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How forest edges contribute to landscape connectivity?

Marc Deconchat, Luc Barbaro, Antoine Brin, François Calatayud

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How forest edges contribute to landscape connectivity?

Marc Deconchat; Antoine Brin; Luc Barbaro, François Calatayud

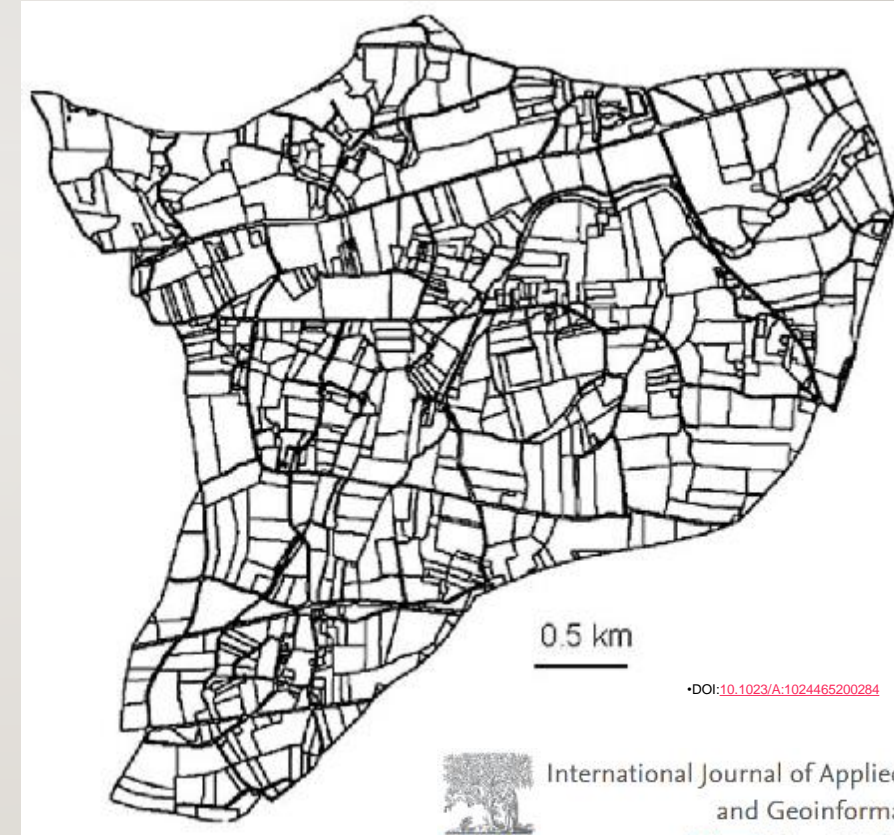


DYNAFOR
UMR 1201 | INRA - INP | TOULOUSE

Roles of hedgerows and their network in structural connectivity



Journal of Biogeography (J. Biogeogr.) (2004) 31, 79–92



DOI: [10.1023/A:1024465200284](https://doi.org/10.1023/A:1024465200284)



International Journal of Applied Earth Observation
and Geoinformation

Volume 44, February 2016, Pages 113–123

Measuring and monitoring linear woody features in agricultural landscapes through earth observation data as an indicator of habitat availability

J. Pasher, M. McGovern, V. Putinski

ORIGINAL
ARTICLE

Animal species diversity driven by habitat heterogeneity/diversity: the importance of keystone structures

J. Tews^{1*}, U. Brose², V. Grimm³, K. Tielbörger¹, M. C. Wichmann¹, M. Schwager¹ and F. Jeltsch¹



Species movements along woody linear features (WLF)

➤ Many species move along linear landscape features

- Foraging
- Hiding
- Dispersal



Landscape Ecol (2007) 22:333–351
DOI 10.1007/s10980-006-9064-4

REVIEW

Are hedgerows effective corridors between fragments of woodland habitat? An evidence-based approach

Importance of hedgerows as habitat corridors for forest plants in agricultural landscapes

Stephan Wehling*, Martin Diekmann

➤ Consequences for population dynamics



The Utility of Movement Corridors in Forested Landscapes

Jari Niemela

Pages 70-78 | Published online: 05 Nov 2010

Download citation <https://doi.org/10.1080/028275801300090645>

Ecosystem services

Ecology Letters, (2007) 10: 299–314

doi: 10.1111/j.1461-0248.2007.01018.x

REVIEW AND SYNTHESIS

Pollination and other ecosystem services produced by mobile organisms: a conceptual framework for the effects of land-use change



