signed by City's Ecologist Planner prior to initiating an EIS
- APPLICATION
  - EIS is screened to ensure it contains all required elements and constitutes part of a complete application
  - If deemed complete, EIS is submitted with the subdivision (or site plan) application
  - Circulated for review (including EEPAC)
  - Once EIS deemed satisfactory for acceptance, all recommendations incorporated into zoning regulations, subdivision conditions of draft approval or Site Plan approved Development Agreement
- DESIGN STUDIES
  - Supplemental information to the EIS may be required to address mitigation of specific design elements
- DETAILED REVIEW
  - Servicing Drawings reviewed for consistency with EIS recommendations, engaging City Ecologist Planner if any concerns flagged
- MONITORING
  - If required, monitoring is conducted prior to assumption / release of security

Questions

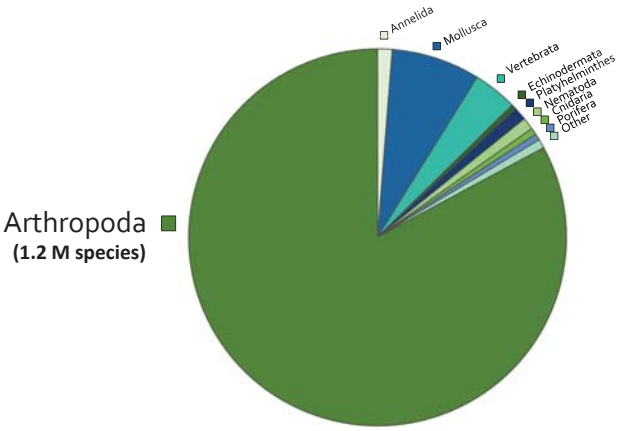
What about Development Services would you like to know more about?

GENERAL ENTOMOLOGY

Lauren Des Marteaux (EEPAC)

ANIMAL DIVERSITY

1.35 M species

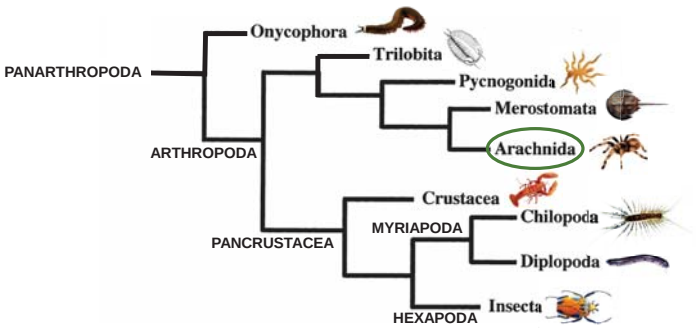


SPECIES DISCOVERY

	Described species	Description rate (species / year)
Beetles	300,000 – 400,000	2308
Bees / wasps / ants	100,000 – 125,000	1196
Flies	90,000 – 150,000	1048
Butterflies / moths	110,000 – 120,000	642

	Described species	Description rate (species / year)
Fish	30,000	145
Birds	10,000	6.9
Mammals	5,416	0.3

PHYLUM ARTHROPODA



Adapted from Elzinga, R.J. 2008. *J. Insect Morphol. & Embryol.*

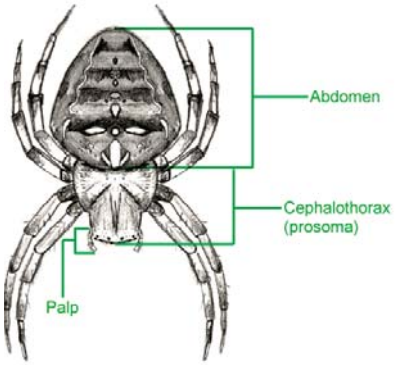
CLASS ARACHNIDA

Spiders, mites, ticks, scorpions *etc*.

