CITOVANÁ LITERATURA

1. KAPITOLA

1. Gullan, P. J. and Cranston, P. S. (2014) The Insects: An Outline of Entomology. Oxford: Wiley-Blackwell.
2. Mora, C., Tittensor, D. P., Adl, S., Simpson, A. G. B., and Worm, B. (2011) How many species are there on earth and in the ocean? PLoS Biology 9(8): e1001127.
3. Heffer Link, V., Powelson, M. L., and Johnson K. B. (2002) Oomycetes. The Plant Health Instructor. DOI: 10.1094/PHI-I-2002-0225-01.
4. Money, N. P. (2014) Microbiology: A Very Short Introduction. Oxford: Oxford University Press.
5. Hanold, D. and Randles, J. W. (1991) Coconut cadang-cadang disease and its viroid agent. Plant Disease 75: 330–5.
6. Scott, P. (2008) Physiology and Behaviour of Plants. Chichester: John Wiley and Sons Ltd.

2. KAPITOLA

1. Darwin, C. (1880) The Power of Movement in Plants. London: John Murray.
2. Chehab, E. W., Eich, E., and Braam, J. (2009) Thigmomorphogenesis: a complex plant response to mechano-stimulation. Journal of Experimental Botany 60: 43–56.
3. Benikhlef, L., L'Haridon, F., Abou-Mansour, E., Serrano, M., Binda, M., Costa, A., Lehmann, S., and Métraux, J-P. (2013) Perception of soft mechanical stress in Arabidopsis leaves activates disease resistance. BMC Plant Biology 13: 133.
4. Bessire, M., Chassot, C., Jacquat, A-C., Humphry, M., Borel, S., Petétot, J. M-C., Métraux, J-P., and Nawrath, C. (2007) A permeable cuticle in Arabidopsis leads to a strong resistance to Botrytis cinerea. The EMBO Journal 26: 2158–68.
5. Kim, H., Ridenour, J. B., Dunkle, L. D., and Bluhm, B. H. (2011) Regulation of stomatal tropism and infection by light in Cercospora zeae-maydis: evidence for coordinated host/pathogen responses to photoperiod? PLos Pathogens 7(7): e1002113.
6. Collins, T. J., Moerschbacher, B., and Read, N. D. (2001) Synergistic induction of wheat stem rust appressoria by chemical and topographical signals. Physiological and Molecular Plant Pathology 58: 259–66.
7. Heil, M. and Land, W. G. (2014) Danger signals—damaged-self recognition across the tree of life. Frontiers in Plant Science 5: článek 578.

8. Tanaka, K., Choi, J., Cao, Y., and Stacey, G. (2014) Extracellular ATP acts as a damage--associated molecular pattern (DAMP) signal in plants. Frontiers in Plant Science 5: článek 446.
9. Hann, C. T., Bequette, C. J., Dombrowski, J. E., and Stratmann, J. W. (2014) Methanol and ethanol modulate responses to danger- and microbe-associated molecular patterns. Frontiers in Plant Science 5: článek 550.
10. Dixit, S., Upadhyay, S. K., Singh, H., Sidhu, O. P., Verma, P. C., and Chandrashekar, K. (2013) Enhanced methanol production in plants provides broad spectrum insect resistance. PLoS One 8(11): e79664.
11. Dodds, P. N. and Rathjen, J. P. (2010) Plant immunity: towards an integrated view of plant-pathogen interactions. Nature Reviews Genetics 11: 539–48.
12. Kleemann, J., Rincon-Rivera, L. J., Takahara, H., Neumann U., van Themaat, E. V. L., van der Does, H. C., Hacquard, S., Stüber, K., Will, I., Schmalenbach, E., and O'Connell, R. J. (2012) Sequential delivery of host-induced effectors by appressoria and intracellular hyphae of the phytopathogen Colletotrichum higginsianum. PLoS Pathogens 8(4): e1002643.
13. Navarro, L., Dunoyer, P., Jay, F., Arnold, B., Dharmasiri, N., Estelle, M., Voinnet, O., and Jones, J. D. G. (2006) A plant miRNA contributes to antibacterial resistance by repressing auxin signalling. Science 312: 436–39.
14. Navarro, L., Jay, F., Nomura, K., He, S. Y., and Voinnet, O. (2008) Suppression of the microRNA pathway by bacterial effector proteins. Science 321: 964–67.
15. Bardoel, B. W., van der Ent, S., Pel, M. J. C., Tommassen, J., Pieterse, C. M. J., van Kessel, K. P. M., and van Strijp, J. A. G. (2011) Pseudomonas evades immune recognition of flagellin in both mammals and plants. PLoS Pathogens 7(8): e1002206.
16. Van den Burg, H. A., Harrison, S. J., Joosten, M. H. A. J., Vervoort, J., and De Wit, P. J. G. M. (2006) Cladosporium fulvum Avr4 protects fungal cell walls against hydrolysis by plant chitinases accumulating during infection. Molecular Plant-Microbe Interactions 19: 1420–30.
17. Zamioudis, C. and Pieterse, C. M. J. (2012) Modulation of host immunity by beneficial microbes. Molecular Plant-Microbe Interactions 25: 139–50.
18. Jones, J. D. G. and Dangle, J. L. (2006) The plant immune system. Nature 444: 323–9.
19. Rivas, S. and Thomas, C. M. (2005) Molecular interactions between tomato and the leaf mold pathogen Cladosporium fulvum. Annual Review of Phytopathology 43: 395–436.
20. Wang, D. Y-C., Kumar, S., and Hedges, S. B. (1999) Divergence time estimates for the early history of animal phyla and the origin of plants, animals and fungi. Proceedings of the Royal Society B 266: 163–71.