Ecosystems (2013) 16: 894–908
DOI: 10.1007/s10021-013-9647-2

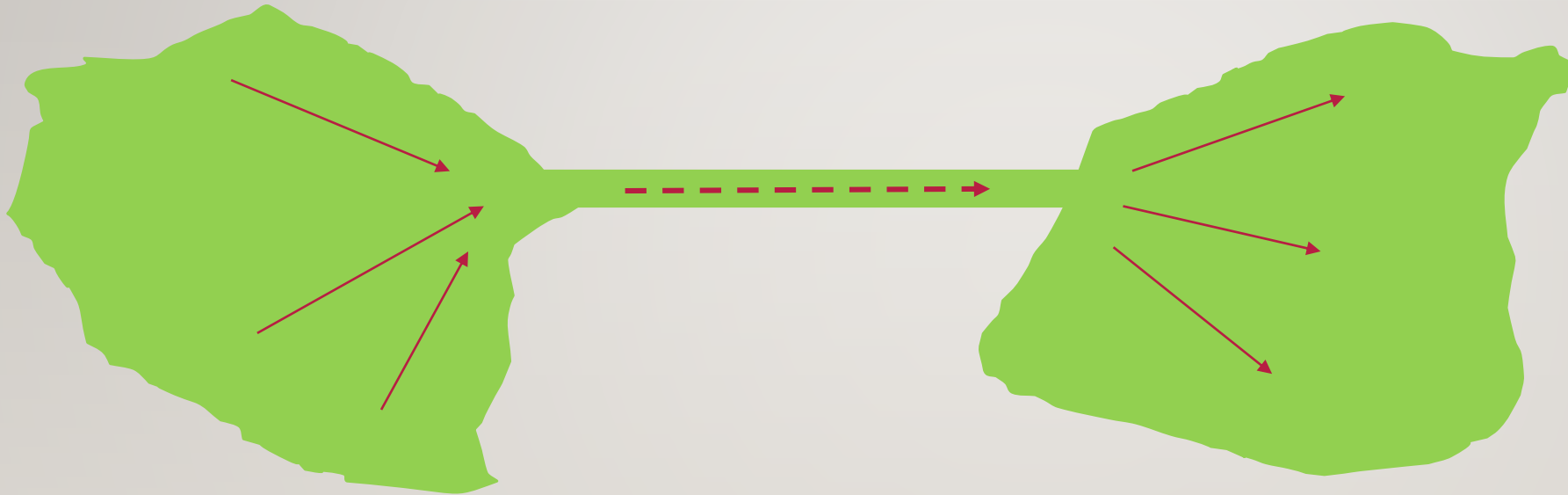
ECOSYSTEMS

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Linking Landscape Connectivity and Ecosystem Service Provision: Current Knowledge and Research Gaps