Characteristics

4 pairs of jointed appendages
2 body regions
- prosoma/cephalothorax
- abdomen

Chelicerae (fangs)



Nick Loven 2006

CLASS ARACHNIDA

Tail-less whip scorpions

Harvestmen

Scorpions

Pseudoscorpions

CLASS ARACHNIDA

Ticks

Mites

Spiders

CLASS ARACHNIDA

Spiders

Argiope aurantia **- Black and yellow garden spider**

Chiracanthium mildei *- Y*ellow sac spider

Bugguide, ophis 2013

CLASS ARACHNIDA

Spiders

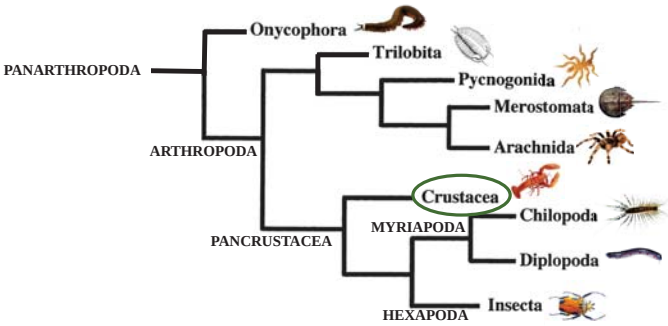
Phidippus audax **– Bold jumper**

Ansel Oommen

Maratus volans **- Peacock spider**

Jurgen Otto

PHYLUM ARTHROPODA



Adapted from Elzinga, R.J. 2008. *J. Insect Morphol. & Embryol.*

SUBPHYLUM CRUSTACEA

Characteristics

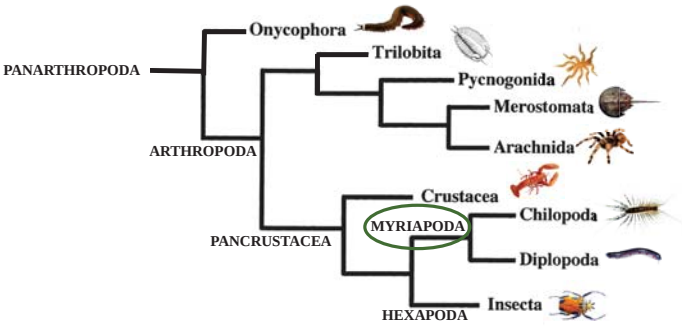
- 2 pairs of antennae
- Carapace often calcified

SUBPHYLUM CRUSTACEA

Isopods

- ‘Sowbugs / woodlice / pillbugs’
- Most N. American species are introduced
- Great impact on forest ecosystems

PHYLUM ARTHROPODA



Adapted from Elzinga, R.J. 2008. *J. Insect Morphol. & Embryol.*

SUBPHYLUM MYRIAPODA

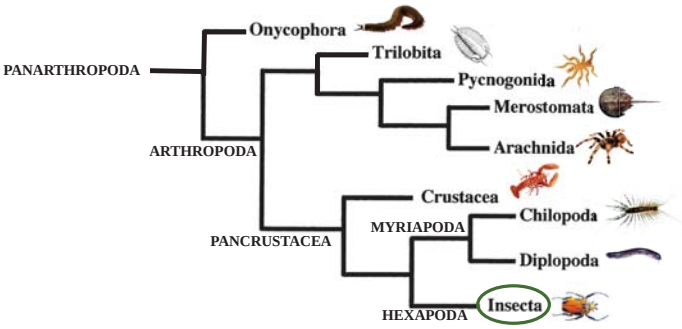
Centipedes

- 1 pair of legs per body segment
- Forcipules (venom-injecting appendages)

Millipedes

- 2 pairs of legs per body segment
  (excpt. first few segments)

PHYLUM ARTHROPODA



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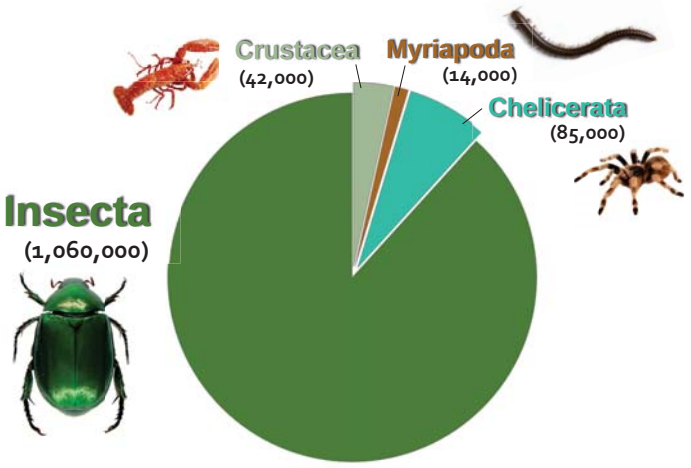
ARTHROPOD DIVERSITY

