

List of publications

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Publications in peer reviewed journals

2025

- Bossard, E., M. Hasrrison, F. van Veen, C. Kettle, N. Badenahally Chikkarangappa, J. Banks, P. Basu, Casiá-Q. Ajché, B. Dalsgaard, A. Dutta, E. Enríquez, N. Escobedo-Kenefic, H.E. Fierros-López, B. Gemmill-Herren, J. Ghazoul, K. Hansen, **A.L. Hass**, ... [28 co-authors] ... C. Kaiser-Bunbury. 2025. Proximity to natural habitat is not consistently associated with pollination services in tropical smallholder farms: A systematic review and meta-analysis. (*accepted in Ecology Letters*)
- Ferrante, M., D. F. Liebke, **A.L. Hass**, M. Wollenweber, K. Zibold, I. Arimond, S. Schüler, and C. Westphal. 2025. Landscape diversity can promote functional diversity of spider assemblages while habitat characteristics filter for specific traits. (*accepted in Functional Ecology*)
- Bishop, G.A., D. Kleijn, M. Albrecht, I. Bartomeus, R. Isaacs, C. Kremen, A. Magrach, L.C. Ponisio, S.G. Potts, J. Scheper, H.G. Smith, T. Tscharrntke, J. Albrecht, J. Åström, I. Badenhauer, A. Báldi, P. Basu, Å. Berggren, N. Beyer, N. Blüthgen, R. Bommarco, B.J. Brosi, H. Cohen, L.L. Cole, K.R. Denning, M. Devoto, J. Ekroos, F. Fornoff, B.L. Foster, M.A.K. Gillespie, J.L. Gonzalez-Andujar, J.P. González-Varo, D. Goulson, I. Grass, **A.L. Hass**, ... [51 co-authors] ..., T.P.M. Fijen. 2025. Critical habitat thresholds for effective pollinator conservation in agricultural landscapes. *Science* 389:1314–1319
- Tscharrntke, T., N. Beyer, M. Ferrante, **A.L. Hass**, W. Kämper, C. Ocampo-Ariza, B. Maas, S. Schüler, E. Velado-Alonso, M. Anders, I. Arimond, O. Bernhardsson, K. Czechofsky, I. Hannappel, I. Heyer, M. Koch, R. Koch, A. Kok, K. Zibold, Q. Zhang, and C. Westphal. 2025. Beyond flower strips – restoring biodiversity needs more landscape heterogeneity. *Biological Conservation* 312:111474.
- Czechofsky, K., C. Westphal, R. J. Paxton, and **A.L. Hass**. 2025. Landscape-level synergistic and antagonistic effects among conservation measures drive wild bee densities and species richness. *Journal of Applied Ecology* 62:1706–1717.
- Koch, M., S. Lakner, **A.L. Hass**, J. M. Huber, T. Plieninger, C. Westphal, and S. Schüler. 2025. Factors influencing farmer participation in bottom-up collaborative agri-environment-climate measures. *Journal of Rural Studies* 119:103804.
- Sloan, E. T., I. Hannappel, **A.L. Hass**, A. Keller, F. Librán-Embid, J. Devalez, E. Velado-Alonso, T. Reitalu, C. Westphal, and H. Jacquemyn. 2025. Floral resources in the surrounding landscape matrix augment plant species richness of bumblebee pollen loads in small, fragmented calcareous grasslands. *Biological Conservation* 310:111379.
- Gorris, P., Ö. Bodin, D. Giralt, **A.L. Hass**, T. Reitalu, X. Cabodevilla, I. Hannappel, A. Helm, E. Prangel, and C. Westphal. 2025. Social-ecological perspective on European semi-natural grassland conservation and restoration: Key challenges and future pathways. *Biological Conservation* 304:111038.
- Huber, J. M., S. Hoffmann, S. Schüler, S. Lakner, M. Koch, C. Westphal, **A.L. Hass**, and T. Plieninger. 2025. Farmer motivation to participate in cooperative agri-environmental and climate measures. *Earth Stewardship* 2:e70011.
- Schüler, S., I. Arimond, **A.L. Hass**, M. Koch, J.M. Huber, V. Ruwisch, M. Bartens, T. Plieninger, C. Westphal. 2025. Initiating agri-environmental collaboration at landscape scale requires bridging structures, regional facilitators and addressing the expectations of actors. *People and Nature* 7:320–328
- Fijen, T.P.M., M. Eeraerts, J. Osterman, N. Beyer, **A. Hass**, O. Lundin, C. Westphal. 2025. Crop diversification for pollinator conservation. *Landscape Ecology* 40:19

