

## CURRICULUM VITAE

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L. Orlóci BSc, DFE, MSc, PhD, DSc, MHAS, MCAS (FRSC)  
Emeritus Professor of Statistical Ecology  
INTECOL Distinguished Statistical Ecologist

Department of Biology, The University of Western Ontario, London,  
Canada N6A 5B7

or

3-575 McGarrell Pl, London, Canada N6G 5L3

T. 1 519 643 7145,  
lorloci@uwo.ca  
<http://ecoqua.ecologia.ufrgs.br/~lorloci/>

### CITATION



With Márta at La Perouse Bay, Hawaii 199  
LÁSZLÓ ORLÓCI - B.S.F. (1958), Sopron; M.Sc. and Ph.D. (1964), University of British Columbia (under V.J. Krajina); post-doctoral training (1964-65), University College of North Wales, Bangor (under Peter

Greig-Smith)Orlóci joined the University of Western Ontario as Assistant Professor in 1965, he was promoted to Full Professor in 1972 and continued to be a member in the Faculty of Science, with intermittent sabbaticals and other assignments abroad at different universities and research institutions until his retirement in 1996. promoted to Full Professor in 1972 and continued to be a member in the Faculty of Science, with intermittent sabbaticals and other assignments abroad at different universities and research institutions until his retirement in 1996.

Orlóci has appointments as Visiting Professor at universities in the Americas, the Pacific, Asia, and Europe. He is an external member of the Hungarian Academy of Sciences and a Fellow in the Academy of Sciences of the Royal Society of Canada.

Orlóci contributed significantly to the development of conceptual tools and applications in statistical ecology. His early seminal paper on the ordination of variable-rich ecological data is a 1982 ISI Citation Classic. He pioneered an information theoretical approach in ecological data analysis; clarified the fundamentals of a species-free hierarchical approach in global community studies and developed techniques for the estimation of transition probabilities in temporal vegetation data. He provided a solution for the estimation of local thermal flux rates under scenarios of climate warming and elaborated the basic principles of process sampling stressing sample structure stability as optimality criterion. Orlóci's ongoing research interest is concerned with approaches and conceptual tools of evolutionary community studies where process determinism, attractor migration, phase struc-

ture, periodicity, dimensionality, and parallelism are central notions.

Orlóci has received numerous honours in Science, among these election as a Member to the Hungarian Academy of Science (MHAS) and Fellow of the Canadian Academy of Sciences of the Royal Society (FRSC); a D.Sc. *honoris causa* from the University of Trieste; Distinguished Statistical Ecologist Award from the VI<sup>th</sup> INTECOL Congress at the University of Manchester; Twentieth Century Distinguished Service Award from the 9<sup>th</sup> Lukács Symposium in Statistical Ecology at Bowling Green State University; and Honorary Academic Advisor at the Northeast Forestry University in Harbin.

László is married to Márta Mihály, a Sopron alumna and life-time research associate. Their daughter Martha is a UWO graduate in Geography.

CV UPDATED: MARCH 2007

FULL NAME: Orlóci, László

PRESENT ADDRESS:

575 McGarrell Place, London, Canada N6G 5L3

DATE AND PLACE OF BIRTH: 1932.06.27, Esztergomtábor, Hungary

CITIZENSHIP: Canadian

MARRIED TO: Mihály, Márta B.S.F., writer, retired biology instructor

**A. Honours/peer recognition**

Academician member (external) of the Hungarian Academy of Sciences (MTA), Budapest (1990).

Academician member (Fellow) of the Canadian Academy of Sciences, the Royal Society of Canada, Ottawa (1997).

INTECOL Distinguished Statistical Ecologist, VI International Congress of Ecology, University of Manchester, England (1994).

Doctor of Science h.c., Biological Sciences, Università di Trieste, Italy (1996).

Diploma of Forest Engineering, University of Western Hungary, Sopron (2007).

Twentieth Century Distinguished Service Award in Statistical Ecology, the Ninth Lukács Symposium on Ecological Statistics at Bowling Green State University, Ohio (1999).

Honorary Academic Advisor and Visiting Professor, Northeast Forestry University, Harbin, China (1994).

Visiting Professor, Botany, University of Hawaii at Manoa (1972-2001).

Distinguished Visiting Professor, Biology, New Mexico State University, Las Cruces (1986).

Distinguished CNPq Visiting Scientist and Visiting Professor, Institute of Ecology, of the Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil (1994-2007).

Invited short-course Director/Lecturer:

Istituto per le Applicazioni del Calcolo, Rome, Italy

ISEP, Università di Parma, Italy

Università di Trieste, Italy

Università di Roma, Italy

ETH, Zürich, Switzerland

Universidad Nacional de Rosario, Argentina

International Centre for Theoretical and Applied Ecology, Gorizia, Italy

Università di Sassari, Italy

EAE-CSIC and Universidad de León, Spain

Botany Division, Academia Sinica, Beijing, China

Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil  
(Please see also sections C, G.)

## **B. Education**

### HIGH SCHOOL:

Forestry Diploma, Erdészeti Technikum, Sopron, Hungary (1952)

### UNIVERSITY:

BSF (1958), Forestry, Sopron/University of British Columbia

MSc (1961), PhD (1964), Botany, University of British Columbia

Postdoctoral Fellow under Professor P. Greig-Smith, University College of  
North Wales, Bangor, U.K. (1964-65)

## **C. UWO appointment record**

Assistant Professor 1965

Associate Professor 1969

Full Professor 1972

## **D. Area of academic specialization:**

Quantitative (statistical) community and population ecology, quantitative evolutionary ecology, statistical ecology, biostatistics.