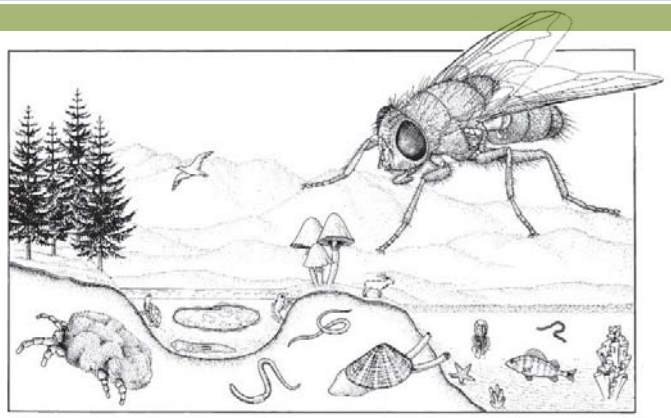
1.2 million species



INSECT DISTRIBUTION

Everywhere except the oceans

RELATIVE BIOMASS



Approx. 10 quintillion (10,000,000,000,000,000,000) individual insects alive at any given time

MAYFLIES

Order Ephemeroptera

NOMENCLATURE

Taxonomic level	Suffix	*e.g.*
• Order	-ptera (often)	Hymeno**ptera**
• Family (formal)	-idea	Api**dae**
(informal)	-id	"…an api**d** bee…"

Species

- The genus (pl. genera) is **always** capitalized, the species is **never** capitalized
- Latin = *italicized*

e.g. *Apis mellifera* (L.) (Hymenoptera: Apidae)

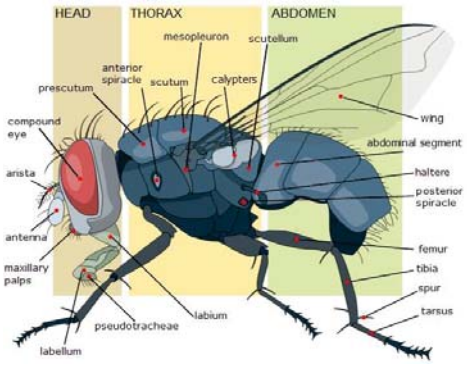
genus species discoverer order family

(at first mention)

INSECT BIOLOGY

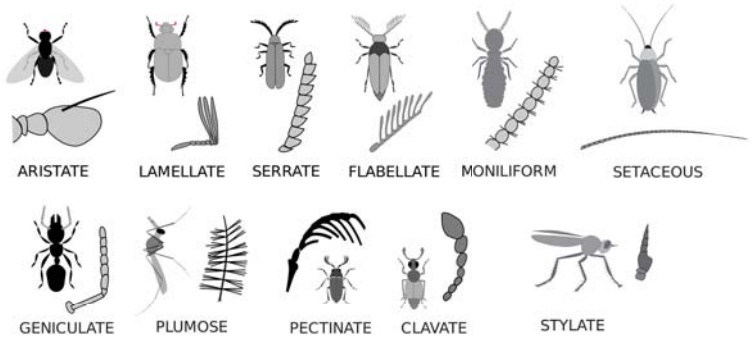
Body plan

- 3 pairs of legs
- 1 pair of antennae
- 2 pairs of wings (*typically)*
- Exposed mouthparts