21. Escalante-Pérez, M., Krol, E., Stange, A., Geiger, D., Al-Rasheid, K. A. S., Hause, B., Neher, E., and Hedrich, R. (2011) A special pair of phytohormones controls excitability, slow closure, and external stomach formation in the Venus flytrap. Proceedings of the National Academy of Sciences of the USA 108: 15492–7.
22. Böhm, J., Scherzer, S., Krol, E., von Meyer, K., Lorey, C., Mueller, T. D., Shabala, L., Monte, I., Solano, R., Al-Rasheid, K. A. S., Rennenberg, H., Shabala, S., Neher, E., and Hedrich, R. (2016) The Venus flytrap Dionaea muscipula counts prey-induced action potentials to induce sodium uptake. Current Biology 26: 286–95.
23. Peiffer, M., Tooker, J. F., Luthe, D. S., and Felton, G. W. (2009) Plants on early alert: glandular trichomes as sensors for insect herbivores. New Phytologist 184: 644–56.
24. Appel, H. M. and Cocroft, R. B. (2014) Plants respond to leaf vibrations caused by insect herbivore chewing. Oecologia 175: 1257–66.
25. Vadassery, J., Reichelt, M., and Mithöfer, A. (2012) Direct proof of ingested food regurgitation by Spodoptera littoralis caterpillars during feeding on Arabidopsis. Journal of Chemical Ecology 38: 865–72.
26. Heil, M. (2009) Damaged-self recognition in plant herbivore defence. Trends in Plant Science 14: 356–63.
27. Turlings, T. C. J., Alborn, H. T., Loughrin, J. H., and Tumlinson, J. H. (2000) Volicitin, an elicitor of maize volatiles in oral secretion of Spodoptera exigua: isolation and bioactivity. Journal of Chemical Ecology: 26: 189–202.
28. Schmelz, E. A., Carroll, M. J., LeClere, S., Phipps, S. M., Meredith, J., Chourey, P. S., Alborn, H. T., and Teal, P. E. A. (2006) Fragments of ATP synthase mediate plant perception of insect attack. Proceedings of the National Academy of Sciences of the USA 103: 8894–99.
29. Chuang, W-P., Ray, S., Acevedo, F. E., Peiffer, M., Felton, G. W., and Luthe, D. S. (2014) Herbivore cues from the fall armyworm (Spodoptera frugiperda) larvae trigger direct defences in maize. Molecular Plant-Microbe Interactions 27: 461–70.
30. Wu, S., Peiffer, M., Luthe, D. S., and Felton, G. W. (2012) ATP hydrolyzing salivary enzymes of caterpillars suppress plant defences. PLoS One 7(7): e41947.
31. Banting, F. G. and Best, B. A. (1922) The internal secretion of the pancreas. Journal of Laboratory and Clinical Medicine 7: 251–66.
32. Green, T. R. and Ryan, C. A. (1972) Wound-induced proteinase inhibitor in plant leaves: a possible defence mechanism against insects. Science 175: 776–7.
33. Ryan, C. A. and Pearce, G. (1998) Systemin: a polypeptide signal for plant defensive genes. Annual Review of Cell and Developmental Biology 14: 1–17.
34. McGurl, B., Pearce, G., Orozco-Cardenas, M., and Ryan, C. A. (1992) Structure, expression, and antisense inhibition of the systemin precursor gene. Science 255: 1570–3.

35. McGurl, B., Orozco-Cardenas, M., Pearce, G., and Ryan, C. A. (1994) Overexpression of the prosystemin gene in transgenic tomato plants generates a systemic signal that constitutively induces proteinase inhibitor synthesis. Proceedings of the National Academy of Sciences of the USA 91: 9799–9802.
36. Scheer, J. M. and Ryan, C. A. (2002) The systemin receptor SR160 from Lycopersicon peruvianum is a member of the LRR receptor kinase family. Proceedings of the National Academy of Sciences of the USA 99: 9585–90.
37. Albert, M. (2013) Peptides as triggers of plant defence. Journal of Experimental Botany 64: 5269–79.
38. Bartels, S., Lori, M., Mbengue, M., van Verk, M., Klauser, D., Hander, T., Böni, R., Robatzek, S., and Boller, T. (2013) The family of Peps and their precursors in Arabidopsis: differential expression and localisation but similar induction of pattern-triggered immune responses. Journal of Experimental Botany 64: 5309–21.
39. Hilker, M. and Meiners, T. (2006) Early herbivore alert: insect eggs induce plant defence. Journal of Chemical Ecology 32: 1379–97.
40. Reymond, P. (2013) Perception, signalling and molecular basis of oviposition-mediated plant responses. Planta 238: 247–58.

3. KAPITOLA

1. Conrath, U., Beckers, G. J. M., Flors, V., Garciá-Agustín, P., Jakab, G., Mauch, F., Newman, M-A., Pieterse, C. M. J., Poinssot, B., Pozo, M. J., Pugin, A., Schaffrath, U., Ton, J., Wendehenne, W., Zimmerli, L., and Mauch-Mani, B. (2006) Priming: getting ready for battle. Molecular Plant-Microbe Interactions 19: 1062–71.
2. Frost, C. J., Mescher, M. C., Carlson, J. E., and De Moraes, C. M. (2008) Plant defence priming against herbivores: getting ready for a different battle. Plant Physiology 146: 818–24.
3. Jeffreys, D. (2013) Aspirin: the remarkable story of a wonder drug. New York: Bloomsbury Publishing.
4. Stone, E. (1763) An account of the success of the bark of the willow in the cure of agues. In a letter to the Right Honourable George Earl of Macclesfield, President of the R.S. from the Rev. Mr Edmund Stone, of Chipping-Norton in Oxfordshire. Philosophical Transactions of the Royal Society 53: 195–200.
5. Beauverie, J. (1901) Essais d'immunisation des végétaux contre les maladies cryptogamiques. Comptes Rendus des Séances de L'Académie des Sciences 133: 107–10.
6. Ray, J. (1901) Sur les maladies cryptogamiques des végétaux. Revue générale de Botanique XIII: 145.

7. Ross, A. F. (1961) Systemic acquired resistance induced by localized virus infection in plants. Virology 14: 340–58.
8. Kuć, J. (1982) Induced immunity to plant disease. BioScience 32: 854–60.
9. Hammerschmidt, R. (2014) Introduction: definitions and some history. In: Induced Resistance for Plant Defence: A Sustainable Approach to Crop Protection, ed. D. R. Walters, A. C. Newton, and G. D. Lyon, 1–10. Oxford: Wiley-Blackwell.
10. Malamy, J., Carr, J. P., Klessig, D. F., and Raskin, I. (1990) Salicylic acid—a likely endogenous signal in the resistance response of tobacco to Tobacco mosaic virus. Science 250: 1002–4.
11. Métraux, J-P., Signer, H., Ryals, J., Ward, E., Wyss-Benz, M., Gaudin, J., Raschdorf, K., Schmid, E., Blum, W., and Inverardi, B. (1990) Increase in salicylic acid at the onset of systemic acquired resistance in cucumber. Science 250: 1004–6.
12. Delaney, T. P., Uknes S., Vernooij, B., Friederich L., Weymann, K., Negrotto, D., Gaffney, T., Gur-Rella M., Kessmann, H., Ward, E., and Ryals, J. (1994) A central role of salicylic acid in plant disease resistance. Science 266: 1247–50.
13. Park, S. W., Kaimoyo, E., Kumar, D., Mosher, S., and Klessig, D. F. (2007) Methyl salicylate is a critical mobile signal for plant systemic acquired resistance. Science 318: 113–16.
14. Wiesner, J. (1892) Die elementarstructur und das wachstum der lebenden substanz. Vienna: Hölder.
15. English, J. Jr., Bonner, J., and Haagen-Smit, A. J. (1939) Structure and synthesis of a plant wound hormone. Science 90: 329.
16. Green, T. R. and Ryan, C. A. (1972) Wound-induced proteinase inhibitor in plant leaves: a possible defence mechanism against insects. Science 175: 776–7.
17. Farmer, E. E. and Ryan, C. A. (1990) Interplant communication: airborne methyl jasmonate induces synthesis of proteinase inhibitors in plant leaves. Proceedings of the National Academy of Sciences of the USA 87: 7713–16.
18. Howe, G. A., Lightner, J., Browse, J., and Ryan, C. A. (1996) An octadecanoid pathway mutant (JL5) of tomato is compromised in signalling for defense against insect attack. Plant Cell 8: 2067–77.
19. McConn, M., Creelman, R. A., Bell, E., Mullet, J. E., and Browse, J. (1997) Jasmonate is essential for insect defense in Arabidopsis. Proceedings of the National Academy of Sciences of the USA 94: 5473–7.
20. Mafli, A., Goudet, J., and Farmer, E. E. (2012) Plants and tortoises: mutations in the Arabidopsis jasmonate pathway increase feeding in a vertebrate herbivore. Molecular Ecology 21: 2534–41.
21. Koo, A. J. K. and Howe, G. A. (2009) The wound hormone jasmonate. Phytochemistry 70: 1571–80.