## **E. Research interest**

GENERAL AREA: Quantitative community, population, and evolutionary ecology.

CHARACTERISATION: international and co-operative in scope.

MAIN OBJECTIVES: development of conceptual tools with pattern and process in focus.

SUPPORT: Uninterrupted grant support from NSERC of Canada for 41 years, and intermittent financial support from many sources, in the range from about 2k to 100k per annum. The latest in 2006 from IAI (jointly 500,000).

## **G. Other professional activities**

### MEMBERSHIP IN LEARNED SOCIETIES:

Canadian Botanical Association

Ecological Society of America

International Association for Vegetation Science

Classification Society of America

International Association for Ecology (INTECOL)

### EDITORSHIP (past or active):

Community Ecology

Coenoses

Ecological Computations Series, SPB Academic Publishing

Ecology of Western North America  
 Ecology  
 Ecological Monographs  
 Vegetatio  
 Studia Geobotanica  
 Environmental and Ecological Statistics  
 Reviewer for NSF, USDE, NSERC, FCAR, MTA, SNSF  
 Reviewer for numerous other scientific institutions and journals

**OFFICES (near past or continuing):**

Convener of symposia, workshops  
 Statistical consultant  
 Committee for establishment of a National Centre for Statistical Ecology (USA)  
 Committee for establishment of a National Centre for Biological Computations (USA)  
 Committee for establishment of a International Centre for Theoretical and Applied Ecology (Italy)  
 Treasurer, Classification Society  
 Board Member, INTECOL, Statistical Ecology Section  
 Chair/Co-Chair, Board of Directors, International School of Vegetation Science, "a school without walls"  
 Member, Science Council, International Centre for Theoretical and Applied Ecology (CETA), Italy  
 Director/Co-Director, International Workshop Program at CETA  
 Chair, UNIDO-ICE Working Group on Modelling Vegetation-Climate Interactions  
 Member, Advisory Council, International Association for Vegetation Science  
 Panel member, Scientific Planning and Coordination, International Centre for Science and High Technology (UNIDO, Trieste)

**F. Invited colloquia, seminars, addresses**

Africa 2; Asia 4; Europe 45; Hawaii 9; N. America 21; S. America: 10

**G. Publications**

Refereed articles and book chapters 94+; Citation classic 1; Books 17+

**H. International Graduate and Post-doctoral Teaching** (number of courses in 26 hr semester units)

Europe 6; Hawaii 4; Americas 5; Asia 1

**L. ORLÓCI'S PUBLICATIONS, INVITED COLLOQUIA, SEMINARS, ETC**

- A. REFEREED PAPERS 99+, p. 1  
 1. JOURNAL ARTICLES 79, p. 1  
 2. ISI CITATION CLASSIC 1, p.4  
 3. BOOK CHAPTERS 23, p. 4

4. BOOKS, MONOGRAPHS 16, p.5  
 B. INVITED COLLOQUIA, SEMINARS 89, p. 6  
 C. TITLES OF SOME RECENT SCHOLARLY ADDRESSES (LAST 15 YEARS), p. 8  
 D. RECENT REPORTS (LAST 10 YEARS), p. 11

1. ARTICLES --- 79

- Orlóci, L. 2009. Multi-scale trajectory analysis: powerful conceptual tool for understanding ecological change. *Frontiers of Biology in China* 4: 158-179. -- Online First Volume 4, No.2, March. <http://www.springerlink.com/content/119832/?k=Orloci>
- Orlóci, L. and K.S. He. 2009. On Governance in the long-term vegetation process: How to discover the rules? *Frontiers of Biology in China* 4: 557-568. -- Online First Volume 4, No.4, September. <http://www.springerlink.com/content/119832/?k=Orloci>
- Orlóci, L. 2008. Vegetation displacement issues and transition statistics in climate warming cycle. *Community Ecology* 9: 83-98.
- Orlóci, L. 2008. Multiscale trajectory analysis: powerful conceptual tool for understanding change. [www.vegetationdynamics.com](http://www.vegetationdynamics.com) links to Trajectory analysis and Appendix for TA.
- Orlóci, L. 2008. Trajectory analysis in Ecology. Talking points for ELTE lecture 2007. [www.vegetationdynamics.com](http://www.vegetationdynamics.com) links to ELTE Lecture.
- Orlóci, L. 2006. Diversity partitions in 3-way sorting: functions, Venn diagram mappings, typical additive series, and examples. *Community Ecology* 7:253-259.
- Orlóci, L., V.D. Pillar, and M. Anand. 2006. Multiscale analysis of palynological records: new possibilities. *Community Ecology* 7:53-68.
- Behling, H. V.D. Pillar, L. Orlóci, and S. G. Bauermann. 2004. Late Quaternary Araucaria forest, grassland (Campos), fire and climate dynamics, studied by high-resolution pollen, charcoal and multivariate analysis of the Cambará do Sul core in southern Brazil. *Paleogeography, Paleoclimatology, Paleoecology* 203: 277-297.
- Orlóci, L., V.D. Pillar, M. Anand and H. Behling. 2002. Some interesting characteristics of the vegetation process. *Community Ecology* 3:125-146.
- Orlóci, L., M. Anand, and V. D. Pillar. 2002. Biodiversity analysis: issues, concepts, techniques. *Community Ecology*. *Community Ecology* 3: 217-236.
- Orlóci, L. 2001. Prospects and expectations: reflections on a science in change. *Community Ecology* 2: 187-196.
- Orlóci, L. 2001. Pattern dynamics: an essay concerning principles, techniques, and applications. *Community Ecology* 2:1-15.
- Anand, M., and L. Orlóci. 2000. On partitioning of an ecological complexity function. *Ecological Modelling* 132:51-62.
- Orlóci, L. 2000. From Order to Causes. A personal view, concerning the principles of syndynamics. See the worldwide web at <http://mywebsite.netscape.com/lorloci/koa>
- He, X.S. and L. Orlóci. 1999. Anderson Pond revisited: the late Quaternary vegetation process. *Abstracta Botanica*. *Abstracta Botanica* 22:81-93.
- Fekete, G., K. Virágh, R. Aszalós, and L. Orlóci. 1998. Landscape and ecological differentiation of *Brachypodium pinnatum* grasslands in Hungary. *Coenoses* 13:39-53.
- Anand, M. and L. Orlóci, L. . 1997. Chaotic dynamics in a multispecies community. *Environmental and Ecological Statistics* 4:337-344.
- Anand, M. and L. Orlóci. 1996. Complexity in plant communities: the notion and quantification. *J. theor. Biol.* 179:179-186.