INSECT BIOLOGY

Antennae

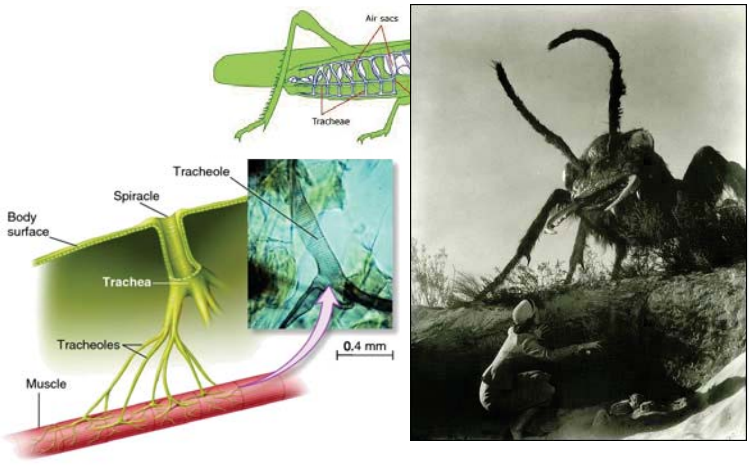


INSECT BIOLOGY

Mouthparts

INSECT BIOLOGY

Respiration



INSECT BIOLOGY

Reproduction

- Eggs / live birth / polyembryony
- Sexual or asexual (e.g. parthenogenesis (clones) or haplodiploidy)

INSECT BIOLOGY

Development

Ametabolous – no major differences between nymph and adult

Hemimetabolous – simple metamorphosis

Paurometabolous – gradual metamorphosis

Holometabolous – complete metamorphosis

INSECT BIOLOGY

Defense

Camouflage

INSECT BIOLOGY

Defense

Mimicry

INSECT BIOLOGY

Defense

Chemicals

INSECT BIOLOGY

Defense

Body guards

Evasion

NIFTY FACTS

Chymomyza costata
Surives freezing at -200ºC

Belgica Antarctica
Largest animal on antartic mainland

Sleeping midge
Surives dehydration to 3% body weight

Adapted from Steve Marshall 2007

INSECT RELATIVES

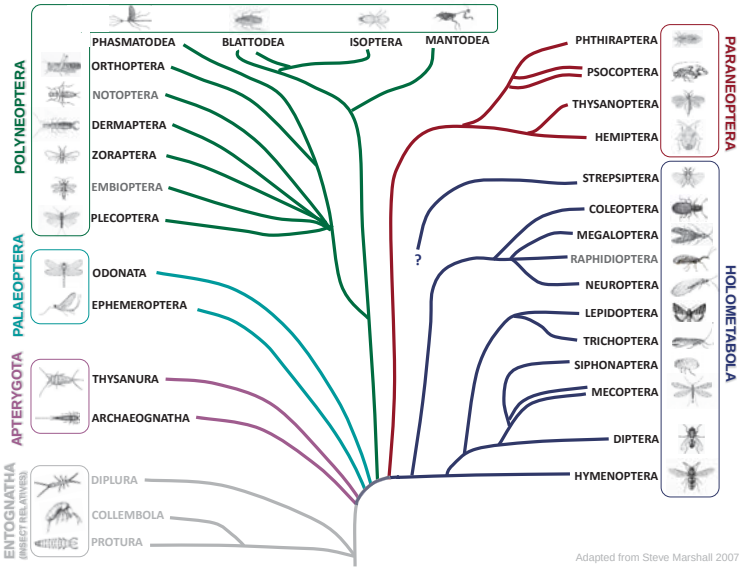
Proturans

Diplurans

Springtails (Collembola)

- 8,000 described species (500,000 predicted!)
- Earliest fossils - 400 million years old
- Abundance as high as 100,000 individuals / m^2 soil

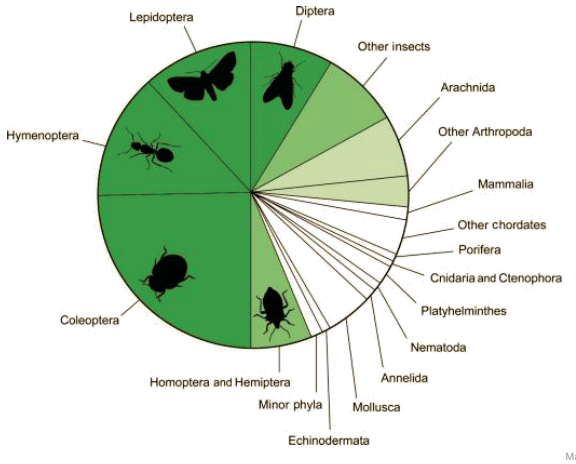
INSECT GROUPS (ORDERS)