22. Farmer, E. E. (2014) Leaf Defence. Oxford: Oxford University Press.
23. Glauser, G., Dubugnon, L., Mousavi, S. A. R., Rudaz, S., Wolfender, J-L., and Fermer, E. E. (2009) Velocity estimates for signal propagation leading to systemic jasmonic acid accumulation in wounded Arabidopsis. Journal of Biological Chemistry 284: 34506–13.
24. Wildon, D. C., Thain, J. F., Minchin, P. E. H., Gubb, I. R., Reilly, A. J., Skipper, Y. D., Doherty, H. M., O'Donnell, P. J., and Bowles, D. J. (1992) Electrical signalling and systemic proteinase inhibitor induction in the wounded plant. Nature 360: 62–5.
25. Mousavi, S. A. R., Chauvin, A., Pascaud, F., Kellenberger, S., and Farmer, E. E. (2013) GLUTAMATE RECEPTOR-LIKE genes mediate leaf-to-leaf wound signalling. Nature 500: 422–6.
26. Lam, H. M., Chiu, J., Hsieh, M. H., Meisel, L., Oliveira, I. C., Shin, M., and Coruzzi, G. (1998) Glutamate-receptor genes in plants. Nature 396: 125–6.
27. Kang, S., Kim, H. B., Lee, H., Choi, J. Y., Heu, S., Oh, C. J., Kwon, S. I., and An, C. S. (2006) Overexpression in Arabidopsis of a plasma membrane-targeting glutamate receptor from small radish increases glutamate-mediated Ca^{2+} influx and delays fungal infection. Molecules and Cells 21: 418–27.
28. Li, F., Wang, J., Ma, C., Zhao, Y., Wang, Y., Hasi, A., and Qi, Z. (2013) Glutamate receptor-like channel 3.3 is involved in mediating glutathione-triggered cytosolic calcium transients, transcriptional changes, and innate immunity responses in Arabidopsis. Plant Physiology 162: 1497–1509.
29. Kiep, V., Vadassery, J., Lattke, J., Maaß, J-P., Boland, W., Pieter, E., and Mithöfer, A. (2015) Systemic cytosolic Ca^{2+} elevation is activated upon wounding and herbivory in Arabidopsis. New Phytologist 207: 996–1004.
30. Rhoades, D. F. (1983) Responses of alder and willow to attack by tent caterpillars and webworms: evidence for pheromonal sensitivity of willows. In: Plant Resistance to Insects, ed. P. A. Hedin, 55–68. Washington, DC: American Chemical Society.
31. Baldwin, I. T. and Schultz, J. C. (1983) Rapid changes in tree leaf chemistry induced by damage: evidence for communication between plants. Science 221: 277–9.
32. McGowan, K. (2013) How plants secretly talk to each other. Dostupné na: <http://www.wired.com/2013/12/secret-language-of-plants/>, ověřeno 19. února 2023.
33. Engelberth, J., Alborn, H. T., Schmelz, E. A., and Tumlinson, J. H. (2004) Airborne signals prime plants against insect herbivore attack. Proceedings of the National Academy of Sciences of the USA 101: 1781–5.
34. Karban, R. (2001) Communication between sagebrush and wild tobacco in the field. Biochemical Systematics and Ecology 29: 995–1005.

35. Kessler, A., Halitschke, R., Diezel, C., and Baldwin, I. T. (2006) Priming of plant defense responses in nature by airborne signalling between Artemisia tridentata and Nicotiana attenuata. Oecologia 148: 280–92.
36. Yi, H-S., Heil, M., Adame-Álvarez, R. M., Ballhorn, D. J., and Ryu, C-M. (2009) Airborne induction and priming of plant defences against a bacterial pathogen. Plant Physiology 151: 2152–61.
37. Castelyn, H. D., Appelgryn, J. J., Mafa, M. S., Pretorius, Z. A., and Visser, B. (2015) Volatiles emitted by leaf rust infected wheat induce a defence response in exposed uninfected wheat seedlings. Australasian Plant Pathology 44: 245–54.
38. Schoonhoven, L. M., van Loon, J. J. A., and Dicke, M. (2005) Insect–Plant Biology. Oxford: Oxford University Press.
39. Dicke, M., Van Beek, T. A., Posthumus, M. A., Ben Dom, N., Van Bokhoven, H., and De Groot, A. (1990) Isolation and identification of volatile kairomone that affects acarine predator–prey interactions: involvement of host plant in its production. Journal of Chemical Ecology 16: 381–96.
40. Turlings, T. C. J., Tumlinson, J. H., and Lewis, W. J. (1990) Exploitation of herbivore-induced plant odors by host-seeking parasitic wasps. Science 250: 1251–3.
41. Kappers, I. F., Hoogerbrugge, H., Bouwmeester, H. J., and Dicke, M. (2011) Variation in herbivory-induced volatiles among cucumber (Cucumis sativus L.) varieties has consequences for the attraction of carnivorous natural enemies. Journal of Chemical Ecology 37: 150–60.
42. Van Wijk, M., De Bruijn, P. J. A., and Sabelis, M. W. (2008) Predatory mite attraction to herbivore-induced plant odors is not a consequence of attraction to individual herbivore-induced plant volatiles. Journal of Chemical Ecology 34: 791–803.
43. Meiners, T. and Hilker, M. (1997) Host location in Oomyzus gallericae (Hymenoptera: Eulophidae), an egg parasitoid of the elm leaf beetle Xanthogaleruca luteola (Coleoptera: Chrysomelidae). Oecologia 112: 87–93.
44. Hilker, M., Kobs, C., Varama, M., and Schrank, K. (2002) Insect egg deposition induces Pinus sylvestris to attract egg parasitoids. The Journal of Experimental Biology 205: 455–61.
45. Fatouros, N. E., Lucas-Barbosa, D., Weldegergis, B. T., Pashalidou, F. G., van Loon, J. J. A., Dicke, M., Harvey, J. A., Gols, R., and Huigens, M. E. (2012) Plant volatiles induced by herbivore egg deposition affect insects of different trophic levels. PLoS One 7(8): e43607.
46. Tooker, J. F. and De Moraes, C. M. (2008) Gall insects and indirect plant defences. Plant Signalling and Behavior 3: 503–4.
47. Tooker, J. F., Rohr, J. R., Abrahamson, W. G., and De Moraes, C. M. (2008) Gall insects can avoid and alter indirect plant defences. New Phytologist 178: 657–71.