Matthew G. E. Mitchell,^{1*} Elena M. Bennett,² and Andrew Gonzalez³

Several ways to use the connections: Corridor

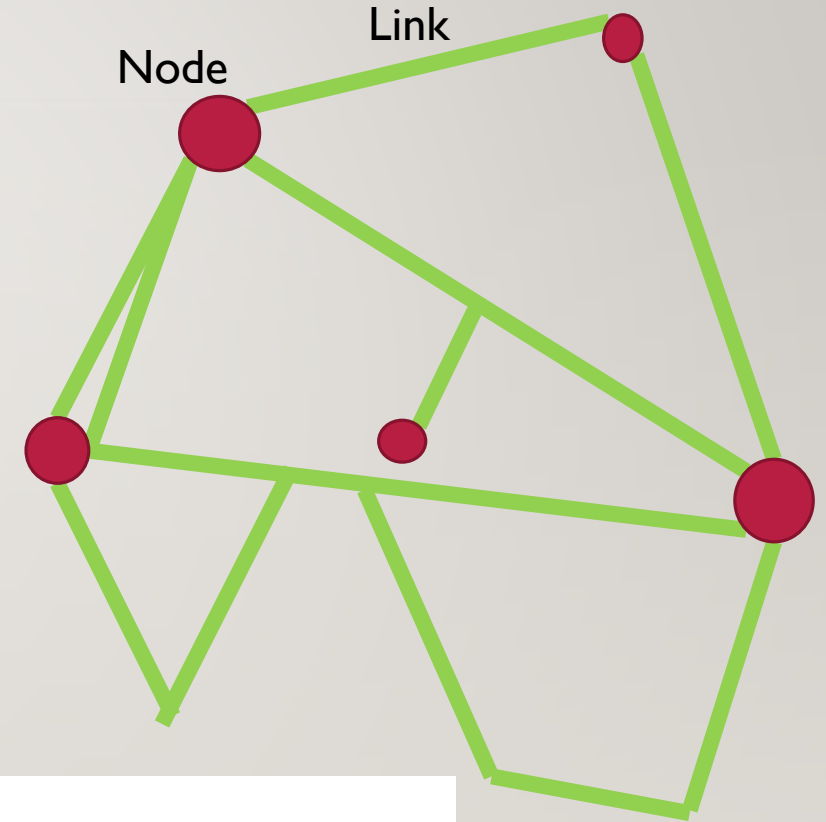
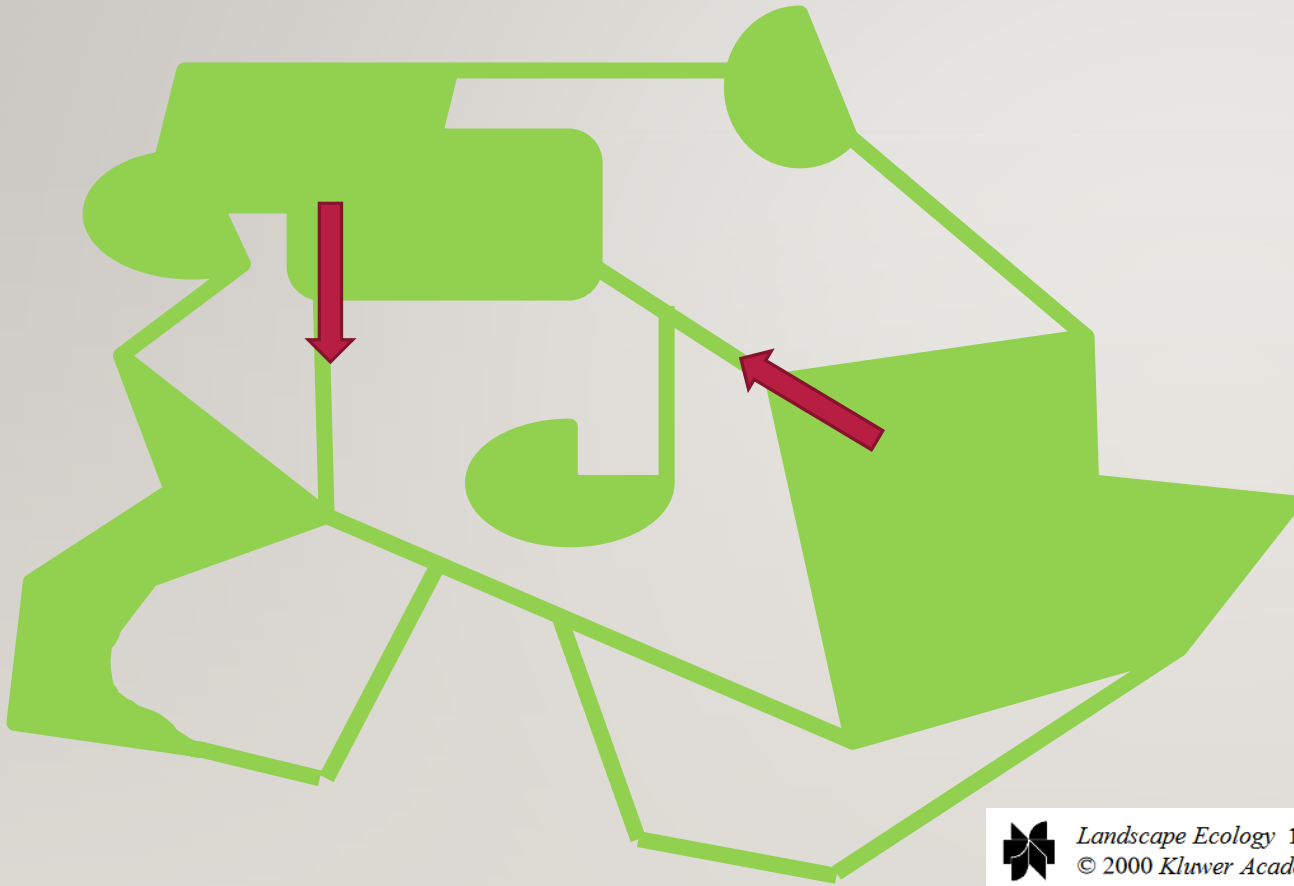