Adapted from Steve Marshall 2007

ARTHROPOD DIVERSITY

Diversity of Holometabola



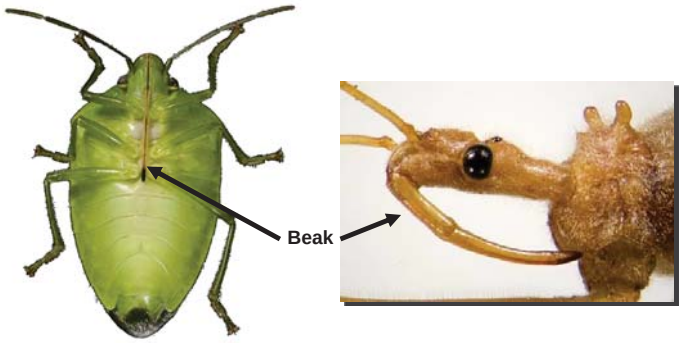
Manfred Kraemer

TRUE BUGS

Order Hemiptera

TRUE BUGS

Order Hemiptera



BEETLES

Order Coleoptera

~ 350,000 described species (largest order in Animalia, 40% of insects)

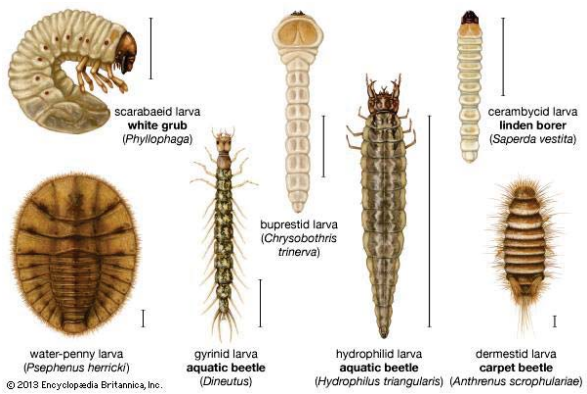
- Hardened forewings = 'elytra'
- Larvae = 'grubs'