48. Rostás, M., Maag, D., Ikegami, M., and Inbar, M. (2013) Gall volatiles defend aphids against a browsing mammal. BMC Evolutionary Biology 13: 193.
49. Tooker, J. F., Koenig, W. A., and Hanks, L. M. (2002) Altered host plant volatiles are proxies for sex pheromones in the gall wasp Antistrophus rufus. Proceedings of the National Academy of Sciences of the USA 99: 15486–91.
50. Mäntylä, E., Alessio, G. A., Blande, J. D., Heijari, J., Holopainen, J. K., Laaksonen, T., Piirtola, P., and Klemola, T. (2008) From plants to birds: higher avian predation rates in trees responding to insect herbivory. PLoS One 3(7): e2832.
51. Amo, L., Jansen, J. J., van Dam, N. M., Dicke, M., and Visser, M. E. (2013) Birds exploit herbivore-induced volatiles to locate herbivorous prey. Ecology Letters 16: 1348–55.
52. Heil, M. and Adame-Álvarez, R. M. (2010) Short signalling distances make plant communication a soliloquy. Biology Letters 6: 843–5.
53. Frost, C. J., Appel, H. M., Carlson, J. E., De Moraes, C. M., Mescher, M. C., and Schultz, J. C. (2007) Within-plant signalling via volatiles overcomes vascular constraints on systemic signalling and primes responses against herbivores. Ecology Letters 10: 490–8.
54. Heil, M. and Silva Bueno, J. C. (2007) Within-plant signalling by volatiles leads to induction and priming of an indirect plant defence in nature. Proceedings of the National Academy of Sciences of the USA 104: 5467–72.
55. Pieterse, C. M. J., Van der Does, D., Zamioudis, C., Leon-Reyes, A., and Van Wees, S. C. M. (2012) Hormonal modulation of plant immunity. Annual Review of Cell and Developmental Biology 28: 489–521.
56. Savchenko, T. and Dehesh, K. (2013) Insect herbivores selectively mute GLV production in plants. Plant Signalling and Behavior 8: e24136.

4. KAPITOLA

1. Franceschi, V. R., Krokene, P., Christiansen, E., and Krekling, T. (2005) Anatomical and chemical defences of conifer bark against bark beetles and other pests. New Phytologist 167: 353–76.
2. Agrios, G. N. (2005) Plant Pathology, 3rd edn. London: Elsevier Academic Press.
3. Whitney, H. M., Federle, W., and Glover, B. J. (2009) Grip and slip: mechanical interactions between insects and the epidermis of flowers and flower stalks. Communicative and Integrative Biology 2(6): 505–8.
4. Bellincampi, D., Cervone, F., and Lionetti, V. (2014) Plant cell wall dynamics and wall-related susceptibility in plant-pathogen interactions. Frontiers in Plant Science 5: článek 228.

5. Bethke, G., Grundman, R. E., Sreekanta, S., Truman, W., Katagiri, F., and Glazebrook, J. (2014) Arabidopsis PECTIN METHYLESTERASEs contribute to immunity against Pseudomonas syringae. Plant Physiology 164: 1093–1107.
6. Lionetti, V., Raiola, A., Camardella, L., Giovane, A., Obel, N., Pauly, M., Favaron, F., Cervone, F., and Bellincampi, D. (2007) Overexpression of pectin methylesterase inhibitors in Arabidopsis restricts fungal infection by Botrytis cinerea. Plant Physiology 143: 1871–80.
7. Powell, A. L. T., van Kan, J., ten Have, A., Visser, J., Greve, L. C., Bennett, A. B., and Labavitch, J. M. (2000) Transgenic expression of pear PGIP in tomato limits fungal colonisation. Molecular Plant-Microbe Interactions 13: 942–50.
8. Federici, L., Di Metteo, A., Fernandez-Recio, J., Tsernoglou, D., and Cervone, F. (2006) Polygalacturonase inhibiting proteins: players in plant innate immunity? Trends in Plant Science 11: 65–70.
9. Mauch, F., Mauch-Mani, B., and Boller, T. (1988) Antifungal hydrolases in pea tissue. Part II. Inhibition of fungal growth by combinations of chitinase and β-1,3-glucanase. Plant Physiology 88: 936–42.
10. Westerink, N., Roth, R., Van den Burg, H. A., de Wit, P. J. G. M., and Joosten, M. H. A. J. (2002) The AVR4 elicitor protein of Cladosporium fulvum binds to fungal components with high affinity. Molecular Plant-Microbe Interactions 15: 1219–27.
11. Van den Burg, H. A., Harrison, S. J., Joosten, M. H. A. J., Vervoort, J., and de Wit, P. J. G. M. (2006) Cladosporium fulvum Avr4 protects fungal cell walls against hydrolysis by plant chitinases accumulating during infection. Molecular Plant-Microbe Interactions 19: 1420–30.
12. Slavokhotova, A. A., Naumann, T. A., Price, N. P. J., Rogozhin, E. A., Andreev, Y. A., Vassilevski, A. A., and Odintsova, T. I. (2014) Novel mode of action of plant defense peptides—hevein-like antimicrobial peptides from wheat inhibit fungal metalloproteases. FEBS Journal 281: 4754–64.
13. Voigt, C. A. (2014) Callose-mediated resistance to pathogenic intruders in plant defense-related papillae. Frontiers in Plant Science 5: článek 168.
14. De Bary, A. (1863) Recherches sur le dévelopement de quelques champignons parasites. Annales des Sciences Naturelles; Botanique et biologie végétale 20: 5–148.
15. Mangin, L. (1895) Recherches sur les Péronosporées. Bulletin de la Societé d'histoire naturelle d'Autun 8: 55–108.
16. Jacobs, A. K., Lipka, V., Burton, R. A., Panstruga, R., Strizhov, N., Schulze-Lefert, P., and Fincher, G. B. (2003) An Arabidopsis callose synthase, GSL5, is required for wound and papillary callose formation. Plant Cell 15: 2503–13.

17. Ellinger, D., Naumann, M., Falter, C., Zwikowics, C., Janrow, T., Manisseri, C., Somerville, S. C., and Voigt, C. A. (2013) Elevated early callose deposition results in complete penetration resistance to powdery mildew in Arabidopsis. Plant Physiology 161: 1433–44.
18. Eggert, D., Naumann, M., Reimer, R., and Voigt, C. A. (2014) Nanoscale glucan polymer network causes pathogen resistance. Scientific Reports 4: 4159.
19. Hao, P., Liu, C., Wang, Y., Chen, R., Tang, M., Du, B., Zhu, L., and He, G. (2008) Herbivore-induced callose deposition on the sieve plates of rice: an important mechanism for host resistance. Plant Physiology 146: 1810–20.
20. Smith, A. M., Coupland, G., Dolan, L., Harberd, N., Jones, J., Martin, C., Sablowski, R., and Amey, A. (2010) Plant Biology. New York: Garland Science.
21. Maher, E. A., Bate, N. J., Ni, W., Elkind, Y., Dixon, R. A., and Lamb, C. J. (1994) Increased disease susceptibility of transgenic tobacco plants with suppressed levels of preformed phenylpropanoid products. Proceedings of the National Academy of Sciences of the USA 91: 7802–6.
22. Bhuiyan, N. H., Selvaraj, G., Wei, Y., and King, J. (2009) Gene expression profiling and silencing reveal that monolignol biosynthesis plays a critical role in penetration defence in wheat against powdery mildew invasion. Journal of Experimental Botany 60: 509–21.
23. Caño-Delgado, A., Penfield, S., Smith, C., Catley, M., and Bevan, M. (2003) Reduced cellulose synthesis invokes lignification and defence responses in Arabidopsis thaliana. The Plant Journal 34: 351–62.
24. Diezel, C., Kessler, D., and Baldwin, I. T. (2011). Pithy protection: Nicotiana attenuata's jasmonic acid-mediated defences are required to resist stem-boring weevil larvae. Plant Physiology 155: 1936–46.
25. Gaquerel, E., Kotkar, H., Onkokesung, N., Galis, I., and Baldwin, I. T. (2013) Silencing an N-Acyltransferase-like involved in lignin biosynthesis in Nicotiana attenuata dramatically alters herbivory-induced phenolamide metabolism. PLoS One 8(5): e62336.
26. Hooke, R. (1665) Micrographia: or, Some Physiological Descriptions of Minute Bodies Made by Magnifying Glasses. London: J. Martyn and J. Allestry.
27. Walters, D. R. (2011) Plant Defense: Warding Off Attack by Pathogens, Herbivores, and Parasitic Plants. Oxford: Wiley-Blackwell.
28. Link, K. P. and Walker, J. C. (1933) The isolation of catechol from pigmented onion scales and its significance in relation to disease resistance in onions. Journal of Biological Chemistry 100: 379–83.
29. Farah, A. and Donangelo, C. M. (2006) Phenolic compounds in coffee. Brazilian Journal of Plant Physiology 18: 23–36.