- Patta, V. De Pillar and L. Orlóci. 1996. On randomization testing in vegetation science: multifactor comparisons of relevé groups. *J. Veg. Sci.* 7: 585-592.
- Orlóci, L. and X.S. He. 1996. The entropy structure of biodiversity. *Bull. Bot. Res. (NFU, Harbin, China)* 16:146-154.
- Orlóci, L. 1994. Global warming: the process and its anticipated phytoclimatic effects in temperate and cold zone. *Coenoses* 9: 69-74.
- Palmer, A. R. and L. Orlóci. 1994. A contingency table model of vegetation: the mapping problem. *Coenoses* 9:75-80.
- He, X.S. and L. Orlóci. 1993. Comparative diversity analysis of vegetation. *Abstracta Botanica* 17:79-86
- Orlóci, L., M. Anand and X. S. He. 1993. Markov chain: a realistic model for temporal coenose? *Biométrie-Praximétrie* 33:7-26.
- Yu, S. X. and L. Orlóci. 1993. The implication of niche separation and its measurement. In Chinese. *Acta Phytosociologica et Geobotanica Sinica* 17:253-263.
- Orlóci, L. 1993. Conjectures and scenarios in recovery study. *Coenoses* 8:141-148..
- Yu, S. X. and L. Orlóci. 1993. Species niche centre: a useful ecological concept. *Abstracta Botanica* 17: 115-123.
- Pillar, V. De Patta and L. Orlóci. 1993. Taxonomy and perception in vegetation analysis. *Coenoses* 8:53-66.
- Yu, S. X. and L. Orlóci. 1992. Niche breath: an index of species environmental fitness. *Coenoses* 7:121-126.
- Orlóci, L. 1990. Statistics in ecosystem survey: computer support for process-based sample stability tests and entropy/information inference. *Abstracta Botanica* 14:31-49.
- Orlóci, L. 1991. On character-based plant community analysis: choice, arrangement, comparison. *Coenoses* 6: 103-107
- Orlóci, L. and M. Orlóci. 1990. Edge detection in vegetation: Jornada revisited. *Journal of Vegetation Science* 1:311-324.
- Yu, S. X. and L. Orlóci. 1990. On niche overlap and its measurement. *Coenoses* 5:159-165.
- Yu, S. X. and L. Orlóci. 1989. Species dispersion along soil gradients in a *Cryptocarya* community, Dinghushan, South China. *Coenoses* 4: 39-45.
- Orlóci, L. and V. de Patta Pillar. 1989. On sample size optimality in ecosystem survey. *Biométrie-Praximétrie*. 29:173-184
- Orlóci, L. 1988. Detecting vegetation patterns. *ISI Atlas of Science, Animals and Plants* 1:173-177.
- Orlóci, L. and M. Orlóci. 1988. On recovery, Markov chains and canonical analysis. *Ecology* 69:1260-1265
- Orlóci, L. 1988. Community organization: recent advances in numerical methods. *Can. J. Bot.* 66:2626-2633
- Wildi, O. and L. Orlóci. 1987. Flexible gradient analysis: a note on ideas and an application. *Coenoses* 2: 15-19.
- Orlóci, L. and S. L. Stofella. 1986. A taxon-free numerical approach to the study of plant communities. *Ann. Arid Zone* 25:111-131.
- Kenkel, N. C. and L. Orlóci. 1986. Applying metric and nonmetric multidimensional scaling to ecological studies: some new results. *Ecology* 67:919-928.

