

Unless otherwise stated, the event will be carried out at the Hotel Misión Los Angeles, Oaxaca, Oaxaca.

REGISTRATION AND INFORMATION

Opens Sunday, August 13th, 3:00pm.

Registration and information desk located at the lobby of Salon Oaxaca (lecture hall). It will be open every day from 7:30-8:30am and at lunch time.

WELCOMING RECEPTION

Sunday, August 13th, 6-8pm: Patio Los Laureles

MEETING ROOM

Symposia and contributing papers: Salon Oaxaca

Poster sessions: Lobby Salon Oaxaca

COUNCIL MEETING AND DINNER

Tuesday August 15th

Meeting: 6:30pm Salon Donají

Dinner: after the meeting, Hotel Camino Real

BANQUET, BANQUET SPEECH and PRESENTATION OF AWARDS

Wednesday August 16th, 6pm: Salon Oaxaca

FELLOWS MEETING

Thursday August 17th, 4:20pm: Salon Oaxaca

MESSAGE BOARD: Lobby Salon Oaxaca

PROGRAM

Please Note:

The Willi Hennig Society has a long tradition of debate and discourse at its annual meetings. The current policy of the Society, approved by its Council, is that questions and debate following any individual talk cannot be curtailed except by majority vote of those present. As such, this program necessarily is tentative and subject to change.

Please note that every listed paper is followed by a 5-minute discussion period (the obvious gap between the specified ending time and the beginning of the next talk) and many sessions also have a final discussion period. The program does not have concurrent sessions thus an individual presentation may begin earlier or later than the specified time listed here.

Sunday, August 13th

- 15:00-18:00 REGISTRATION
 18:00-20:00 WELCOMING RECEPTION

Monday, August 14th

- 7:30-8:30 REGISTRATION
 9:00 OPENING REMARKS: President Goloboff
 9:05-12:30 SYMPOSIUM: Character sampling I
 12:30-14:30 LUNCH
 14:30-16:00 SYMPOSIUM: Character sampling II
 16:00-16:20 COFFEE BREAK
 16:20-18:00 CONTRIBUTING PAPERS: Theory I
 18:00 POSTER SESSION: Theory

Tuesday, August 15th

- 8:30-10:05 SYMPOSIUM: Phylogeny and evolution of seed plants I
 10:05-10:25 COFFEE BREAK
 10:25-12:00 SYMPOSIUM: Phylogeny and evolution of seed plants II
 12:00-14:00 LUNCH
 14:00-15:35 CONTRIBUTING PAPERS: Botany I
 15:35-15:55 COFFEE BREAK
 15:55-17:30 CONTRIBUTING PAPERS: Botany II
 17:30 POSTER SESSION: Botany
 18:30 COUNCIL MEETING AND DINNER

Wednesday, August 16th

- 8:30-10:30 CONTRIBUTING PAPERS: Mainly Zoology I
 10:30-10:50 COFFEE BREAK
 10:50-12:30 CONTRIBUTING PAPERS: Zoology II
 12:30-14:30 LUNCH
 14:30-16:30 CONTRIBUTING PAPERS: Zoology III
 16:30-16:45 COFFEE BREAK
 16:45 POSTER SESSION: Zoology
 18:00 BANQUET

Thursday, August 17th

- 9:30-12:00 CONTRIBUTING PAPERS: Theory II
 12:00-14:00 LUNCH
 14:00-16:00 CONTRIBUTING PAPERS: Theory III
 16:00-16:20 COFFEE BREAK
 16:20-17:00 FELLOWS MEETING
 17:00 SOFTWARE DEMONSTRATIONS

PROGRAM: LONG VERSION

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9:00 **OPENING REMARKS:** President Goloboff

9:05-16:00 SYMPOSIUM: CHARACTER SAMPLING

Organizer: Mark P. Simmons

A symposium on character sampling is a timely topic given the wealth of data that are being generated from phylogenetically diverse taxa as part of genomics projects. With thousands of potential nucleotide characters, the problem of having an adequate number of characters is diminishing while the problem of appropriate sampling of characters for phylogenetic inference is becoming more prominent. The symposium is inclusive with speakers discussing conceptual aspects about different types and uses of characters in phylogenetics. It starts off with morphology (de Luna and Kirchoff), moves on to the use of molecular characters at lower (Siddall, Agesen) and higher (Vogler, Davis) taxonomic levels, and finishes up with a discussion on indels (González, Müller, and Simmons).

9:05-9:10 **INTRODUCTION**

9:10-9:30 **De Luna* and Mishler:** Geometric spaces for character sampling and quantitative methods for character state identity.

9:35-9:55 **Kirchoff:** Characters as Groups: Applying insights from cognitive psychology to improve morphological characters.

