

## **EMENTA DE DISCIPLINA**

### **TOP ESP – Oficina “Análise da distribuição de espécies e estruturação de comunidades vegetais das áreas de pesquisa do PPBio na Amazônia”**

**24 – 31 agosto 2009**

Status: eletiva  
Créditos: 03  
Carga horária: 45 h

#### **Professor responsável**

Flávia Regina Capellotto Costa (INPA)

#### **Ementa**

**Objetivo:** analisar em conjunto os dados de inventários dos diferentes grupos vegetais já amostrados e produzir manuscritos que sintetizem os padrões gerais de distribuição de espécies e de estruturação de comunidades em diferentes escalas, bem como aplicar técnicas recentes de mapeamento hidrológico para o entendimento da distribuição de espécies.

**Crterios de seleção dos participantes:** Serão aceitos alunos, ex-alunos e pesquisadores que possuem dados de inventários de plantas nas grades e módulos do PPBio, ou dados ambientais nas mesmas áreas e que tenham interesse de integrar seus dados em análises conjuntas com os demais participantes.

#### **Programa**

1. Análise da distribuição de espécies de plantas nas grades e módulos PPBio
2. Análise dos padrões de comunidades em relação ao ambiente, para as grades e módulos PPBio
3. Redação de manuscritos sobre os dados analisados
4. Submissão dos manuscritos

#### **Sugestões bibliográficas**

Clark, D.B., Palmer, M.W., Clark, D.A. (1999) Edaphic factors and the landscape-scale distributions of tropical rain forest trees. *Ecology*, 80: 2662-2675.

- Costa, F.R.C., Magnusson, W.E., Luizão, R.C. (2005) Mesoscale distribution patterns of Amazonian understory herbs in relation to topography, soil and watersheds. *Journal of Ecology*, 93: 863-878.
- Drucker, D.P., Costa, F.R.C., Magnusson, W.E. (2008) How wide is the riparian zone of small streams in tropical forests? A test with terrestrial herbs. *Journal of Tropical Ecology*, 24: 65-74.
- Duivenvoorden, J.F. (1996) Patterns of tree species richness in rain forests of the middle Caquetá area, Colombia, NW Amazonia. *Biotropica*, 28: 142–158.
- Duivenvoorden, J.F., Svenning, J.-C., & Wright, S.J. (2002) Beta diversity in tropical rainforests. *Science*, 295: 636-638.
- Duque, A., Sánchez, M., Cavellier, J., Duivenvoorden, J.F. (2002). Different floristic patterns of woody understory and canopy plants in Colombian Amazonia. *Journal of Tropical Ecology*, 18: 499-525.
- Engelbrecht, B.M.J., Comita, L.S., Condit, R., Kursar, T.A., Tyree, M.T., Turner, B.L., Hubbell, S.P. 2005. Drought sensitivity shapes species distribution patterns in tropical forests. *Nature*, 447, doi:10.1038/nature05747.
- Gentry, A.H. (1988). Changes in plant community diversity and floristic composition on environmental and geographical gradients. *Annals of the Missouri Botanical Garden*, 75:1-34.
- Gentry, A.H. & Emmons, L.H. (1987). Geographical variation in fertility, phenology, and composition of the understory of neotropical forests. *Biotropica*. 19: 216-227.
- Higgins, M.A., Ruokolainen, K. (2004) Rapid Tropical Forest Inventory: a Comparison of Techniques Based on Inventory Data from Western Amazonia. *Conservation Biology*, 18:799-811.
- Kinupp, V. F. & Magnusson, W.E. (2005) Spatial patterns in the understorey shrub genus *Psychotria* in central Amazonia: effects of distance and topography. *Journal of Tropical Ecology*, 21: 1-12.
- Legendre, P. & Legendre, L. (2000). *Numerical Ecology*. 3 ed, Elsevier BV, Amsterdam, 853pp.
- Nekola, J.C. & White, P.S. (1999) The distance decay of similarity in biogeography and ecology. *Journal of Biogeography*, 26: 867-878.
- Normand, S., Vormisto, J., Svenning, J.-C., Grández, C. & Baslev, H. (2006) Geographical and environmental controls of palm beta diversity in paleo-riverine terrace forests in Amazonian Peru. *Plant Ecology*, 186: 161-176.
- Oliveira, A.A. & Daly, D.C. (1999) Geographic distribution of tree species occurring in the region of Manaus, Brazil: implications for regional diversity and conservation. *Biodiversity and Conservation*, 8: 1245–1259.
- Phillips, O.L., Vargas, P.N., Monteagudo, A.L., Cruz, A.P., Zans, M.C., Sánchez, W.Z., Ylihalli, M., Rose, S. (2003) Habitat association among Amazonian tree species: a landscape-scale approach. *Journal of Ecology*, 91: 757-775.
- Poulsen, A.D. (1996) Species richness and diversity of ground herbs within a plot of lowland rainforest in northwest Borneo. *Journal of Tropical Ecology*, 12: 177–190.
- Poulsen, A.D., Tuomisto, H., Balslev, H. (2006) Edaphic and floristic variation within a 1-ha plot of lowland Amazonian Rain Forest. *Biotropica*, 38: 468-478