- Orlóci, L., D. Lausi, E. Feoli and P. L. Nimis. 1986. Estimation of character structure convergence (divergence) in plant communities: a nested hierarchical model. *Coenoses* 1:11-20.
- Orlóci, L. and M. Orlóci. 1985. Comparison of communities without the use of species: model and example. *Ann. Bot. (Roma)* 43:275-285.
- Feoli, E., L. Orlóci and M. Scimone. 1985. Measuring convergence of vegetation on the basis of floristic data. *Abstracta Botanica* 9:17-32.
- Orlóci, L., N. C. Kenkel and P. H. Fewster. 1985. Probing simulated vegetation data for complex trends by linear and nonlinear ordination methods. *Abstracta Botanica*: 8:163-172.
- Feoli, E. and Orlóci. 1985. Species dispersion profiles of anthropogenic grasslands in the Italian Pre-Alps. *Vegetatio* 60:113-118.
- Feoli, E., L. Orlóci and M. Scimone. 1984. Comparison of ordinations from some Appenin forest communities based on different characters and methods. *Studia Geobotanica* 4:137-145.
- Fewster, H. P. and L. Orlóci. 1983. On choosing a resemblance measure for non-linear predictive ordination. *Vegetatio* 54:27-35.
- Orlóci, L. 1981. Probing time-series vegetation data for evidence of succession. *Vegetatio* 46:31-35.
- Orlóci, L. 1980. An algorithm for predictive ordination. *Vegetatio* 42:23-25.
- Orlóci, L. and W. Stanek. 1980. Vegetation survey of the Alaska Highway, Yukon Territory: types and gradients. *Vegetatio* 41:1-56.
- Feoli, E. and L. Orlóci. 1979. Analysis of concentration and detection of underlying factors in structured tables. *Vegetatio* 40:49-54.
- Orlóci, L. 1978. Ranking species based on the components of equivocation information. *Vegetatio* 37: 123-125.
- Fewster, P. H. and L. Orlóci. 1978. Stereograms to aid group recognition and trend identification in vegetation data. *Can. J. Bot.* 56: 162-165.
- Orlóci, L. 1977. Appendix to "Comparisons of peatland types, using macronutrient contents of peat" - a paper by W. Stanek and J. K. Jeglum. *Vegetatio* 33:163-173.
- Orlóci, L. 1976. TRGRPS - an interactive algorithm for group recognition with an example from Spartinetea. *Vegetatio* 32:117-120.
- Maarel, E. van der, L. Orlóci and S. Pignatti. 1976. Data processing in phytosociology: retrospect and anticipation. *Vegetatio* 32:65-72.
- Orlóci, L. and M. E. Beshier. 1976. A heuristic test for homogeneity in species populations. *Vegetatio* 31:141-145.
- Orlóci, L. 1976. Ranking species by an information criterion. *J. Ecol.* 64:411-419.
- Orlóci, L. 1975. Partition of information: some formulae revisited. *Aust. J. Bot.* 23:977-979.
- Orlóci, L. 1975. Measurement of redundancy in species collections. *Vegetatio* 31:65-67.
- Bradfield, G. E. and L. Orlóci. 1975. Classification of vegetation data from an open beach environment in southwestern Ontario: cluster analysis followed by generalized distance assignment. *Can. J. Bot.* 53:495-502.
- Orlóci, L. 1974. On information flow in ordination. *Vegetatio* 29:11-16.
- Orlóci, L.. 1974. Revisions for the Bray and Curtis ordination. *Can. J. Bot.* 52:1773-1776.
- Orlóci, L.. 1973. Ranking characters by a dispersion criterion. *Nature* 244:371-373.

- Orlóci, L. and M. M. Mukkattu. 1973. The effect of species number and type of data on the resemblance structure of a phytosociological collection. *J. Ecol.* 61:37-46.
- Orlóci, L. 1973. An algorithm for cluster seeking in ecological collections. *Vegetatio* 27:339-245.
- Orlóci, L. 1972. On objective functions of phytosociological resemblance. *Am. Mid. Nat.* 88:28-55.
- Orlóci, L. 1971. An information theory model for pattern analysis. *J. Ecol.* 59:343-349.
- Orlóci, L. 1970. Analysis of vegetation samples based on the use of information. *J. theoret. Biol.* 29:173-189.
- Orlóci, L. 1970. Automatic classification of plants based on information content. *Can. J. Bot.* 48:793-802.
- Orlóci, L. 1969. Information analysis of structure in biological collections. *Nature* 223:483-484.
- Orlóci, L. 1968. Definition of structure in multivariate phytosociological samples. *Vegetatio* 16:281-191.
- Orlóci, L. 1968. A model for the analysis of structure in taxonomic collections. *Can. J. Bot.* 1093-1097.
- Orlóci, L. 1968. Information analysis in phytosociology: partition, classification and prediction. *J. theoret. Biol.* 20:271-284.
- Orlóci, L. 1967. An agglomerative method to classify plant communities. *J. Ecol.* 55:193-205.
- Orlóci, L. 1967. Data centering: a review and evaluation with reference to component analysis. *Syst. Zool.* 16:208-212.
- Austin, M. P. and L. Orlóci. 1966. Geometric models in ecology. II. an evaluation of some ordination techniques. *J. Ecol.* 54:217-227.
- Orlóci, L. 1966. Geometric models in ecology. I. The theory and application of some ordination methods. *J. Ecol.* 54:193-215.

## 2. ISI Citation Classic -- 1

- Orlóci, L. 1986. Geometric Models in Ecology. ISI Current Contents 28, p.20 and In: J. T. Barrett (ed.), *Contemporary Classics*, pp. 213. ISI Press, Philadelphia. See original paper: Orlóci, L. 1966. Geometric models in ecology. I. The theory and application of some ordination methods. *J. Ecol.* 54:193-215.