Ecology, 84(3), 2003, pp. 609–615
© 2003 by the Ecological Society of America

CORRIDOR USE BY DIVERSE TAXA

NICK M. HADDAD,^{1,7} DAVID R. BOWNE,² ALAN CUNNINGHAM,³ BRENT J. DANIELSON,⁴ DOUGLAS J. LEVEY,⁵
SARAH SARGENT,⁶ AND TIM SPIRA³

Connectivity



Landscape Ecology 15: 633–641, 2000.
© 2000 Kluwer Academic Publishers. Printed in the Netherlands.

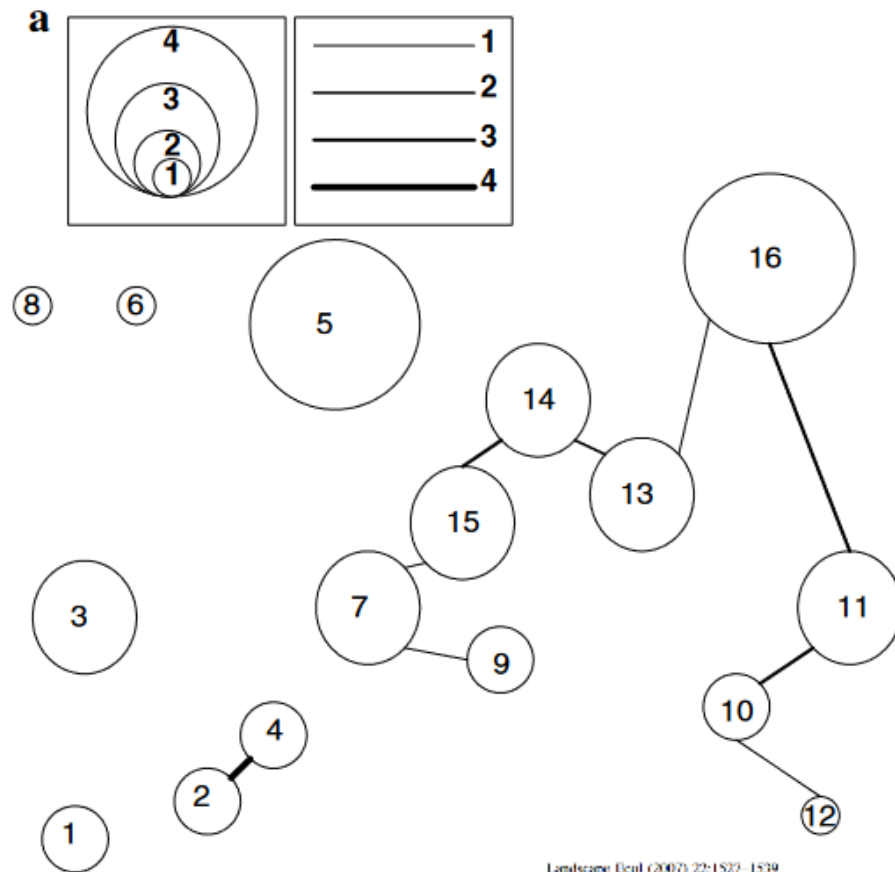
How should we measure landscape connectivity?

Lutz Tischendorf* & Lenore Fahrig

An example



Fig. 1 Topographical map of the studied area. Black areas are forests and thin lines mark country borders. The studied forest patches are numbered with the codes displayed in the Tables. For spatial scaling, note that the distance of patch 1 from the largest patch 16 is 40 km and its area totals 1250 ha



