Publications

Ehinger F, Niehs S, Dose B, Dell M, Krabbe J, Pidot SJ, Stinear TP, Scherlach K, Ross C, Lackner G, Hertweck C (2023) Analysis of rhizonin biosynthesis reveals origin of pharmacophoric furylalanine moieties in diverse cyclopeptides. *Angew Chem Int Ed Engl* 62(42), e202308540.

Janke RS, Kaftan F, Niehs SP, Scherlach K, Rodrigues A, Svatoš A, Hertweck C, Kaltenpoth M, Flórez LV (2022) Bacterial ectosymbionts in cuticular organs chemically protect a beetle during molting stages. *ISME J* 16(12), 2691-2701.

Niehs S, Scherlach K, Dose B, Uzum Z, Stinear T, Pidot S, Hertweck C (2022) A highly conserved gene locus in endofungal bacteria codes for the biosynthesis of symbiosis-specific cyclopeptides. *PNAS nexus* 1(4), 152.

Richter I, Radosa S, Cseresnyés Z, Ferling I, Büttner H, Niehs SP, Gerst R, Figge MT, Hillmann F, Hertweck C (2022) Toxin-producing endosymbionts shield pathogenic fungus against micropredators. *mBio* 13(5), e0144022.

Büttner H[*], Niehs SP[*], Vandelannoote K, Cseresnyés Z, Dose B, Richter I, Gerst R, Figge MT, Stinear TP, Pidot SJ, Hertweck C[#] (2021) Bacterial endosymbionts protect beneficial soil fungus from nematode attack. *Proc Natl Acad Sci U S A* 118(37), e2110669118.

Dose B, Niehs SP, Scherlach K[*], Shahda S, Flórez LV[#], Kaltenpoth M, Hertweck C (2021) Biosynthesis of sinapigladioside, an antifungal isothiocyanate from *Burkholderia* symbionts. *Chembiochem* 22(11), 1920-1924.

Dose B, Thongkongkaew T, Zopf D, Kim HJ, Bratovanov EV, García-Altares M, Scherlach K, Kumpfmüller J, Ross C, Hermenau R, Niehs S, Silge A, Hniopek J, Schmitt M, Popp J, Hertweck C (2021) Multimodal molecular imaging and identification of bacterial toxins causing mushroom soft rot and cavity disease. *Chembiochem* 22(19), 2901-2907.

Mahler L, Niehs SP, Martin K, Weber T, Scherlach K, Hertweck C, Roth M, Rosenbaum MA (2021) Highly parallelized droplet cultivation and prioritization of antibiotic producers from natural microbial communities. *eLife* 10, e64774.

Dose B, Ross C, Niehs SP, Scherlach K, Bauer JP, Hertweck C (2020) Food-poisoning bacteria employ a citrate synthase and a type II NRPS to synthesize bolaamphiphilic lipopeptide antibiotics. *Angew Chem Int Ed* 59(48), 21535-21540.

Niehs SP, Dose B, Richter S, Pidot SJ, Dahse HM, Stinear TP, Hertweck C (2020) Mining symbionts of spider-transmitted fungus illuminates uncharted biosynthetic pathways to cytotoxic benzolactones. *Angew Chem Int Ed* 59(20), 7766-7771.

Niehs SP, Kumpfmüller J, Dose B, Little RF, Ishida K, Florez LV, Kaltenpoth M, Hertweck C (2020) Insect-associated bacteria assemble the antifungal butenolide gladiofungin by non-canonical polyketide chain termination. *Angew Chem Int Ed* 59(51), 23122-23126.

Niehs SP, Dose B, Scherlach K, Pidot SJ, Stinear TP, Hertweck C (2019) Genome mining reveals endopyrroles from a nonribosomal peptide assembly line triggered in fungal-bacterial symbiosis. *ACS Chem Biol* 14(8), 1811-1818.

Dose B, Niehs SP, Scherlach K, Flórez LV, Kaltenpoth M, Hertweck C (2018) Unexpected bacterial origin of the antibiotic icosalide: Two-tailed depsipeptide assembly in multifarious *Burkholderia* symbionts. *ACS Chem Biol* 13(9), 2414-2420.

Niehs SP, Dose B, Scherlach K, Roth M, Hertweck C (2018) Genomics-driven discovery of a symbiont-specific cyclopeptide from bacteria residing in the rice seedling blight fungus. *ChemBioChem* 19(20), 2167-2172.

Niehs SP, Scherlach K, Hertweck C (2018) Genomics-driven discovery of a linear lipopeptide promoting host colonization by endofungal bacteria. *Org Biomol Chem* 16(37), 8345-8352.

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