## 3. Book chapters -- 23

- Orlóci, L. 1993. The complexities and scenarios of ecosystem analysis. In: G. P. Patil and C. R. Rao, *Multivariate Environmental Statistics*, pp.421-430, North Holland/Elsevier, New York.
- Orlóci, L. 1993. The complexities and scenarios in ecosystem analysis. In: G. Costa, G. Calluci and M. Giorgi (eds.) *Conceptual Tools for Understanding Nature*, pp. 168-176. World Scientific, London.
- Orlóci, L. 1991. Poorean approximation and Fisherian inference in bioenvironmental analysis. *Research Trends, Advances in Ecology* 1:65-71.
- Feoli, E. and L. Orlóci. 1991. Preface. In: E. Feoli and L. Orlóci (eds.). *Computer Assisted Vegetation Analysis*, p. IX. Kluwer Academic Publishers, London.
- Feoli, E. and L. Orlóci. 1991. The properties and interpretation of observations in vegetation studies. In: Feoli, E. and L. Orlóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 3-13. Kluwer Academic Publishers, London.

- Feoli, E. and L. Orłóci. 1991. The properties and interpretation of observations in vegetation studies. *Coenoses* 6:61-70.
- Orłóci, L. and V. DE Patta Pillar. 1991. On sample size optimality in ecosystem survey. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 41-46. Kluwer Academic Publishers, London.
- Orłóci, L. 1991. Statistics in ecosystem survey: computer support for process-based sample stability tests and entropy/information inference. In: Feoli, E. and L. Orłóci (eds.) 1991. *Computer Assisted Vegetation Analysis*, pp. 47-57. Kluwer Academic Publishers, London.
- Orłóci, L. 1991. On character-based community analysis: choice, arrangement, comparison. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 81-93. Kluwer Academic Publishers, London.
- DE Patta Pillar, V. and L. Orłóci. 1991. Fuzzy components in community comparisons. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 87-93. Kluwer Academic Publishers, London.
- Wildi, O. and L. 1991. Flexible gradient analysis: a note on ideas and applications. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 249-254. Kluwer Academic Publishers, London.
- Yu, S. X. and L. Orłóci. 1991. On niche separation and its measurement. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 279-283. Kluwer Academic Publishers, London.
- Orłóci, L. and M. Orłóci. 1991. Edge detection in vegetation: Jornada revisited. In: Feoli, E. and L. Orłóci (eds.) *Computer Assisted Vegetation Analysis*, pp. 373-385. Kluwer Academic Publishers, London.
- Orłóci, L. and V. de Patta Pillar. 1990. Ecosystem Surveys: When to Stop Sampling?. In: *Proceedings of the 1989 International Conference on Global Natural Resource Monitoring and Assessments*, Vol. 2, pp. 959-967. Fondazione G. GINI, Venezia (Italy).
- Orłóci, L. 1990. Pattern recognition in vegetation: Canadian-Italian results. In: *The 1988 Canada-Italy-Research Conference*, Canadian Academic Centre in Italy and CNR, Rome, Italy.
- Orłóci, L. 1986. Geometric Models in Ecology. In: J. T. Barrett (ed.), *Contemporary Classics*, pp. 213. ISI Press, Philadelphia.
- Orłóci, L. 1980. Non-linear data structures and their description. In: L. Orłóci, C. R. Rao and W. M. Stiteler (eds.), *Multivariate methods in Ecological Work*, pp. 239-275. ICP, Fairland, Maryland.
- Orłóci, L. 1978. Ordination by resemblance matrices. In: R. H. Whittaker (ed.), *Ordination of plant Communities*, pp. 239-275. 2nd ed. Junk, The Hague.
- Orłóci, L. 1973. Ordination by resemblance matrices. In: R. Tüxen and R. H. Whittaker (ed.), *Ordination and Classification of Plant Communities*, pp. 249-286. Junk, The Hague.
- Orłóci, L. 1972. On information analysis in phytosociology. In: R. Tüxen and E. Van der Maarel (eds.), *Grundfragen und Methoden in der Pflanzensociologie*, pp. 75-88. Junk, The Hague.
- Orłóci, L. 1971. Notes on "Some ideas of the use of multivariate statistical methods in ecology" - a paper by P. Dagnelie. In: G. P. Patil, E. C. Pielou and W. E. Waters (eds.), *Statistical Ecology*, Vol. 3, pp. 175-176. Pennsylvania State University Press, University Park.
- Orłóci, L. 1971. Notes on "Notes on the Marczewski-Steinhouse coefficient of similarity" - a paper by P. Holgate. In: G. P. Patil, E. C. Pielou and W. E. Waters (eds.), *Statistical Ecology*, Vol. 3, pp. 191-193. Pennsylvania State University Press, University Park.