Tsang, T.P.N. , A.A.A. De Santis, G. Armas-Quiñonez, J. S. Ascher, E. S. Ávila-Gómez, A. Báldi, K.M. Ballare, M.V. Balzan, W. Banaszak-Cibicka, S. Bänisch, Y. Basset, A.J. Bates, J.M. Baumann, M. Beal-Neves, A. Bennett, A.M. Bezerra, K.R. 7 Birdshire, B. Blochtein, R. Bommarco, B. Brosi, L.A. Burkle, L.G. Carvalheiro, I. Castellanos, M. Cely-Santos, H. Cohen, D. Coulibaly, S.A. Cunningham, S. Cusser, I. Dajoz, D.A. Delaney, E. Del-Val, M. Egerer, M.P. Eichhorn, E. Enríquez, M.H. Entling, N. Escobedo-Kenefic, P.M.A. Ferreira, G. Fitch, J.R.K. Forrest, V. Fournier, R. Fowler, B. M. Freitas, H.R. Gaines-Day, B. Geslin, J. Ghazoul, P. Glaum, J.L. Gonzalez-Andujar, A. González-Chaves, H. Grab, C. Gratton, S. Guenat, C. Gutiérrez Chacón, M.A. Hall, M.E. Hanley, **A. Hass**, ... [89 co-authors] ... T.C. Bonebrake. 2025. Land use change consistently reduces α but not β and γ diversity of bees. *Global Change Biology* 31:e70006 (**Highly cited paper in Web of Science**)

Kirsch, F., **A.L. Hass**, Alfert, T., C. Westphal. 2025. Landscape diversity, habitat connectivity, age and size determine the conservation value of limestone quarries for diverse wild bee communities. *Journal of Applied Ecology* 62:64–79

2024

Pluta, P., K. Czechofsky, **A.L. Hass**, L. Frank, A. Westerhoff, H. Klingenberg, P. Theodorou, C. Westphal, R. J. Paxton. 2024. Organic farming and annual flower strips reduce parasite prevalence in honeybees and boost colony growth in agricultural landscapes. *Journal of Applied Ecology* 61:2146–2156

Kernecker, M., M. Felipe-Lucia, C. Westphal, **A.L. Hass**. 2024. Biodiversity and ecosystem services in agricultural systems: field to landscape-scale management for biodiversity-yield synergies. *Basic and Applied Ecology* 75:26-30

2023

Kirsch, F., **A.L. Hass**, W. Link, and C. Westphal. 2023. Intercrops as foraging habitats for bees: Bees do not prefer sole legume crops over legume-cereal mixtures. *Agriculture, Ecosystems & Environment* 343:108268.

2022

Gardein, H., Y. Fabian, C. Westphal, T. Tschardtke, and **A. Hass**. 2022. Ground-nesting bees prefer bare ground areas on calcareous grasslands. *Global Ecology and Conservation* 39:e02289.

Herrera Krings, C., K. Darras, **A.L. Hass**, P. Batáry, Y. Fabian. 2022. Not only hedgerows, but also flower fields can enhance bat activity in intensively used agricultural landscapes. *Basic and Applied Ecology* 63:1-13

Schweiger, S., N. Beyer, **A.L. Hass**, C. Westphal. 2022. Pollen and landscape diversity as well as wax moth depredation determine reproductive success of bumblebees in agricultural landscapes. *Agriculture, Ecosystems and Environment* 326:107788.