10:00-10:20 **Siddall:** Barcoding, morphology, microsatellites and medicinal leeches.

10:20-10:40 **DISCUSSION**

10:40-11:00 **COFFEE BREAK**

11:00-11:20 **Aagesen*¹, Giussani, Scatagliani, and Morrone:** Characters sampling at low taxonomic level - a phylogenetic analysis of species complex *Poa* sect. *Dioicopoa*.

11:25-11:45 **Vogler:** The utility of expressed sequence tags as phylogenetic characters.

11:50-12:10 **Davis:** Contributions of characters with various qualities to phylogenetic studies of the grasses and monocots.

12:10-12:30 **DISCUSSION**

12:30 -14:30 **LUNCH**

- 14:30-14:50 **González*, Cubeta, and Vilgalys:** Phylogenetic utility of indels within ribosomal DNA and beta-tubulin sequences from fungi in the *Rhizoctonia solani* species complex.
- 14:55-15:15 **Müller:** Indel coding under parsimony.
- 15:20-15:40 **Simmons* and Müller:** The relative performance of indel-coding methods in simulations.
- 15:40-16:00 **DISCUSSION**

16:00-16:20 **COFFEE BREAK**

CONTRIBUTING PAPERS: Theory I

- 16:20-16:35 **Wheeler*, Bomash and Varón:** Complex terminals and forest swapping.
- 16:40-16:55 **Varón*, Wheeler, Bomash, and Vinh:** POY Version 4.0.
- 17:00-17:15 **Robillard, Legendre*, Desutter-Grandcolas, and Grandcolas:** Phylogenetic analysis and alignment of behavioral sequences by direct optimization.
- 17:20-17:35 **Legendre, Robillard, Desutter-Grandcolas, and Grandcolas*:** Phylogenetic analysis of non-stereotyped behavioral sequences: from successive event-pairing method to direct optimization.
- 17:35-18:00 **DISCUSSION**

18:00 POSTER SESSION: Theory

De Laet: POY and the art of jackknife support justification.

Minaka*, Suemura, Okano, Sugiua, Yamamoto and Machii: Ancestral character-state reconstruction and its applications using BALANCE, an integrated software for calculating large phylogenies under the maximum parsimony criterion.

Vergara-Silva: Relations in bioinformatic ontologies and "pattern cladistics": a philosophy of science-informed comment

8:30-12:00 SYMPOSIUM: PHYLOGENY AND EVOLUTION OF SEED PLANTS

Organizer: Teresa Terrazas

Our goal in this symposium is to discuss how different sources of data allow us to resolve seed plants phylogenies and to evaluate character evolution at different hierarchical levels. The first speaker will discuss the contribution of indels in the phylogeny of *Dioon* (Voides), the next two speakers will present data congruence for two monocotyledon families Juncaceae (Drábková) and subtribe Bletinae of Orchidaceae (Sosa). The dicotyledoneous families will be represented by Cactaceae (Terrazas) and Rubiaceae (Ochoterena) to finish up with an overview of our current knowledge of seed plant phylogeny (Nixon).

8:30-8:35 **INTRODUCTION**

8:35-8:55 **González, Voides*, and Bárcenas:** Phylogenetic relationships of the Mexican genus *Dioon* (Cycadales, Zamiaceae) based on nuclear and chloroplast DNA sequences data.

9:00-9:20 **Drábková:** Data congruence and phylogeny of the monophyletic genus *Luzula*, Juncaceae.

9:25-9:45 **Sosa:** A molecular and morphological phylogenetic analysis of subtribe Bletinae (Epidendreae, Orchidaceae).

9:45-10:05 **DISCUSSION**

10:05-10:25 **COFFEE BREAK**

10:25-10:45 **Terrazas*, Vázquez-Sánchez, and Arias:** Evolution of the flowering zones in Cactoideae-Cactaceae.

10:50-11:10 **Ochoterena:** Phylogeny of Rubiaceae: from the family to the genera.

11:15-11:35 **Nixon:** Current understanding of seed plant phylogeny.

11:35-12:00 **DISCUSSION**

12:00-14:00 **LUNCH**

CONTRIBUTING PAPERS: Botany

- 14:00-14:15 **Torres-Torres*, Guzmán-Dávalos, Rodríguez-Contreras:** Ganodermataceae (Fungi): How many genera are there?
- 14:20-14:35 **García-Avila* and de Luna:** Homology in DNA sequences: ambiguous regions and informative characters in the *rps4-trnS* intergenic spacer in Thuidiaceae (Bryopsida).
- 14:40-14:55 **García-Cruz, Espejo-Serna*, and López-Ferrari:** Phylogeny of *Tillandsia* inferred from morphological characters; a preliminary approach.
- 15:00-15:15 **Hernández-Ledesma*, Flores Olvera, and Ochoterena:** Phylogenetic analysis of *Anulocaulis* Standl. (Nyctaginaceae) based on morphological data.
- 15:15-15:35 **DISCUSSION**