- Orlóci, L. 1971. Information theory techniques for classifying plant communities. In: G. P. Patil, E. C. Pielou and W. E. Waters (eds.), *Statistical Ecology*, Vol. 3, pp. 259-270. Pennsylvania State University Press, University Park.
- Orlóci, L. 1966. Community organization. In: D. I. Galbraith and D. G. Wilson (ed.), *Biological Science: Principles and Patterns of Life*, pp. 526-542. Holt, Rinehart and Winston, Toronto.
4. Books, Monographs -- 16
- Orlóci, L. 2006. From Order to Causes. A personal view, concerning the principles of syndynamics. In preparation.
- Wildi, O. and L. Orlóci. 1996 *Numerical Exploration of community Patterns*. 2nd. ed. SPB Academic Publishing, The Hague.
- Pillar, De Patta V. and L. Orlóci. 1993. *Character-based Vegetation Analysis: the Theory and an Application Program*. Ecological Computations Series (ECS): Vol. 5. SPB Academic Publishing bv, The Hague, The Netherlands. -- arguments in favour of character-based analysis and description of a very fast computer program in C.
- Feoli, E. and L. Orlóci (eds.) 1991. *Computer Assisted Vegetation Analysis*. Kluwer Academic Publishers, London. -- a broad account of advances in a changing field and exposition of views that characterize the changes.
- Orlóci, L. 1991. *CONAPACK: A program for Canonical Analysis of Classification Tables*. Ecological Computations Series: Vol. 4. SPB Academic Publishing, The Hague. -- detailed account of techniques, examples of application and a computer program.
- Orlóci, L. 1991. *Entropy and Information*. Ecological Computations Series: Vol. 3. SPB Academic Publishing, The Hague. -- detailed account of techniques, examples of application and a computer program.
- Orlóci, L. 1991. *Ecological Programs for Instructional Computing on the Macintosh*. Ecological Computations Series: Vol. 2. SPB Academic Publishing, The Hague. -- scores of useful programs from the author research library described.
- Wildi, O. and L. Orlóci. 1990. *Numerical Exploration of Community Patterns*. SPB Academic Publishing, The Hague. -- description and illustrations of a complex, but very useful program package by the authors.
- Orlóci, L. and N. C. Kenkel. 1985. *Introduction to data Analysis with Applications in Population and Community Ecology*. ICPH, Fairland, Maryland. -- a broad review of the subject, including materials emitting from research, and algorithms in the Appendix.
- Feoli, E., M. Lagonegro and L. Orlóci. 1984. *Information Analysis of Vegetation data*. Dr. W. Junk bv, The Hague. -- a monograph, based mainly on my earlier results.
- Wildi, O. and L. Orlóci. 1983. *Management and multivariate Analysis of Vegetation Data*. 3rd ed. Swiss Federal Institute of Forestry Research. CH 8903, Birmensdorf. -- programs for micro-computers which were developed at UWO.
- Orlóci, L. and J. M. Bowles. 1983. *Numerical Methods in Ecology and Systematics*. University of Western Ontario. (Mimeographed.) -- text for the 1983 Short Course at the International Summer School, U. of Rome, where we presented a review and research results.
- Maarel, E. van der, L. Orlóci and S. Pignatti (eds.) 1980. *Data processing in Phytosociology*. Junk, The Hague.
- Wildi, O. and L. Orlóci. 1980. *Management and multivariate Analysis of Vegetation Data*. 2nd ed. Swiss Federal Institute of Forestry Research. CH 8903, Birmensdorf.

Orlóci, L., C. R. Rao and W. M. Stiteler (eds.) 1980. *Multivariate methods in Ecological Work*. ICP, Fairland, Maryland.

Orlóci, L. 1978. *Multivariate Analysis in Vegetation research*. 2nd ed. W. Junk, The Hague.

Orlóci, L. 1975. *Multivariate Analysis in Vegetation research*. 1st ed. W. Junk, The Hague.

B. Invited colloquia, seminars -- 95

Africa: 2

Asia: 4

Europe: 48

Hawaiian Islands: 7

N. America: 22

S. America: 12

- University College of North Wales, Bangor, U.K. 1965
- University of British Columbia, Vancouver, Canada 1966
- Universidad Nacional de Mexico, Ciudad de Mexico, 1966
- University of Toronto, Canada 1967
- University of St. Andrews, U.K. 1968
- University of Kansas, Lawrence, U.S.A. 1968
- Kent State University, U.S.A. 1969
- Cambridge, U.K. 1969
- Ohio State University, Columbus, U.S.A. 1969
- Yale University, New Haven, U.S.A. 1969
- Queen's University, Kingston, Canada 1970
- Laval University, Quebec, Canada 1970
- Geobotanical Institute, Rinteln, Germany 1970
- University of Hawaii at Manoa, Honolulu. 1972-1973
- Czechoslovak Academy of Science, Prague, Czechoslovakia 1973
- Centre National de la Recherche Scientifique, Montpellier, France 1975
- University of Victoria, Canada 1975
- Catholic University, Nijmegen, The Netherlands 1977
- Istituto per le Applicazioni del Calcolo, Rome, Italy 1977
- Istituto per le Applicazioni del Calcolo, Rome, Italy 1978
- Università di Parma, Italy 1978
- Università di Trieste, Italy 1978
- Catholic University, Nijmegen, The Netherlands 1979
- ERTI, Budapest, Hungary 1979
- Università di Trieste, Italy 1980
- Centre National de la Recherche Scientifique, Montpellier, France 1980
- University of Hawaii at Manoa, Honolulu, U.S.A. 1979-1980
- Università di Trieste, Italy 1982a
- Università di Palermo, Italy 1982
- Università di Messina, Italy 1982
- Università di Camerino, Italy 1982
- Università di Trieste, Italy 1982b
- Università di Roma, Italy 1983
- Università di Trieste, Italy 1984
- ELTE, Budapest, Hungary 1984
- ELTE, Budapest, Hungary 1985
- Università di Roma, Italy 1985
- University of Western Ontario, London, Canada 1985
- ETH, Zürich, Switzerland 1985
- Universidad Nacional de Rosario, Argentina 1985
- Università di Trieste, Italy 1986
- University of Hawaii at Manoa, Honolulu, U.S.A.. 1987