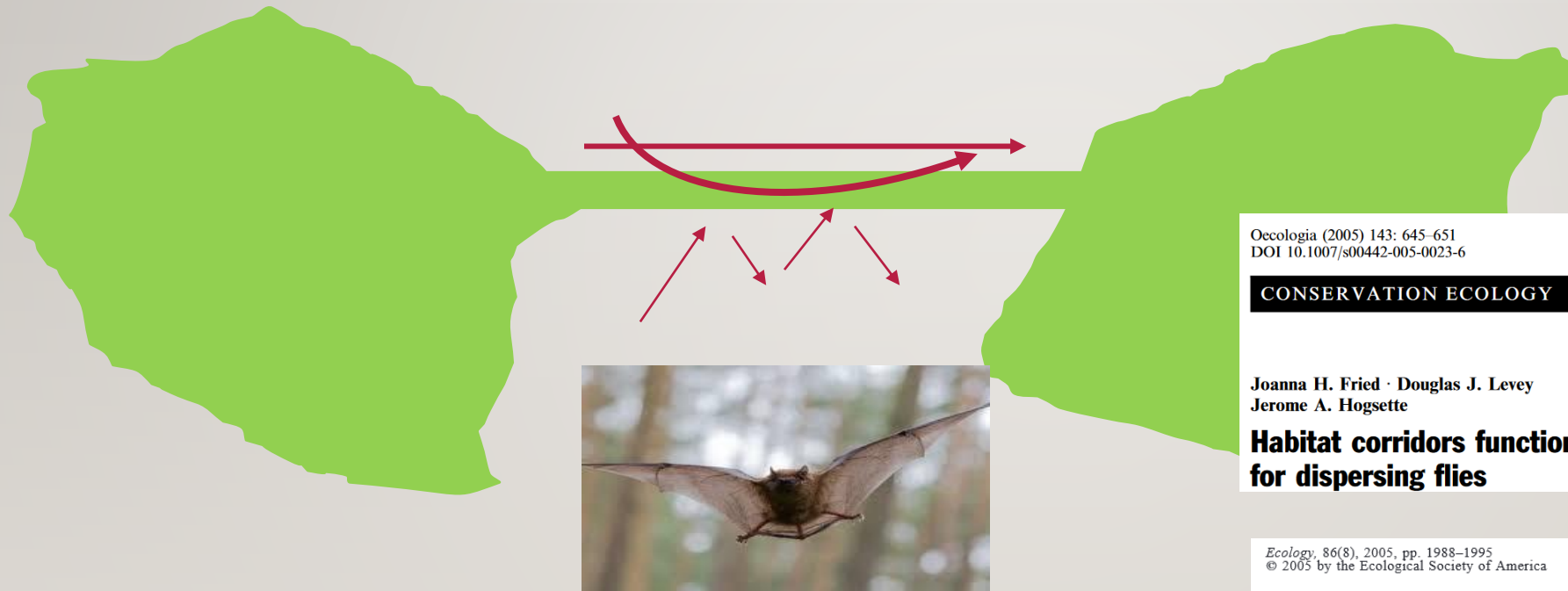
Landscape Ecol (2007) 22:1527–1539
DOI 10.1007/s10980-007-9149-8

RESEARCH ARTICLE

**Carabids (Coleoptera: Carabidae) in a forest patchwork:
a connectivity analysis of the Bereg Plain landscape graph**

Ferenc Jordán · Tibor Magura · Béla Tóthmérész ·
Vera Vasas · Viktor Kódobócz

Several ways to use the connections



Oecologia (2005) 143: 645–651
DOI 10.1007/s00442-005-0023-6

CONSERVATION ECOLOGY

Joanna H. Fried · Douglas J. Levey
Jerome A. Hogsette

Habitat corridors function as both drift fences and movement conduits for dispersing flies