BEETLES

Order Coleoptera

BEETLES

Order Coleoptera



ANTS, BEES, WASPS

Order Hymenoptera

BUTTERFLIES & MOTHS

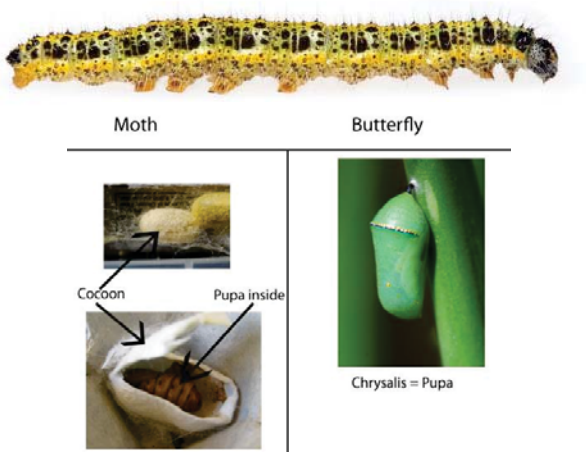
Order Lepidoptera

BUTTERFLIES & MOTHS

Order Lepidoptera

BUTTERFLIES & MOTHS

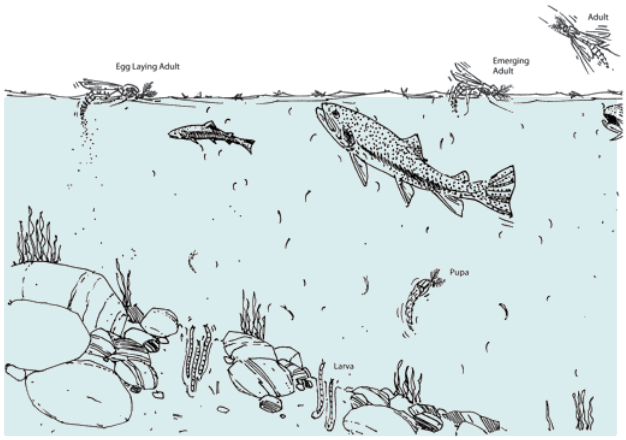
Order Lepidoptera



FLIES

Order Diptera

AQUATIC INSECTS



AQUATIC INSECTS

AQUATIC INSECTS

ECOSYSTEM SERVICES

Pollination

ECOSYSTEM SERVICES

Pollination

ECOSYSTEM SERVICES

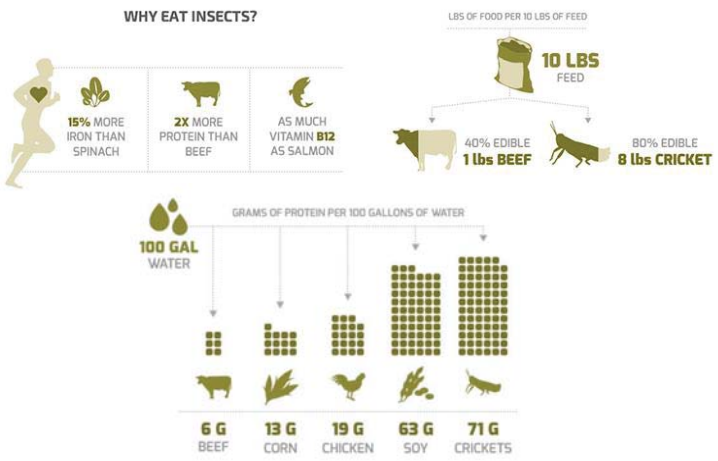
Decomposition

ECOSYSTEM SERVICES

Entomophagy

ECOSYSTEM SERVICES

Entomophagy



AS PESTS

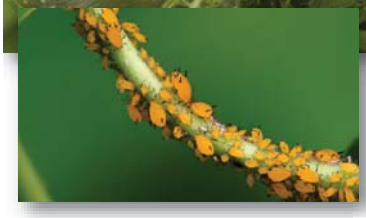
Parasites & disease vectors





AS PESTS

In agriculture


AS PESTS

Parasites & disease vectors




AS PESTS

Mosquitoes

- Estimated: 700 million people infected with a mosquito-vectored disease each year




CONSERVATION CONCERNS

Under-representation?

Ontario

Endangered Species Act

More than 200 species of plants and animals are at risk of disappearing from Ontario.

Species at risk in Ontario:

Insects – 17
Mammals – 13
Birds – 38
Amphibians – 8

CONSERVATION CONCERNS

Under-representation?

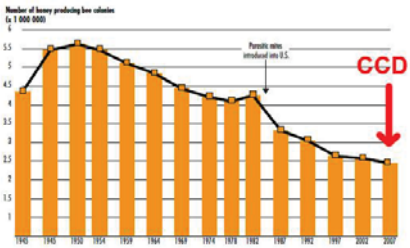
	Mammals	Birds	Reptiles	Amphibians	Fishes
SPECIAL CONCERN	17	19	9	7	25
THREATENED	13	20	13	6	12
ENDANGERED	18	27	14	7	26
EXTIRPATED	4	2	4	1	3

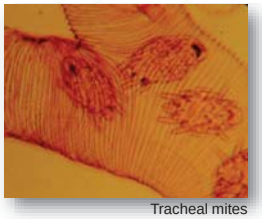
	Arthropods	Molluscs	Vascular plants	Mosses	Lichens
SPECIAL CONCERN	5	4	26	4	3
THREATENED	6	1	51	3	2
ENDANGERED	18	13	91	7	2
EXTIRPATED	3	2	3	1	0

CONSERVATION CONCERNS

Bees

Colony collapse disorder





Tracheal mites

CONSERVATION CONCERNS

Bees

N. American native bee decline

50% of native bee species have disappeared

3 bumble bee species extinct, 4 other species declined by 96%

CONSERVATION CONCERNS

How you can help

Garden with native plants
Diversify your garden
Provide habitats:

Bee hotels

Don't rake your leaves

EEPAC ACCOMPLISHMENTS – 2015:

As per our established mandate and in response to requests for staff:

Established Working Groups that prepared technical comments on the following:

- Sifton Bog Environmentally Significant Area (ESA) Management Zones
- Sifton Bog Draft Terms of Reference for Vegetative Changes Update
- 905 Sarnia Road Environmental Impact Study (EIS)
- Thames Village Joint Venture EIS (Hamilton Road and Commissioners)
- Richmond Street Overpass Environmental Assessment (EA)
- Richardson Farms EIS
- Wonderland Road Class Environmental Assessment and EIS
- EIS relating to 704 and 706 Boler Road
- Courtney Subdivision Revised EIS
- Old Victoria Storm Water Management (SWM) Pond #1 – Functional design and Environmental Assessment
- EIS relating to 2300 Richmond Street
- EIS relating to 2525 and 2695 Dingman Drive
- Urban Design Guidelines
- London Plan (Natural Heritage Policies and Mapping)
- Dingman SWM Facility B-4 EA
- Lambeth SWM Facility 9 EA

Representatives from EEPAC:

Participated on the Technical Advisory Group for London ON Bikes

Participated in the Trails Advisory Group review of the community requested trail in the Westminster Ponds/Pond Mills ESA

Prepared a report on potential impacts of Bacillus thuringiensis israelensis (B.t.i.) and B. Sphaericus on insects for Civic Administration and the Middlesex-London Health Unit, for information

Are providing technical support to staff's update of the Environmental Management Guidelines (part of Planning Staff's work plan)

Staff assisted with the training of members on how to review an EIS

Invasive Species in Ontario

"Preparing for the Invasion" hosted by MorelMag.ca

General Overview

- Growing number of non-native species
- Invasive species posing threats to native species
- Morel Magazine (Mary Baxter) hosted event in St. Thomas
- Scientists, academics, NGOs participated
- Promote discussion to encourage awareness

Event Format

- Nature walk lead by Dr. Jarmo Jallava from Carolinean Canada
- Identified invasives: Norway maple, autumn olive, black locus, Siberian elm, Japanese knotweed, honeysuckle

Also: mute swan

Evidence too of natives acting like invasive species (Canada geese, snow swans) and native/non-native hybrids (narrow leaf and broad leaf cattail)

Panel Discussion

- Janice Gilbert, Phragmites australis specialist, Nature Conservancy of Canada
- Jarmo Jalava, Director of Ecosystem Recovery, Carolinian Canada
- John Fitzgibbon, University of Guelph
- Kellie Sherman, Ontario Invasive Plant Council
- David Collins, St. Thomas Phragmites Control Committee

Factors contributing to spread of invasive species

- Globalization
- Ecosystem disturbance
- Land conversion
- Climate change
- Lack of natural predators
- Roads
- Vectors (machinery, ATVs)

What makes a species invasive?

- Not all non-native species become invasive
- Scientists cannot predict which species will become invasive
- Stressed native species/ecosystems create conditions which allow non-specialist and non-native species to thrive
- Problem: Often we do not recognize the threat of a species until it has already spread and created problems which are difficult to control.

Bigger Picture Issues

- Climate change and northern migration
- Changing ecological realities
- Determining baselines
- Policies and priorities with limited resources
- Some non-native species provide important ecosystem services

Solutions

- Public awareness/ability to identify invasive species
- Education
- Prevention first
- Coordinated and comprehensive action plan at municipal, provincial and national levels
- Skills training
- Penalties

Phragmites: Perfect Invasive Species

- Spreads from seeds and stems
- Each seed can spread 10 km
- Can spread through water
- Dead stalks still viable (can spread during the winter)
- Once established, spreads exponentially
- Survives in dry, wet, saline, low nutrient, any pH conditions
- Strong competitor for nutrients
- No natural checks and balances
- Toxic to native plants

Phragmites Solutions

- Build public awareness
- Alter human behaviour (education, incentives, public pressure, policy, fines)
- Clean equipment protocol
- Target roads and railways (engage Ministry of Transportation)
- Target north, work southward
- Ban ATVs
- Involve multiple stakeholders (particularly important are municipal governments)

Problems with Current Policies

Chemical and Mechanical removal used but:

- Many areas are inaccessible
- Large areas affected
- Very site specific approaches must be employed
- Don't have all available tools
- Can't work in wet areas (and phragmites is prevalent in wetlands)
- Chemicals imported from US and not used properly

Dr. Gilbert's Recommendations

- Get Phragmites off the roads
- Acquire proper herbacides
- Employ effective public education campaign
- Acquire sufficient dedicated funds
- Have locally driven efforts
- Create a detailed plan