- New Mexico State University, Las Cruces, U.S.A. 1987a
- Universidad Nacional de Rosario, Argentina 1987
- CETA, Gorizia, Italy 1987
- New Mexico State university, Las Cruces, U.S.A. 1987b
- University of Western Ontario, London, Canada 1988
- CETA, Gorizia, Italy 1988
- Canadian Academic Centre in Italy and CNR, Rome, Italy 1988
- Università di Sassari, Sardinia, Italy 1989
- Estacio Agrícola Experimental, León, Spain 1989
- AIBS, University of Toronto, Canada 1989
- UNESCO, Venice, Italy 1989
- Serengeti Wildlife Research Center, Tanzania 1990
- University of Addis Ababa, Ethiopia 1990
- CSIC, León, Spain 1990
- Universidad de Oviedo, Spain 1990
- SFIF, Birmensdorf, Switzerland 1990
- EMBRAPA, Sobral, Brazil 1990
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 1990
- ICTP, Trieste, Italy 1990
- CETA, Gorizia, Italy 1990
- MTA, Budapest, Hungary 1991
- IAVS, Eger, Hungary 1991
- Erdészeti és Faipary Egyetem, Sopron, Hungary 1991
- Academia Sinica, Beijing, China 1991
- University of Western Ontario, London, Canada 1991
- University of Hawaii, Honolulu, U.S.A. 1993-94
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 1994
- Northwest Forestry University, Harbin, China 1994
- INTECOL, University of Manchester, Manchester, U.K. 1994
- University of Western Ontario, London, Canada 1995-1995
- ISEM, Academia Sinica, Beijing, China 1995
- University of Western Ontario, London, Canada 1996
- ICS (UNIDO), Trieste 1996
- Università di Trieste (a), Italy 1996
- Università di Trieste (b), Italy 1996
- Liceo Marinelli, Udine, Italy 1966
- University of Western Ontario, London, Canada 1998
- University of Hawaii, Honolulu 1999
- University of Hawaii, Honolulu, U.S.A. 1999
- Bowling Green State University, Ohio, U.S.A. 1999
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 1999
- Università di Trieste, Italy 2000
- MTA, Budapest, Hungary 2001
- University of Hawaii, Honolulu, U.S.A. 2001
- SFIF, Birmensdorf, Switzerland 2002
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 2002
- Laurentian University, Sudbury, Canada 2002
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 2003
- Universidad Federal Do Rio Grande do Sul L, Porto Alegre, Brazil 2004
- Laurentian University, Sudbury, Canada 2004
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 2007
- Universidad Nacional de Cordoba, Argentina 2007
- Universidad Nacional de Cordoba, Argentina 2009
- Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil 2009

C. Titles of some recent scholarly addresses (last 15 years)

- 2009 Multivariate techniques for global change research — path finding, cluster recognition, identification, trajectory analysis
- 2009 . On governance in the long-term vegetation process:How to discover the rules? Universidad Nacional de Cordoba, Argentina.
- 2007 Displacement issues. Talking points for ELTE lecture 2007. [www.vegetationdynamics.com](http://www.vegetationdynamics.com) links to ELTE Lecture.
2007. Trajectory analysis: theory and applications -- graduate colloquium, Universidad Federal Do Rio Grande do Sul, Porto Alegre, Brazil.
2007. Trajectory analysis: theory and applications – graduate colloquium, Universidad Nacional de Cordoba, Argentina.
2004. Properties of the process trajectory in syndynamics: new results. – Laurentian University, Sudbury.
2004. Trajectory analysis for syndynamic studies. -- UFRGS, Porto Alegre.
2003. The notion of attractor and its utility in syndynamic theory. – UFRGS, Porto Alegre.
2002. Von Post's regional parallelism hypothesis: an updating of the methodology. – Laurentian University, Sudbury.
2002. Lecture series on trajectory analysis. – UFRGS, Porto Alegre.
2002. Properties of the process trajectory in vegetation dynamics. – SFIF Research Center,
2001. Discussion of trajectory analysis in syndynamics. – MTA.
1999. Global warming: the effect of latitude in Eastern North America – Colloquium at the Universidade federal do Rio grande do Sul, Porto Alegre
1999. From order to causes: in pursuit of syndynamic principles. — Colloquium at the 20th Lukács Symposium on Statistics, Bowling Green State University, Ohio, on occasion of accepting the Symposium's "20th Century Distinguished Service Award."
1999. The development of vegetation communities: a globally co-ordinated process. — University of Hawaii at Manoa, Honolulu.
1999. Community dynamics: governing principles. — University of Western Ontario, Canada.
1996. Global warming: epitaph for 21st Century. -- Address at confirmation ceremony of D.Sc. (ad honorem) at the University of Trieste, Italy.
1996. Fundamental problems in mathematical ecology. -- Invited colloquium, Department of Biology, University of Trieste, Italy.
1996. The possible effect of global warming under the Manabe scenario on the biota. -- Invited colloquium at the Liceo Marinelli, Udine, Italy.
1996. Dynamics in complex natural system. -- Conference on the Conceptual Tools of Biological Dynamics, Plant Sciences, UWO.
1995. Vegetation recovery: determinism and chaos -- Conference on Vegetation Dynamics, Plant sciences, UWO.
1994. Challenges and directions in statistical ecology for Year 2000. INTECOL Congress, Manchester, U.K -- Address at ITECOLS Distinguished Statistical Ecologist Award ceremony.