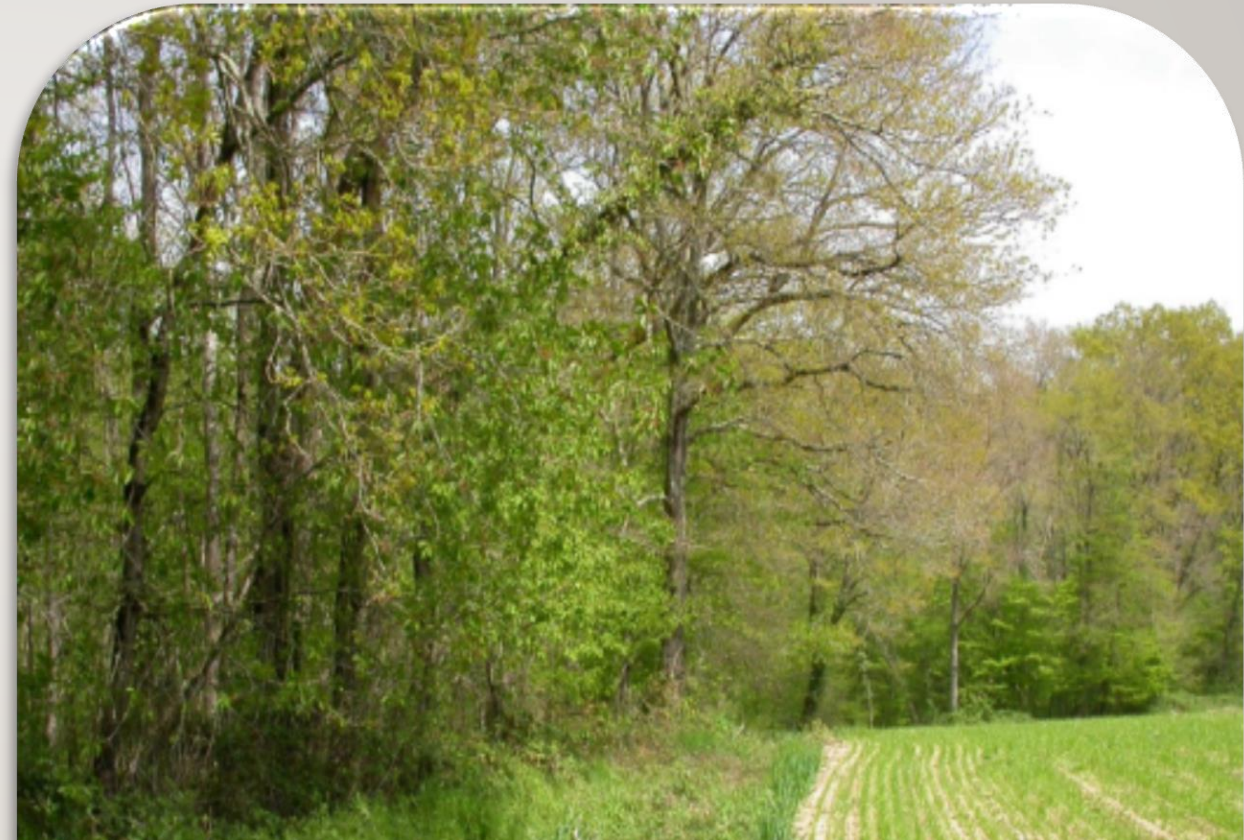
Ecology, 86(8), 2005, pp. 1988–1995
© 2005 by the Ecological Society of America

MEASURING LANDSCAPE CONNECTIVITY: THE CHALLENGE OF
BEHAVIORAL LANDSCAPE ECOLOGY

MARC BÉLISLE¹

Forest edges: another woody linear feature (WLF)

- Discontinuity between a forest land cover and an open habitat land cover (crops, pastures, roads...)
- Hedgerow length (France): **566 000 km** (Pointereau, 2006)
- Forest edge length (France): **688 000 km** (IGN)



Landscape Ecology **15**: 229–242, 2000.
© 2000 Kluwer Academic Publishers. Printed in the Netherlands.