15:35-15:55 COFFEE BREAK

- 15:55-16:10 **Pedraza:** Phylogenetic studies of *Disterigma*, an Andean Blueberry.
- 16:15-16:30 **Alvarado-Cárdenas* and Ochoterena:** Phylogenetic analysis of the Tribe Plumerieae (Apocynaceae, Rauvolfioideae), based on molecular and morphological markers.
- 16:35-16:50 **Cervantes*, Hernández, Ochoterena, Terrazas, and Flores Olvera:** Systematics of *Bernardia* section *Tyria* (Euphorbiaceae) based on morphological data.
- 16:55-17:10 **De Nova* and Sosa:** Conflicts between molecular and morphological data in the phylogeny of *Adelia* (Euphorbiaceae s.s.).
- 17:10-17:30 **DISCUSSION**

17:30 POSTER SESSION: Botany

Díaz Larrea*, Sentíes G., Fujii T., and Pedroche: Molecular phylogeny of *Laurencia* complex (Rhodophyta) in the Mexican Caribbean based on *rbcL* region.

Fragoso* and Rodríguez: The Order Corallinales (Rhodophyta): A phylogenetic proposal.

Tufiño Velázquez*, Díaz Larrea, and Pedroche: Exploratory analysis of the quantitative characters usefulness in phylogenetic analysis: An example in the genus *Codium* (Chlorophyta) in Veracruz, Mexico.

Contreras-Medina*, Luna Vega and Morrone: Gymnosperms and cladistic biogeography of the Mexican Transition Zone.

Rodríguez-Banderas*, Vargas, and Vendramin: Phylogeographic analysis of *Pinus leiophylla* in Mexico.

Hornung-Leoni* and Sosa: A phylogenetic morphological analysis of *Puya* subgenus *Puya* (Bromeliaceae).

Ruiz-Sánchez*, Sosa, Mejía-Saulés, and Rodríguez-Gómez: Phylogeny of an American bamboo, *Otatea* (Poaceae: Bambusoideae), based on *rpl16* intron sequence data.

Solano: Variation, development and evolution in the column of the *Pleurothallidinae* subtribe (Orchidaceae).

Cosacov, Sosa*, Sérsic, and De Nova: Phylogenetic analysis of the Patagonian *Calceolaria polyrhiza* complex based on ITS DNA sequences.

Andrés-Hernández*, Terrazas, and Ochotorena: *Rhus s.str.* (Anacardiaceae) phylogenetic analysis and the evolution of leaf.

Arreola-Nava, Arias*, and Terrazas: On the phylogenetic relationships of *Stenocereus* (Cactaceae): A combined molecular and morphological approach.

Barcenas-Arguello*, Terrazas, and Arias: Phylogenetic relationships of *Cephalocereus* species (Cactaceae).

Gómez-Hinostrosa* and Hernández: Systematics of genus *Acanthocereus* (Engelmann ex A. Berger) Britton & Rose (Cactaceae).

González-Zamora* and Luna Vega: Phylogenetic analysis of *Axiniphyllum* Benth. (Asteraceae: Heliantheae).

18:30 Council MEETING followed by Council DINNER

CONTRIBUTING PAPERS

8:30-8:45 **Janies*, Habib, Guralnick, Hill, Perkins, Waltari, Wheeler, Spiro, and Ghedin:** Re-emergence of seasonal influenza viruses and comparative visualization of the geographic spread of influenza.

Zoology

8:50-9:05 **Derelle* and Manuel:** Multigene analysis to resolve the phylogenetic status of sponges.

9:10-9:25 **Leclère*, Schuchert and Manuel:** Molecular phylogeny of the *Leptothecata* (Hydrozoa, Cnidaria): Implications for the evolution of life cycle and colony architecture.

9:30-9:45 **Agolin:** Towards dynamic homology of morphological characters? A first step with the simple case of chaetotaxy in the family Odontellidae (Poduromorpha, Collembola, Hexapoda).

9:50-10:05 **D'Haese:** Phylogeny of Collembola: Were the first springtails semi-aquatic?

10:05-10:30 **DISCUSSION**

10:30-10:50 **COFFEE BREAK**

10:50-11:05 **Song and Wenzel*:** Systematics of Cyrtacanthacridinae (Orthoptera: Acrididae) and the evolution of locust phase polyphenism.

11:10-11:25 **Teräväinen* and Muona:** On false click-beetles and whether different data partitions click as well – the molecular phylogeny of *Eucnemidae* (Coleoptera, Polyphaga: Elateriformia).