2021

Herbertson, L., J. Ekroos M., Albrecht, I. Bartomeus, P. Batáry, R. Bommarco, P. Caplat, T. Diekötter, J.M. Eikestam, M.H. Entling, S. Farbu, N. Farwig, J.P. Gonzalez-Varo, **A.L. Hass**, A. Holzschuh, S. Hopfenmüller, A. Jakobsson, B. Jauker, A. Kovács-Hostyánszki, W. Kleve, W.E. Kunin, S.A.M. Lindström, S. Mullen, E. Öckinger, T. Petanidou, S.G. Potts, E.F. Power, M. Rundlöf, K. Seibel, V. Söber, A. Söderman, I. Steffan-Dewenter, J.C. Stout, T. Teder, T. Tschardtke & H.G. Smith. 2021, Bees increase seed set of wild plants while the proportion of arable land has variable effects on pollination in European agricultural landscapes, *Plant Ecology and Evolution* 154:341–350.

Piko, J., A. Keller, C. Geppert, P. Batáry, T. Tschardtke, C. Westphal, and **A.L. Hass**. 2021. Effects of three flower field types on bumblebees and their pollen diets. *Basic and Applied Ecology* 52:95–108.

2020

Geppert, C., **A. Hass**, R. Földesi, B. Donkó, A. Akter, T. Tschardtke, and P. Batáry. 2020. Agri-environment schemes enhance pollinator richness and abundance but bumblebee reproduction depends on

field size. *Journal of Applied Ecology* 57:1818–1828.

Alignier, A., X. O. Solé-Senan, I. Robleño, B. Baraibar, L. Fahrig, D. Giralt, N. Gross, J.-L. Martin, J. Recasens, C. Sirami, G. Siriwardena, A. B. Baillod, C. Bertrand, R. Carrié, **A. Hass**, L. Henckel, P. Miguét, I. Badenhauer, J. Baudry, G. Bota, V. Bretagnolle, L. Brotons, F. Burel, F. Calatayud, Y. Clough, R. Georges, A. Gibon, J. Girard, K. Lindsay, J. Minano, S. Mitchell, N. Patry, B. Poulin, T. Tschardtke, A. Vialatte, C. Violle, N. Yaverscovski, and P. Batáry. 2020. Configurational crop heterogeneity increases within-field plant diversity. *Journal of Applied Ecology* 57:654–663.

2019

Sirami, C., N. Gross, A. B. Baillod, C. Bertrand, R. Carrié, **A. Hass**, L. Henckel, P. Miguét, C. Vuillot, A. Alignier, J. Girard, P. Batáry, Y. Clough, C. Violle, D. Giralt, G. Bota, I. Badenhauer, G. Lefebvre, B. Gauffre, A. Vialatte, F. Calatayud, A. Gil-Tena, L. Tischendorf, S. Mitchell, K. Lindsay, R. Georges, S. Hilaire, J. Recasens, X. O. Solé-Senan, I. Robleño, J. Bosch, J. A. Barrientos, A. Ricarte, M. Á. Marcos-García, J. Miñano, R. Mathevet, A. Gibon, J. Baudry, G. Balent, B. Poulin, F. Burel, T. Tschardtke, V. Bretagnolle, G. Siriwardena, A. Ouin, L. Brotons, J.-L. Martin, and L. Fahrig. 2019. Increasing crop heterogeneity enhances multitrophic diversity across agricultural regions. *Proceedings of the National Academy of Sciences* 116:16442–16447. (**Highly cited paper in Web of Science**)

Hass, A.L., L. Brachmann, P. Batáry, Y. Clough, H. Behling, and T. Tschardtke. 2019. Maize-dominated landscapes reduce bumblebee colony growth through pollen diversity loss. *Journal of Applied Ecology* 56:294–304.