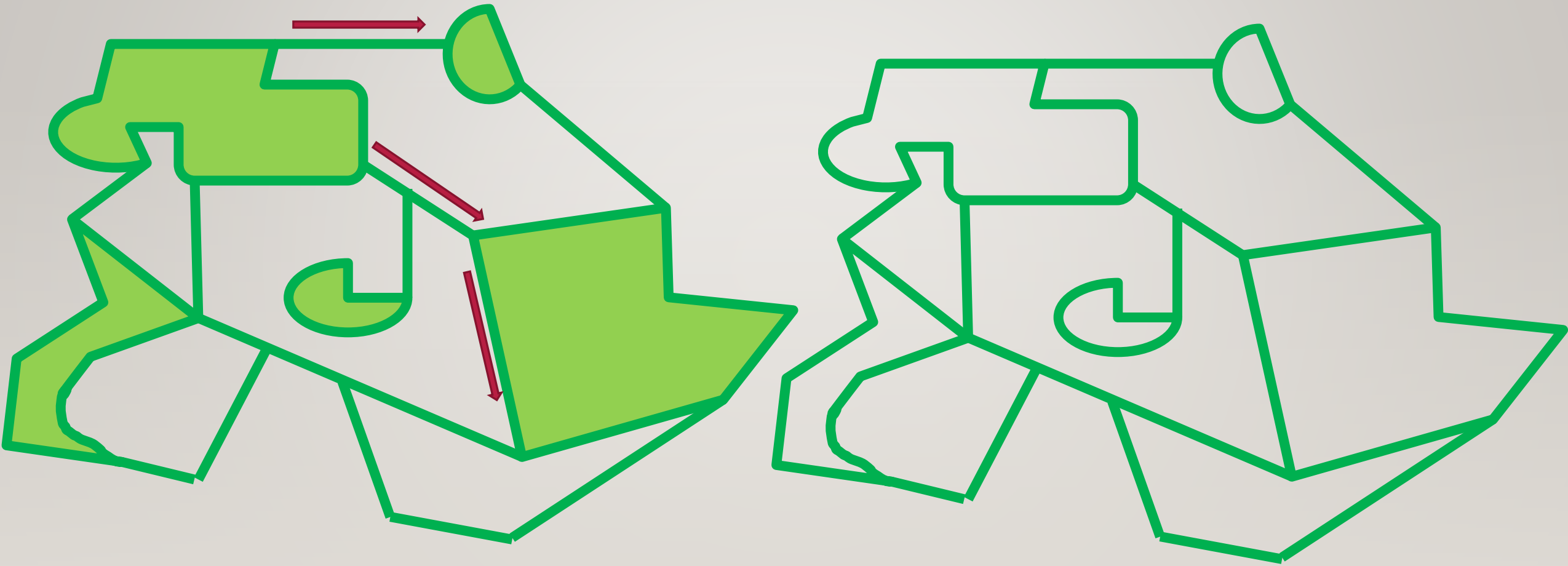
Dispersal of woody plants in forest edges and hedgerows in a Southern Swedish agricultural area: the role of site and landscape structure

Ingrid L. Sarlöv Herlin^{1*} & Gareth L. A. Fry²

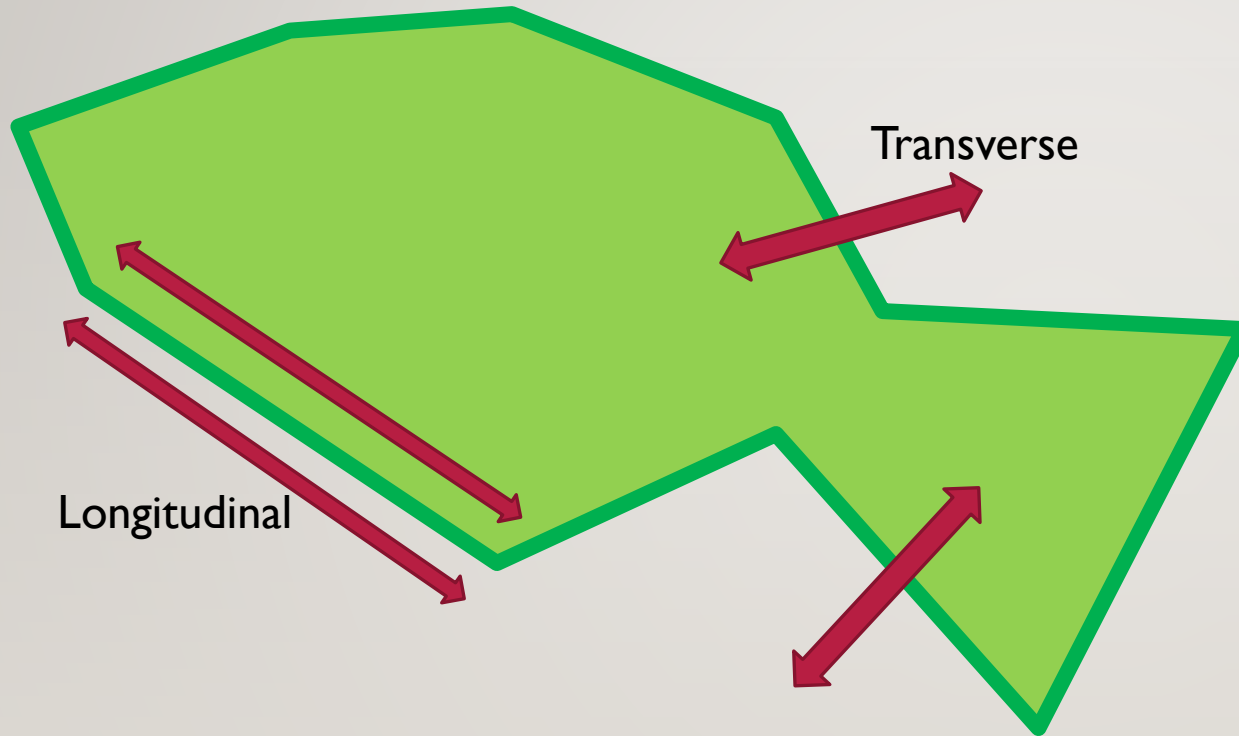
Forest-edge utilization by carnivores in relation to local and landscape habitat characteristics in central European farmland