30. Ranheim, T. and Halvorsen, B. (2005) Coffee consumption and human health: beneficial or detrimental? Mechanisms for effects of coffee consumption on different risk factors for cardiovascular disease and type 2 diabetes mellitus. Molecular Nutrition and Food Research 49: 274–84.
31. Davies, E. (2011) Chemistry in every cup. Chemistry World May: 36–9.
32. Bostock, R. M., Wilcox, S. M., Wang, G., and Adaskaveg, J. E. (1999) Suppression of Monilinia fructicola cutinase production by peach fruit surface phenolic acids. Physiological and Molecular Plant Pathology 54: 37–50.
33. Wojciechowska, E., Weinert, C. H., Egert, B., Trierweiler, B., Schmidt-Heydt, M., Horneburg, B., Graeff-Hönninger, S., Kulling, S. E., and Geisen, R. (2014) Chlorogenic acid, a metabolite identified by untargeted metabolome analysis in resistant tomatoes, inhibits the colonisation by Alternaria alternata by inhibiting alternariol biosynthesis. European Journal of Plant Pathology 139: 735–47.
34. Schoonhoven, L. M., van Loon, J. J. A., and Dicke, M. (2005) Insect–Plant Biology. Oxford: Oxford University Press.
35. Eisner, T., Eisner, M., and Hoebeke, E. R. (1998) When defense backfires: detrimental effect of a plant's protective trichomes on an insect beneficial to the plant. Proceedings of the National Academy of Sciences of the USA 95: 4410–14.
36. Krings, M., Kellogg, D. W., Kerp, H., and Taylor, T. N. (2003) Trichomes of the seed fern Blanzyopteris praedentata: implications for plant-insect interactions in the Late Carboniferous. Botanical Journal of the Linnean Society 141: 133–49.
37. Li, C-H., Liu, Y., Hua, J., Luo, S-H., and Li, S-H. (2014) Peltate glandular trichomes of Colquhounia seguinii harbour new defensive clerodane diterpenoids. Journal of Integrative Plant Biology 56: 928–40.
38. Ramirez, A. M., Stoopen, G., Menzel, T. R., Gols, R., Bouwmeester, H. J., Dicke, M., and Jongsma, M. A. (2012) Bidirectional secretions from glandular trichomes of Pyrethrum enable immunization of seedlings. The Plant Cell 24: 4252–65.
39. Weinhold, A. and Baldwin, I. T. (2011) Trichome-derived O-acyl sugars are a first meal for caterpillars that tags them for predation. Proceedings of the National Academy of Sciences of the USA 108: 7855–9.
40. Ranger, C. M., Winter, R. E., Singh, A. P., Reding, M. E., Frantz, J. M., Locke, J. C., and Krause, C. R. (2011) Rare excitatory amino acid from flowers of zonal geranium responsible for paralysing the Japanese beetle. Proceedings of the National Academy of Sciences of the USA 108: 1217–21.
41. Gorup-Besanez, E. F. (1849) Notiz über das vorkomen der Ameisensaure in den Brennesseln. Journal für Praktische Chemie 48: 191–2.

42. Fu, H. Y., Chen, S. J., Chen, R. F., Ding, W. H., Kuo-Huang, L. L., and Huang, R. N. (2006) Identification of oxalic acid and tartaric acid as major persistent paininducing toxins in the stinging hairs of the nettle, Urtica thunbergiana. Annals of Botany 98: 57–65.
43. Farmer, E. E. (2014) Leaf Defence. Oxford: Oxford University Press.
44. Iwamoto, M., Horikawa, C., Shikata, M., Wasaka, N., Kato, T., and Sato, H. (2014) Stinging hairs on the Japanese nettle Urtica thunbergiana have a defensive function against mammalian but not insect herbivores. Ecological Research 29: 455–62.
45. Tennie, C., Hedwig, D., Call, J., and Tomasello, M. (2008) An experimental study of nettle feeding in captive gorillas. American Journal of Primatology 70: 1-10.
46. Milewski, A. V., Young, T. P., and Madden, D. (1991) Thorns as induced defences—experimental evidence. Oecologia 86: 70–5.
47. Piperno, D. R. (2006) Phytoliths: A Comprehensive Guide for Archaeologists and Paleoecologists. Lanham, MD, New York, Toronto, and Oxford: AltaMira Press (Rowman & Littlefield).
48. Darwin, C. (1846) An account of the fine dust which often falls on vessels in the Atlantic Ocean. Quarterly Journal of the Geological Society of London 2: 26–30.
49. Prasad, V., Strömberg, C. A., Alimohammadian, H., and Sahni, A. (2005) Dinosaur coprolites and the early evolution of grasses and grazers. Science 18: 1177–80.
50. Vicari, M. and Bazely, D. R. (1993) Do grasses fight back? The case for antiherbivore defences. Trends in Ecology and Evolution 8: 137–41.
51. Massey, F. P. and Hartley, S. E. (2009) Physical defences wear you down: progressive and irreversible impacts of silica on insect herbivores. Journal of Animal Ecology 78: 281–91.
52. Hudgins, J. W., Krekling, T., and Franchesci, V. R. (2003) Distribution of calcium oxalate crystals in the secondary phloem of conifers: a constitutive defence mechanism? New Phytologist 159: 677–90.
53. Korth, K. L., Doege, S. J., Park, S-H., Goggin, F. L., Wang, Q., Gomez, S. K., Liu, G., Jia, L., and Nakata, P. A. (2006) Medicago truncatula mutants demonstrate the role of plant calcium oxalate crystals as an effective defense against chewing insects. Plant Physiology 141: 188–95.

5. KAPITOLA

1. Pickard, W. F. (2008) Lactifers and secretory ducts: two other tube systems in plants. New Phytologist 177: 877–88.
2. Hagel, J. M., Yeung, E. C., and Facchini, P. J. (2008) Got milk? The secret life of lactifers. Trends in Plant Science 13: 631–9.