2018

Hass, A.L., U. G. Kormann, T. Tschardtke, Y. Clough, A. B. Baillod, C. Sirami, L. Fahrig, J.-L. Martin, J. Baudry, C. Bertrand, J. Bosch, L. Brotons, F. Burel, R. Georges, D. Giralt, M. Á. Marcos-García, A. Ricarte, G. Siriwardena, and P. Batáry. 2018. Landscape configurational heterogeneity by small-scale agriculture, not crop diversity, maintains pollinators and plant reproduction in western Europe. *Proc. R. Soc. B* 285:20172242. (**Highlighted in Nature, highly cited paper in Web of Science**)

Hass, A.L., B. Liese, K. L. Heong, J. Settele, T. Tschardtke, and C. Westphal. 2018. Plant-pollinator interactions and bee functional diversity are driven by agroforests in rice-dominated landscapes. *Agriculture, Ecosystems & Environment* 253:140–147.

Settele, J., K. L. Heong, I. Kühn, S. Klotz, J. H. Spangenberg, G. Arida, A. Beaupaire, S. Beck, E. Bergmeier, B. Burkhard, R. Brandl, J. V. Bustamante, A. Butler, J. Cabbigat, X. C. Le, J. L. A. Catindig, V. C. Ho, Q. C. Le, K. B. Dang, M. Escalada, C. Dominik, M. Franzén, O. Fried, C. Görg, V. Grescho, S. Grossmann, G. M. Gurr, B. A. R. Hadi, H. H. Le, A. Harpke, **A.L. Hass**, ... [53 co-authors] ... M. Wiemers. 2018. Rice ecosystem services in South-east Asia. *Paddy and Water Environment* 16:211–224.

Before 2018

Hass, A., Brauner, O. & Schulz, U. 2012. Diversity, distribution and abundance of honeybees (*Apis mellifera*) and wild bees (Apidae) on a willow short-rotation coppice. *Mitteilungen der Deutschen Gesellschaft für allgemeine und angewandte Entomologie* 18

Book chapters and other publications

Westphal, C., K. Czechofsky, P. Pluta, R. Koch, L. Prudnikov, R. Wünschiers, R. Paxton, **A.L. Hass**. 2025. Wechselwirkungen der Landschaftsstruktur und kombinierter Agrarumweltmaßnahmen auf die Diversität, die Populationsentwicklung und den Gesundheitszustand von Wild- und Honigbienen, Gesamtabschlussbericht

Schüler, S., **AL. Hass**, M. Koch, I. Arimond, K. Zembold, J. Huber, M. Ferrante, Q. Zhang, R. Stähler, M. Bartens, G. Rudolph, S. Lakner, T. Plieninger, C. Westphal. 2024. Schlussbericht zum Projekt Kooperativ: Biodiversität auf der Landschaftsebene fördern – Partizipatives Projekt zu ökologischer

Wirkung, Wirtschaftlichkeit und Governance von kooperativen Agrarumweltmaßnahmen.

Fechtler, T., H. Gardein, F. Kirsch, F. Grau, **A. Hass**, F. Pape. 2024. Auswahl bemerkenswerter Wildbienen-Nachweise mit Schwerpunkt aus Südniedersachsen und angrenzenden Regionen (Hymenoptera: Apiformes). *Artenfocus Niedersachsen – Beiträge zur Biologischen Vielfalt 1*

Hass, A.L., M. Spangenberg, K. Wiegand, C. Westphal. 2023. The landscape perspective in agroecology – history and recent advances. Pages 9-25 in C.F. Dormann, P. Batáry, I. Grass, A.-M. Klein, J. Loos, C. Scherber, I. Steffan-Dewenter, T.C. Wanger, editors. *Defining Agroecology – A Festschrift for Teja Tscharrntke. Tredition, Hamburg*