11:30-11:45 **Vahtera* and Muona:** The evolutionary history of the thylacosternid-beetles (Coleoptera: Elateridae: Thylacosterninae); mission impossible?

11:50-12:05 **Mengual*, Ståhls, and Rojo:** Molecular phylogenetics of *Syrphinae* (Diptera: Syrphidae) based on mitochondrial *COI* and nuclear 28S rRNA genes.

12:05-12:30 **DISCUSSION**

12:30-14:30 **LUNCH**

- 14:30 -14:45 **Dikow:** Towards the phylogeny of robber flies (Insecta: Diptera: Asilidae) - evidence from morphology of the imagines.
- 14:50-15:05 **Caesar* and Wenzel:** Tiny dancers: A preliminary phylogeny of North American *Argia* (Odonata: Coenagrionidae).
- 15:10-15:25 **Legendre*, Whiting, Bordereau, Canello, Evans, and Grandcolas:** The phylogeny of termites (Dictyoptera: Isoptera) based on mitochondrial and nuclear genes and the evolution of worker caste and foraging behavior.
- 15:30-15:45 **Bucheli and Wenzel*:** A phylogenetic test of the ecological paradigm of "escape and radiation" in *Depressaria* moths.
- 15:50-16:05 **Giannini*, Simmons, and Almeida:** Homology and character evolution in megachiropteran bats.
- 16:05-16:30 **DISCUSSION**

16:30-16:45 **COFFEE BREAK**

16:45 **POSTER SESSION Zoology**

Bueno-Villegas*, Sierwald, and Espinosa: Phylogeny of *Sphaeriodesmus* Peter, 1864 (Diplopoda: Polydesmida: Sphaeriodesmidae). Cladistic analysis based on morphological data.

Hovmöller: Phylogeny of Coenagrionidae (Insecta: Odonata)

Zurita-García*, Zaragoza Caballero, Ochoterena, and Morrone Lupi: Systematics of subtribe Agriotina Laporte (Coleoptera: Elateridae: Elaterinae).

Mejía* and Zúñiga: Phylogeny and historical biogeography of the genus *Humboldtiana* (Pulmonata: Humboldtianidae).

Lizarraga* and Casas: Evolutionary tendencies of some reproductive aspects, habitat type and feeding habits within snakes of the genus *Thamnophis* (Reptilia: Sauria).

Guevara-Chumacero*, López-Wilchis, Flores-Pedroche, and Barriga-Sosa: Nested clade analysis indicates population fragmentation and range expansion in *Pteronotus davyi* (Chiroptera: Mormoopidae) in Mexico.

18:00 **BANQUET**

Speech: Dennis W. Stevenson and Kevin C. Nixon

CONTRIBUTING PAPERS: Theory II

9:30-9:50 **Muona* and Alaruikka:** Is repatriation of entomological data really that useful?

9:55-10:15 **Raczkowski and Wenzel*:** Sociological aspects of taxonomy and determinants of alpha diversity.

10:20-10:40 **Farris:** Philosophical arguments and phylogenetic methods.

10:45-11:05 **Lienau:** Popper, systematics and the combined corroboration metric.

11:10-11:30 **Grant and Kluge*:** On objective support

11:35-12:00 **DISCUSSION**

12:00-14:00 **LUNCH**

14:00-14:20 **Goloboff* and Giannini:** An optimization-based method to estimate and test character correlation for continuous characters.

14:25-14:45 **Ochoterena*, Arenas, Ricalde, Segura and Rodríguez-Vázquez:** GLOCSA: a GLObal Criterion for Sequence Alignment.

14:50-15:10 **Simmons*, Richardson, and Reddy:** Incorporation of gap characters and lineage-specific regions into phylogenetic analyses of gene families from divergent clades: An example from the Kinesin Superfamily across Eukaryotes.

15:15-15:35 **Little* and Stevenson:** A comparison of algorithms for identification of specimens using DNA barcodes: Examples from gymnosperms.

15:35-16:00 **DISCUSSION**

16:00-16:20 **COFFEE BREAK**

16:20-17:00 **FELLOWS MEETING**

17:00- **SOFTWARE DEMONSTRATIONS**

GLOCSA (Edgar Arenas)

POY (Andrés Varón)

Council members presiding:

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Meeting chair and coordinator:
Society Liason:
Conference Organization Committee:

Helga Ochoterena
Helga Ochoterena
Dennis W. Stevenson
Helga Ochoterena
Dennis W. Stevenson
Kevin C. Nixon

Symposium organizers:

Mark P. Simmons
Teresa Terrazas

Session Moderators:

Hilda Flores
Damon Little
Mark Siddall
Dennis W. Stevenson

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Helga Ochoterena
Dennis W. Stevenson
Julio César Montero Rojas

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