- Pyke, C.R., Condit, R., Aguilar, S. & Lao, S.A. (2001) Floristic composition across a climatic gradient in a Neotropical lowland forest. *Journal of Vegetation Science*, 12: 553–566.
- Ruokolainen, K., Tuomisto, H., Macia, M.J, Higgins, M.A., Yli-Halla, M. (2007) Are floristic and edaphic patterns in Amazonian rain forests congruent for trees, pteridophytes and Melastomataceae? *Journal of Tropical Ecology*, 23: 13–25
- Shmida, A. & Wilson, M.V. (1985). Biological determinants of species diversity. *Journal of Biogeography*, 12: 1-20.
- Swaine, M.D. (1996) Rainfall and soil fertility as factors limiting forest species distributions in Ghana. *The Journal of Ecology*. 84: 419-428.
- Tenenbaum, J.B., Silva, V., Langford, J.C. (2000) A global geometric framework for nonlinear dimensionality reduction. *Science*, 290: 2319-2323.
- ter Steege, H., Pitman, N.C.A., Phillips, O.L., Chave, J., Sabatier, D., Duque, A., Molino, J.F., Prévost, M.F., Spichiger, R., Castellanos, H., von Hildebrand, P., Vásquez, R. (2006)
- Continental-scale patterns of canopy tree composition and function across Amazonia. *Nature*. 443: 444-447.
- Tuomisto, H., Ruokolainen, K.; Kalliola, R.; Linna, A.; Danjoy, W.; Rodriguez, Z. (1995) Dissecting amazonian biodiversity, *Science*, 269: 63-66.
- Tuomisto, H.; Ruokolainen, K.; Poulsen, A. D.; Moran, R.C.; Quintana, C.; Cañas, G.; Celi, J. (2002) Distribution and diversity of pteridophytes and Melastomataceae along edaphic gradients in Yasuní national park, Ecuadorian amazonia. *Biotropica*, 34: 516-533.
- Tuomisto, H., Ruokolainen, K. & Yli-Halla, M. (2003). Dispersal, environment, and floristic variation of western Amazonian forests. *Science*, 299: 241-244.
- Valencia, R., Foster, R.B., Villa, G., Condit, R., Svenning, J.C., Hernández, C., Romoleroux, K., Losos, E., Magård, E., Balslev, H. (2004) Tree species distributions and local habitat variation in the Amazon: large forest plot in eastern Ecuador. *Journal of Ecology*, 92:214-229.
- Vormisto, J., Phillips, O.L., Ruokolainen, K., Tuomisto, H., Vásquez, R. (2000) A comparison of fine-scale distribution of four plant groups in an Amazonian rainforest. *Ecography*, 23: 349-359.