3. Agrawal, A. A., Petschenka, G., Bingham, R. A., Weber, M. G., and Rasmann, S. (2012) Toxic cardenolides: chemical ecology and coevolution of specialised plant–herbivore interactions. New Phytologist 194: 28–45.
4. Zalucki, M. P., Brower, L. P., and Alonso-M, A. (2001) Detrimental effects of latex and cardiac glycosides on survival and growth of first-instar monarch butterfly larvae Danaus plexippus feeding on the sandhill milkweed Asclepias humistrata. Ecological Entomology 26: 212–24.
5. Becerra, J. X., Noge, K., and Venable, D. L. (2009) Macroevolutionary chemical escalation in an ancient plant–herbivore arms race. Proceedings of the National Academy of Sciences of the USA 106: 18062–6.
6. Lange, B. M. (2015) The evolution of plant secretory structures and emergence of terpenoid chemical diversity. Annual Review of Plant Biology 66: 139–59.
7. Dussourd, D. E. and Denno, D. F. (1991) Deactivation of plant defense: correspondence between insect behaviour and secretory canal architecture. Ecology 72: 1383–96.
8. Gontijo, L. M. (2013) Female beetles facilitate leaf feeding for males on toxic plants. Ecological Entomology 38: 272–7.
9. Roberts, D. M. and Buckley, N. (2009) Antidotes for acute cardenolide (cardiac glycoside) poisoning. Cochrane Database of Systematic Reviews 2006(4): Art. No. CD005490.
10. De Maleissye, J. (1991) Histoire du poison. Paris: F. Bourin.
11. Gaillard, Y., Krishnamoorthy, A., and Bevalot, F. (2004) Cerbera odollam: a'suicide tree' and cause of death in the state of Kerala, India. Journal of Ethnopharmacology 95: 123–6.
12. Ashcroft, F. (2013) The Spark of Life: Electricity in the Human Body. London: Penguin.
13. Steppuhn, A., Gase, K., Krock, B., Halitschke, R., and Baldwin, I. T. (2004) Nicotine's defensive function in nature. PLos Biology 2(8): e217.
14. Kumar, P., Pandit, S. S., Steppuhn, A., and Baldwin, I. T. (2014) Natural history-driven, plant-mediated RNAi-based study reveals CYP6B46's role in a nicotine-mediated antipredator herbivore defense. Proceedings of the National Academy of Sciences of the USA 111: 1245–52.
15. Kessler, D., Bhattacharya, S., Diezel, C., Rothe, E., Gase, K., Schöttner, M., and Baldwin, I. T. (2012) Unpredictability of nectar nicotine promotes outcrossing by hummingbirds in Nicotiana attenuata. The Plant Journal 71: 529–38.
16. Kaczorowski, R. L., Koplovich, A., Sporer, F., Wink, M., and Markman, S. (2014) Immediate effects of nectar robbing by Palestine sunbirds (Nectarinia osea) on nectar alkaloid concentrations in tree tobacco (Nicotiana glauca). Journal of Chemical Ecology 40: 325–30.

17. Speranza, A. (2010) Into the world of steroids: a biochemical 'keep in touch' in plants and animals. Plant Signalling and Behavior 5(8): 940–3.
18. Kubo, I., Klocke J. A., and Asano, S. (1983) Effects of ingested phytoecdysteroids on the growth and development of two lepidopterous larvae. Journal of Insect Physiology 29: 307–16.
19. Rharrabe, K., Sayah, F., and LaFont, R. (2010) Dietary effects of four phytoecdysteroids on growth and development of the Indian meal moth, Plodia interpunctella. Journal of Insect Science 10: 13.
20. Kissen, R., Rossiter, J. T., and Bones, A. M. (2009) The 'mustard oil bomb': not so easy to assemble?! Localization, expression and distribution of the components of the myrosinase enzyme system. Phytochemistry Reviews 8: 69–86.
21. Shroff, R., Vergara, F., Muck, A., Svatos, A., and Gershenzon, J. (2008) Nonuniform distribution of glucosinolates in Arabidopsis thaliana leaves has important consequences for plant defense. Proceedings of the National Academy of Sciences of the USA 105: 6196–6201.
22. Ratzka, A., Vogel, H., Kliebenstein, D. J., Mitchell-Olds, T., and Kroymann, J. (2002) Disarming the mustard oil bomb. Proceedings of the National Academy of Sciences of the USA 99: 11223–8.
23. Wittstock, U., Agerbirk, N., Stauber, E. J., Olsen, C. E., Hippler, M., Mitchell-Olds, T., Gershenzon, J., and Vogel, H. (2004) Successful herbivore attack due to metabolic diversion of a plant chemical defense. Proceedings of the National Academy of Sciences of the USA 101: 4859–64.
24. Bridges, M., Jones, A. M. E., Bones, A. M., Hodgson, C., Cole, R., Bartlet, E., Wallsgrove, R., Karapapa, V. K., Watts, N., and Rossiter, J. T. (2002) Spatial organisation of the glucosinolate-myrosinase system in Brassica specialist aphids is similar to that of the host plant. Proceedings of the Royal Society of London B, Biological Sciences 269: 187–91.
25. Beran, F., Pauchet, Y., Kunert, G., Reichelt, M., Wielsch, N., Vogel, H., Reinecke, A., Svatoš, A., Mewis, I., Schmid, D., Ramasamy, S., Ulrichs, C., Hansson, B. S., Gershenzon, J., and Heckel, D. G. (2014) Phyllotreta striolata flea beetles use host plant defense compounds to create their own glucosinolate-myrosinase system. Proceedings of the National Academy of Sciences of the USA 111: 7349–54.
26. Dethier, V. G. (1972) Chemical interactions between plants and insects. In: Chemical Ecology, ed. E. Sondheimer and J. B. Simeone, 83–102. New York: Academic Press.
27. Shroff, R., Schramm, K., Jeschke, V., Nemes, P., Vertes, A., Gershenzon, J., and Svatoš, A. (2015) Quantification of plant surface metabolites by matrix-assisted laser desorption-ionization mass spectrometry imaging: glucosinolates on Arabidopsis thaliana leaves. The Plant Journal 81: 961–72.