Martin Šálek^{a,b}, Jaroslav Červinka^{b,c,*}, Petr Pavlůvčík^{b,d},
Simona Poláková^e, Emil Tkadlec^{a,d}

Another point of view: connectivity for edge/hedge associated species

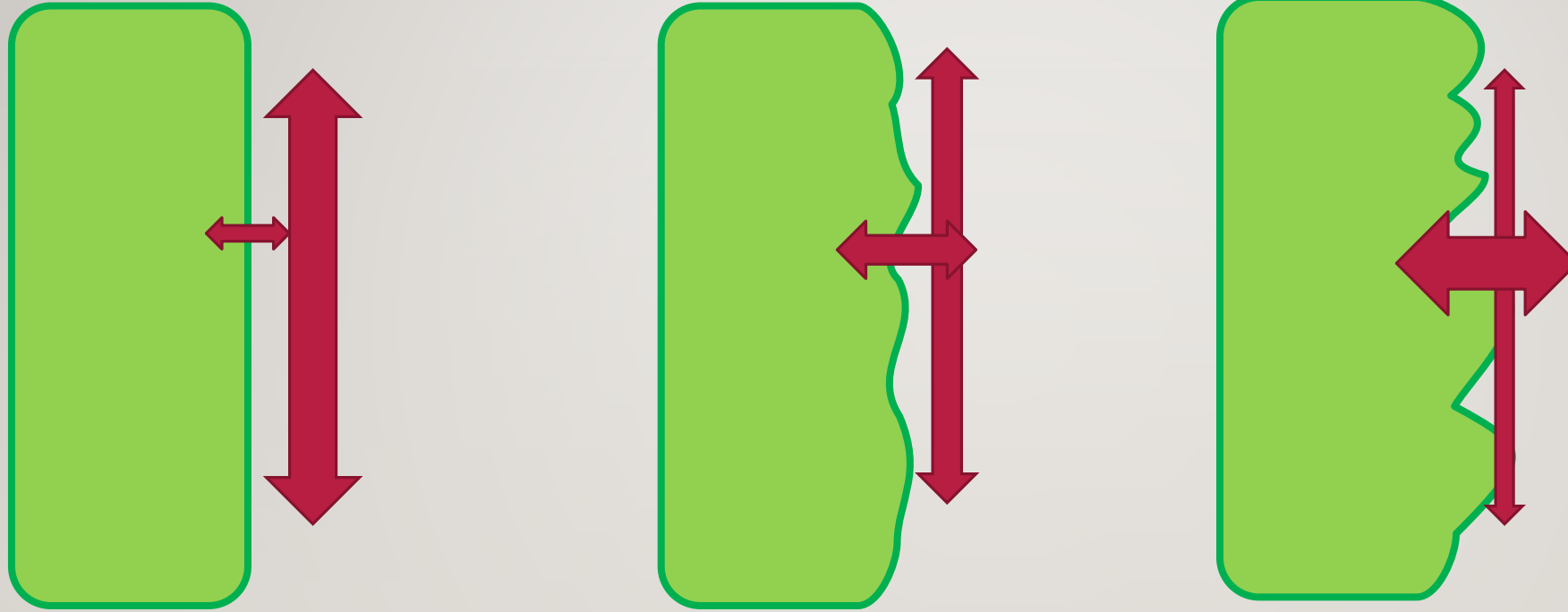


2 types of species movement in forest edges



- No paper identified dealing with both dimensions
- Longitudinal movements understudied
- How to characterize edges regarding both types

Shape of forest edge



Landscape Ecol (2014) 29:655–663
DOI 10.1007/s10980-014-0008-0

RESEARCH ARTICLE

Tortuosity of habitat edges affects animal movement

Vilis O. Nams

Conclusions



- The roles of forest edges in landscape connectivity should not be underestimated anymore
- They may influence the diversity of species movements