Loos, J., P. Batáry, I. Grass, C. Westphal, S. Bänisch, A. Bosem-Bailod, **A.L. Hass**, J. Rosa, and T. Tscharrntke. 2019. Vulnerability of Ecosystem Services in Farmland Depends on Landscape Management. Pages 91–96 in M. Schröter, A. Bonn, S. Klotz, R. Seppelt, and C. Baessler, editors. *Atlas of Ecosystem Services: Drivers, Risks, and Societal Responses. Springer International Publishing, Cham.*

Settele, J., J. H. Spangenberg, K. L. Heong, I. Kühn, S. Klotz, G. Arida, B. Burkhard, J. V. Bustamante, J. Cabbigat, L. X. Canh, J.L.A. Catindig, H. Van Chien, L. Q. Cuong, M. Escalada, C. Görg, V. Grescho, S. Grossmann, B. A. R. Hadi, L.H. Hai, A. Harpke, **A.L. Hass**, ... [35 co-authors] ... M. Wiemers. 2019. Rice Ecosystem Services in South-East Asia: The LEGATO Project, Its Approaches and Main Results with a Focus on Biocontrol Services. Pages 373–382 in M. Schröter, A. Bonn, S. Klotz, R. Seppelt, and C. Baessler, editors. *Atlas of Ecosystem Services: Drivers, Risks, and Societal Responses. Springer International Publishing, Cham.*

Submitted manuscripts

Pluta, P., **A.L. Hass**, K. Czechofsky, C. Westphal, R. Paxton. Multiple key hosts and network structure shape viral prevalence across multispecies communities of bees (*in revision*)

Cabodevilla, X., G. Bota, J. Traba, **A.L. Hass**, C. Westphal, I. Hannappel, T. Reitalu, E. Velado-Alonso, E. K. Lammek, A. Helm, E. Pass, D. Giralt. Calcareous grassland fragmentation and connectivity loss affects the predation ecosystem service provided by birds and arthropods (*in revision, Preprint DOI: 10.2139/ssrn.5097875*)

Sloan, E., J. Devalez, A. Keller, E. Prangel, A. Helm, **A.L. Hass**, C. Westphal, T. Reitalu, H. Jacquemyn. Cichorioideae abundance, rather than management, drives *Osmia leaiana* pollen use in semi-natural grasslands (*in revision*)

Hass, A.L., I. Arimond, S. Schüler, T. Plieninger, S. Lakner, C. Westphal. Farmland biodiversity conservation at the landscape scale - Synergies between ecology, economy and governance. (*in review*)

Hannappel, I., C. Westphal, J. Artola, X. Cabodevilla, J. Devalez, D. Giralt, F. Hartig, A. Helm, H. Jacquemyn, A. Keller, D. Kleijn, F. Librán Embid, L. Naagel, T. Reitalu, J. Traba, E. Velado-Alonso, **A.L. Hass**. Local management benefits wild bees in European calcareous grasslands while landscape conservation effects vary (*submitted*)

Ferrante, M., E. Velado-Alonso, W. Kämper, M. Koch, I. Arimond, A. Kok, **A.L. Hass**, C. Westphal, S. Schüler. A landscape of values: Recognising actors' values for biodiversity conservation in agricultural landscapes. (*submitted*)

Zembold, K., C. Westphal, A.L. Hass, K. Buchtal, D. Liebke, M. Wollenweber, Q. Zhang, I. Arimond, S. Schüler, M. Ferrante, Landscape diversity increases aphid predation but not predator abundance (*submitted*)

Velado-Alonso, E., I. Hannappel, F. Librán Embid, E. Prangel, J. Devalez, T. Vahter, A. Helm, T. Reitalu, G. Bota, X. Cabodevilla, D. Giralt, J. Artola, J. Traba, E.T. Sloan, H. Jacquemyn, A. Keller, D. Kleijn, C. Westphal, **A.L. Hass**. Both local habitat quality and diversified agricultural landscapes support the restoration of metacommunity cohesion in calcareous grasslands (*submitted, Preprint DOI: 10.22541/au.175992176.69108567/v1*)