28. Badenes-Perez, F. R., Gershenzon, J., and Heckel, D. G. (2014) Insect attraction versus plant defense: young leaves high in glucosinolates stimulate oviposition by a specialist herbivore despite poor larval survival due to high saponin content. PLoS One 9(4) e95766.
29. Samuni-Blank, M., Izhaki, I., Gerchman, Y., Dearing, M. D., Karasov, W. H., Trabelcy, B., Edwards, T. M., and Arad, Z. (2014) Taste and physiological responses to glucosinolates: seed predator versus seed disperser. PLoS One 9(11): e112505.
30. Selosse, M-A., Boullard, B., and Richardson, D. (2011) Noël Bernard (1874–1911): orchids to symbiosis in a dozen years, one century ago. Symbiosis 54: 61–8.
31. Müller, K. O. und Borger, H. (1940) Experimentelle untersuchungen über phytophthorainfestans-resistanz der Kartoffel. Arbeiten aus der Biologischen Reichanstalt für Land-und Forstwirtschaft 23: 189–231.
32. Harborne, J. B. (1999) The comparative biochemistry of phytoalexin induction in plants. Biochemical Systematics and Ecology 27: 335–67.
33. Bailey, J. A. and Deverall, B. J. (1971) Formation and activity of phaseollin in the interaction between bean hypocotyls (Phaseolus vulgaris) and physiological races of Colletotrichum lindemuthianum. Physiological Plant Pathology 1: 435–49.
34. Lo, S. C. C., de Verdier, K., and Nicholson, R. L. (1999) Accumulation of 3-deoxyanthocyanidin phytoalexins and resistance to Colletotrichum sublineolum in sorghum. Physiological and Molecular Plant Pathology 55: 263–73.
35. Van der Linde, K. and Doehlemann, G. (2013) Utilizing virus-induced gene silencing for the functional characterisation of maize genes during infection with the fungal pathogen Ustilago maydis. Methods in Molecular Biology 975: 47–60.
36. Ashcroft, F. (2012) The Spark of Life: Electricity in the Human Body. London: Penguin.
37. Du Fall, L. A. and Solomon, P. S. (2011) Role of cereal secondary metabolites involved in mediating the outcome of plant-pathogen interactions. Metabolites 1: 64–78.
38. Ward, H. M. (1902) On the relations between host and parasite in the bromes and their brown rust, Puccinia dispersa (Erikss.). Annals of Botany 16: 233–315.
39. Ward, H. M. (1905) Recent researches on the parasitism of fungi. Annals of Botany 19: 1–54.
40. Stakman, E. C. (1915) Relation between Puccinia graminis and plants highly resistant to its attack. Journal of Agricultural Research 4: 193–9.
41. Hiruma, K., Fukunaga, S., Bednarek, P., Pislewska-Bednarek, M., Watanabe, S., Narusaka, Y., Shirasu, K., and Takano, Y. (2013) Glutathione and tryptophan metabolism are required for Arabidopsis immunity during the hypersensitive response to hemibiotrophs. Proceedings of the National Academy of Sciences of the USA 110: 9587–94.
42. Birker, D., Heidrich, K., Takahara, H., Narusaka, M., Deslandes, L., Narusaka, Y., Reymond, M., Parker, J. E., and O'Connell, R. (2009) A locus conferring resistence to

Colletotrichum higginsianum is shared by four geographically distinct Arabidopsis accessions. The Plant Journal 60: 602–13.
43. Van Doorn, W. G. (2011) Classes of programmed cell death in plants, compared to those in animals. Journal of Experimental Botany 62: 4749–61.
44. Popsáno v: Smith, A. M., Coupland, G., Dolan, L., Harberd, N., Jones, J., Martin, C., Sablowski, R., and Amey, A. (2010) Plant Biology. New York: Garland Science, p. 555.
45. Baulcombe, D. (2015) RNA silencing in plants. The Biochemist 3(2): 10–13.
46. Padmanabhan, C., Zhang, X., and Jin, H. (2009) Current Opinion in Plant Biology 12: 465–72.
47. Katiyar-Agarwal, S., Morgan, R., Dahlbeck, D., Borsani, O., Villegas Jr, A., Zhu, J-K., Staskawicz, B. J., and Jin, H. (2006) A pathogen-inducible endogenous siRNA in plant immunity. Proceedings of the National Academy of Sciences of the USA 103: 18002–7.
48. Li, Y., Zhang, Q. Q., Zhang, J., Wu, L., Qi, Y., and Zhou, J-M. (2010) Identification of microRNAs involved in pathogen-associated molecular pattern-triggered plant innate immunity. Plant Physiology 152: 2222–31.
49. Wang, W., Barnaby, J. Y., Tada, Y., Li, H., Tör, M., Caldelari, D., Lee, D., Fu, X-D., and Dong, X. (2011) Timing of plant immune responses by a central circadian regulator. Nature 470: 110–15.
50. Ingle, R. A., Stoker, C., Stone, W., Adams, N., Smith, R., Grant, M., Carré, I., Roden, L. C., and Denby, K. J. (2015) Jasmonate signalling drives time-of-day differences in susceptibility of Arabidopsis to the fungal pathogen Botrytis cinerea. The Plant Journal 84: 937–48.
51. Hevia, M. A., Canessa, P., Müller-Esparza, H., and Larrondo, L. F. (2015) A circadian oscillator in the fungus Botrytis cinerea regulates virulence when infecting Arabidopsis thaliana. Proceedings of the National Academy of Sciences of the USA 112: 8744–9.
52. Zhang, C., Xie, Q., Anderson, R. G., Ng, G., Seitz, N. C., Peterson, T., McClung, C. R., McDowell, J. M., Kong, D., Kwak, J. M., and Lu, H. (2013) Crosstalk between the circadian clock and innate immunity in Arabidopsis. PLoS Pathogens 9(6): e1003370.
53. Goodspeed, D., Chehab, E. W., Min-Venditti, A., Braam, J., and Covington, M. F. (2012) Arabidopsis synchronizes jasmonate-mediated defense with insect circadian behaviour. Proceedings of the National Academy of Sciences of the USA 109: 4674–7.

6. KAPITOLA

1. Smith, A. M., Coupland, G., Dolan, L., Harberd, N., Jones, J., Martin, C., Sablowski, R., and Amey, A. (2010) Plant Biology. New York: Garland Science.
2. Spribille, T. et al. (2016) Basidiomycete yeasts in the cortex of ascomycete macrolichens. Science DOI: 10.1126/science.aaf8287.

3. Smith, S. E. and Read, D. (2008) Mycorrhizal Symbiosis, 3rd edn. London: Academic Press.
4. Zamioudis, C. and Pieterse, C. M. J. (2012) Modulation of host immunity by beneficial microbes. Molecular Plant-Microbe Interactions 25: 139–50.
5. Plett, J. M., Kemppainen, M., Kale, S. D., Kohler, A., Legué, V., Brun, A., Tyler, B. M., Pardo, A. G., and Martin, F. (2011) A secreted effector protein of Laccaria bicolor is required for symbiosis development. Current Biology 21: 1197–1203.
6. Glomus intraradices is now Rhizophagus irregularis.
7. Kloppholz, S., Kuhn, H., and Requena, N. (2011) A secreted fungal effector of Glomus intraradices promotes symbiotic biotrophy. Current Biology 21: 1204–9.
8. Lopez-Gomez, M., Sandal, N., Stougaard, J., and Boller, T. (2011) Interplay of flg22-induced defence responses and nodulation in Lotus japonicas. Journal of Experimental Botany 63: 393–401.
9. Maunoury, N., Redondo-Nieto, M., Bourcy, M., Van der Velde, W., Alunni, B., Laporte, P., Agier, N., Marisa, L., Vaubert, D., Delacroix, H., Duc, G., Ratet, P., Aggerbeck, L., Kondorosi, E., and Mergaert, P. (2010) Differentiation of symbiotic cells and endosymbionts in Medicago truncatula nodulation are coupled to two transcriptome switches. PLoS One 5: e9519.
10. Liang, Y., Cao, Y., Tanaka, K., Thibivilliers, S., Wan, J., Choi, J., Kang, C. H., and Stacey, G. (2013) Nonlegumes respond to rhizobial nod factors by suppressing the innate immune response. Science 341: 1384–7.
11. Cordier, C., Pozo, M. J., Barea, J. M., Gianinazzi, S., and Gianinazzi-Pearson, V. (1998) Cell defense responses associated with localized and systemic resistance to Phytophthora parasitica induced in tomato by an arbuscular mycorrhizal fungus. Molecular Plant-Microbe Interactions 11: 1017–28.
12. Pozo, M., Cordier, C., Dumas-Gaudot, E., Gianinazzi, S., Barea, J. M., and Azcón-Aguilar, C. (2002) Localized versus systemic effect of arbuscular mycorrhizal fungi on defence responses to Phytophthora infection in tomato plants. Journal of Experimental Botany 53: 525–34.
13. Vos, C., Schouteden, N., van Tuinen, D., Chatagnier, O., Elsen, A., De Waele, D., Panis, B., and Gianinazzi-Pearson, V. (2013) Mycorrhiza-induced resistance against the root-knot nematode Meloidogyne incognita involves priming of defense gene responses in tomato. Soil Biology and Biochemistry 60: 45–54.
14. Gange, A. C. (2001) Species-specific responses of a root- and shoot-feeding insect to arbuscular mycorrhizal colonization of its host plant. New Phytologist 150: 611–18.
15. Akiyama, K., Matsuzaki, K., and Hayashi, H. (2005) Plant sesquiterpenes induce hyphal branching in arbuscular mycorrhizal fungi. Nature 435: 824–7.

