



Cover: A monarch butterfly resting on a goldenrod during the autumn migration. For monarchs, the southwards migratory journey requires complex physiological and ecological interactions for a successful migration to their overwintering sites in central Mexico. Kendzel et al. ([jeb245451](#)) show that monarchs integrate multiple multimodal cues for oriented movement in a hierarchical manner that is dependent on the physical relationships between cues during movement. As important as the sensory integration of cues, the energetic cost of migration for monarchs has been steadily increasing in recent years, as highlighted by Parlin et al. ([jeb245296](#)). Photo credit: Theresa Culley.

INSIDE JEB

More siblings means better survival for some songbirds

Kay, J.

[jeb246871](#)

Monarch migration metabolism soars with rising temperatures

Kay, J.

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Hummingbirds fly sideways through tiny foliage gaps

Knight, K.

[jeb246762](#)

OUTSIDE JEB

Go east (or south), hot limpet!

Borowiec, B. G.

[jeb245031](#)

Bees can't learn without sugar

Saintsing, A.

[jeb245033](#)

Should I stay (in hot water) or should I go?

Dichiera, A.

[jeb245032](#)

COMMENTARY

Seasonal energetics: are insects constrained by energy during dormancy?

Roberts, K. T., Szejner-Sigal, A. and Lehmann, P.

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REVIEWS

A meta-analysis of butterfly structural colors: their color range, distribution and biological production

Thayer, R. C. and Patel, N. H.

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Roles of multi-level temperature-adaptive responses and microhabitat variation in establishing distributions of intertidal species

Dong, Y.-W.

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METHODS & TECHNIQUES

A hull reconstruction–reprojection method for pose estimation of free-flying fruit flies

Maya, R., Lerner, N., Ben-Dov, O., Pons, A. and Beatus, T.

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RESEARCH ARTICLES

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Costantini, D., Schad, J., Czirják, G. Á. and Voigt, C. C.

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Active smelling in the American cockroach

Hoffmann, A. and Couzin-Fuchs, E.

[jeb245337](#)

The cost of movement: assessing energy expenditure in a long-distant ectothermic migrant under climate change

Parlin, A. F., Kendzel, M. J., Taylor Jr, O. R., Culley, T. M., Matter, S. F. and Guerra, P. A.

[jeb245296](#)

Gravisensation and modulation of gravitactic responses by other sensory cues in the monarch butterfly (*Danaus plexippus*)

Kendzel, M. J., Parlin, A. F. and Guerra, P. A.

[jeb245451](#)

Mortality caused by extracellular freezing is associated with fragmentation of nuclear DNA in larval haemocytes of two drosophilid flies

Štětina, T. and Košťál, V.

[jeb246456](#)

Evidence for multi-scale power amplification in skeletal muscle

Petersen, J. C. and Roberts, T. J.

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High latitude northern bats (*Eptesicus nilssonii*) reveal adaptations to both high and low ambient temperatures

Sørås, R., Fjellidal, M. A., Bech, C., van der Kooij, J., Eldegard, K. and Stawski, C.

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Sideways maneuvers enable narrow aperture negotiation by free-flying hummingbirds

Badger, M. A., McClain, K., Smiley, A., Ye, J. and Dudley, R.

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ECR SPOTLIGHT

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