1994. Phytoclimatic effects under the Manabe global warming scenario. -- invited colloquium, Universidade Federal Rio Grande do Sul, Porto Alegre, RS, Brazil; Northeast Forestry University, Harbin, Heilongjiang, China.
1994. Markov chain: model for recovery. -- invited colloquium, Universidade Federal Rio Grande do Sul, Porto Alegre, RS, Brazil.
1994. Recovery: the attainment of a new steady state. -- invited colloquium, Universidade Federal Rio Grande do Sul, Porto Alegre, RS, Brazil; Northeast Forestry University, Harbin, Heilongjiang, China.
1994. Complexities and scenarios in bioenvironmental analysis. -- invited colloquium, Universidade Federal Rio Grande do Sul, Porto Alegre, RS, Brazil.
1994. Modeling climate-vegetation interaction: a global project. -- invited colloquium, Universidade Federal Rio Grande do Sul, Porto Alegre, RS, Brazil; Northeast Forestry University, Harbin, Heilongjiang, China.
1991. Complexities and scenarios in bioenvironmental analysis. Induction lecture, Hungarian Academy of Sciences, Budapest, Hungary.
1991. Modeling climate vegetation interactions. - - invited lecture series, Academia Sinica, Beijing.
1991. Climatic vegetation patterns - a global project. - - invited lecture, Forestry University, Sopron, Hungary.
1991. Poorean approximation and Fisherian inference in ecosystem survey. -- in-house on ecological topics, UWO.
1991. Predicting vegetation change. -- introduction by Chair to Plenary Symposium on "Progress in the Prediction of Vegetation Change" at the 1991 IAVS World Meetings. Eger, Hungary.
1990. Poorean approximation in bioenvironmental analysis. - - invited plenary lecture, International Symposium "Conceptual Tools for Understanding Nature", University of Trieste and the UNESCO/ICTP, Trieste, Italy.
1990. Edge detection in vegetation. -- invited lecture, CETA International Workshop "Data Analysis and Models in Landscape Ecology", Gorizia, Italy.
1990. Ecological science workbench for grassland studies in Subtropical South America. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.
1990. Modeling climate vegetation interactions, UNIDO-ICE site visit, Serengeti Wildlife Research Center, Tanzania
1990. Character-based community analysis in broad-scale ecosystem surveys. UNIDO-ICE site visit. University of Addis Ababa, Ethiopia.
1990. Edges pattern dynamics in recovering plant communities - a research perspective. CSIC Estacion Agricola Experimental, León, Spain.
1989. Ecosystem Surveys: when to stop sampling? -- invited lecture, the 1989 FAO International Conference and Workshop "Global Natural Resource Monitoring", Gini Foundation and the Ministry of Culture and Environment, Venice, Italy.
1989. Comparative community analysis: contrasting strategies. -- invited paper, ISEM/ESA Computational Ecology Symposium, University of Toronto.
1989. Numerical methods and models in vegetation biology. -- lecture series presenting research results and review, International Short Course, the Universidad di León, Spain.
1989. Sampling and data analysis in Mediterranean Macchia vegetation. -- lecture series presenting research results and review, International Short Course, Università di Sassari, Italy.

1988. Quantitative community ecology: established directions and alternative choices. -- invited lecture, the 1988 CETA International Workshop on Mathematical and Community Ecology, Gorizia, Italy.
1988. Pattern recognition in vegetation: Canadian-Italian results. -- invited lecture, Canada-Italy-Research Conference, Canadian Academic Centre in Italy and CNR, Rome, Italy.
1987. Perspectives of multivariate data analysis in community research.. -- invited CETA colloquium, Gorizia, Italy.
1987. Character set analysis: a generalized strategy for community analysis. -- invited CETA colloquium, Gorizia, Italy
1987. On character-based community analysis in plant ecology. -- a presentation of research results, Statistical and Computational Ecology: an International Workshop, NMSU, Las Cruces.
1987. Concentration analysis, nonlinear ordination, and analysis of hierarchical character sets. -- graduate seminar series on research results and a review, NMSU, Las Cruces
1987. Character selection and ordering in character-based community analysis. -- presentation of research results and review, 1987 International Workshop, Universidad Nacional de Rosario, Argentina.
1986. Community evolution: the methodology. -- graduate seminar series presenting research results and a review, UH at Manoa, Honolulu.
1986. Character-based community analysis. -- a presentation of research results, International Seminar "Quantitative Approaches to Vegetation Study", Università di Trieste, Italy.
- and M. Orlóci. 1986. Comparison of communities without the use of species: model and example. Università <<la Sapineza>>, Rome, Italy. -- this was the first exposition of hierarchical character-based plant community analysis.
1985. Convergence of character structures in plant communities and its measurement. -- presentation of research results, International Seminar, "Pattern and Sampling in Plant Communities", ELTE, Budapest.
1985. Numerical methods in the study of vegetation systems. -- lecture series on research results and review, International Short Course, ETH, Zürich.
1985. Numerical methods for the analysis of vegetation. -- lecture series on research results and review, International Short Course, Universidad Nacional de Rosario, Argentina.
1985. Community organization: recent advances in quantitative measures. -- presentation of research results and review, International Symposium, "Community Organization and Ecosystem Conservation: a Contemporary Synthesis", Canadian Congress of Biology, UWO, London.
- D. Recent Reports (last 10 years)
- Orlóci, L. et al. 1996. Scientific Planning and Coordination: 1. Decision Support Systems and Environmental Impact assessment -- International Center for Science and High Technology, UNIDO, Trieste, Italy.
- Orlóci, L. et al. 1996. Scientific Planning and Coordination: 2. Monitoring of Industrial Siting and Pollution by Remote Sensing and In-Situ Automated Instrumentation. -- International Center for Science and High Technology, UNIDO, Trieste, Italy
- Orlóci, L. 1990. Modeling Vegetation-Climate Interactions in Subtropical and Tropical regions. -- report written on behalf of the UNIDO/ICE Working Group which Orlóci chaired at the International Centre for Earth and Environmental Science, Trieste, Italy.