16. Cameron, D. D., Neal, A. L., van Wees, S. C. M., and Ton, J. (2013) Mycorrhiza-induced resistance: more than the sum of its parts? Trends in Plant Science 18: 539–45.
17. Beerling, D. (2007) The Emerald Planet: How Plants Changed Earth's History. Oxford: Oxford University Press.
18. Van Peer, R., Niemann, G. J., and Schippers, B. (1991) Induced resistance and phytoalexin accumulation in biological control of Fusarium wilt of carnation by Pseudomonas sp. Strain WCS417r. Phytopathology 81: 728–34.
19. Wei, G., Kloepper, J. W., and Tuzun, S. (1991) Induction of systemic resistance of cucumber to Colletotrichum orbiculare by select strains of plant growth-promoting rhizobacteria. Phytopathology 81: 1508–12.
20. Liu, L., Kloepper, J. W., and Tuzun, S. (1995) Induction of systemic resistance in cucumber against Fusarium wilt by plant growth-promoting rhizobacteria. Phytopathology 85: 695–8.
21. Pieterse, C. M. J., Zamioudis, C., Berendsen, R. L., Weller, D. M., Van Wees, S. C. M., and Bakker, P. A. H. M. (2014) Induced systemic resistance by beneficial microbes. Annual Review of Phytopathology 52: 347–75.
22. Santhanam, R., Luu, V. T., Weinhold, A., Goldberg, J., Oh, Y., and Baldwin, I. T. (2015) Native root-associated bacteria rescue a plant from a sudden-wilt disease that emerged during continuous cropping. Proceedings of the National Academy of Sciences of the USA 112: E5013–E5020.
23. Guerre, P. (2015) Ergot alkaloids produced by endophytic fungi of the genus Epichloë. Toxins 7: 773–90.
24. Schumann, G. L. and D'Arcy, C. J. (2012) Hungry Planet. St. Paul, MN: APS Press.
25. Nicholson, P. (2015) The highs and lows of ergot. Microbiology Today 42 (1 February): 14–17.
26. Bacon, C. W., Porter, J. K., Robbins, J. D., and Luttrell, E. S. (1977) Epichloë typhina from toxic tall fescue grasses. Applied and Environmental Microbiology 34: 576–81.
27. Saikkonen, K., Gundel, P. E., and Helander, M. (2013) Chemical ecology mediated by fungal endophytes in grasses. Journal of Chemical Ecology 39: 962–8.
28. Arnold, A. E., Mejia, L. C., Kyllo, D., Rojas, E. I., Maynard, Z., Robbins, N., and Herre, E. A. (2003) Fungal endophytes limit pathogen damage in a tropical tree. Proceedings of the National Academy of Sciences of the USA 100: 15649–54.
29. Soliman, S. S. M., Greenwood, J. S., Bombarely, A., Mueller, L. A., Tsao, R., Mosser, D. D., and Raizada, M. N. (2015) An endophyte constructs fungicide-containing extracellular barriers for its host plant. Current Biology 25: 2570–6.
30. Ambrose, K. V., Koppenhöfer, A. M., and Belanger, F. C. (2014) Horizontal gene transfer of a bacterial insect toxin gene into the Epichloë fungal symbionts of grasses. Scientific Reports 4: 5562.

31. Van Bael, S. A., Estrada, C., Rehner, S. A., Santos, J. F., and Wcislo, W. T. (2012) Leaf endophyte load influences fungal garden development in leaf-cutting ants. BMC Biology 12: 23.
32. Hammer, T. J. and Van Bael S. A. (2015) An endophyte-rich diet increases ant predation on a specialist herbivorous insect. Ecological Entomology 40: 316–21.
33. Eaton, C. J., Cox, M. P., and Scott, B. (2011) What triggers grass endophytes to switch from mutualism to pathogenism? Plant Science 180: 190–5.
34. Eaton, C. J., Cox, M. P., Ambrose, B., Becker, M., Hesse, U., Schardl, C. L., and Scott, B. (2010) Disruption of signalling in a fungal-grass symbiosis leads to pathogenesis. Plant Physiology 153: 1780–94.
35. Xu, X-H., Su, Z-Z., Wang, C., Kubicek, C. P., Feng, X-X., Mao, L-J., Wang, Y-Y., Chen, C., and Zhang, C-L. (2014) The rice endophyte Harpophora oryzae genome reveals evolution from a pathogen to a mutualistic endophyte. Scientific Reports 4: 5783.
36. Belt, T. (1874) The Naturalist in Nicaragua. London: John Murray.
37. Janzen, D. H. (1967) Interaction of the bull's horn acacia (Acacia cornigera L.) with an ant inhabitant (Pseudomyrmex ferruginea F. Smith) in eastern Mexico. University of Kansas Science Bulletin 47: 315–558.
38. Heil, M. and McKey, D. (2003) Protective ant-plant interactions as model systems in ecological and evolutionary research. Annual Review of Ecology, Evolution and Systematics 34: 425–53.
39. Heil, M., Baumann, B., Andary, C., Linsenmair, K. E., and McKey, D. (2002) Extraction and quantification of 'condensed tannins' as valuable measure of plant anti-herbivore defence? Revisiting an old problem. Naturwissenschaften 89: 519–24.
40. González-Teuber, M., Kaltenpoth, M., and Boland, W. (2014) Mutualistic ants as an indirect defence against leaf pathogens. New Phytologist 202: 640–50.
41. Barnett, A. A., Almeida, T., Andrade, R., Boyle, S., Gonçalves de Lima, M., MacLarnon, A., Ross, C., Silva, W. S., Spironello, W. R., and Ronchi-Teles, B. (2015) Ants in their plants: Pseudomyrmex ants reduce primate, parrot and squirrel predation on Macrolobium acaciifolium (Fabaceae) seeds in Amazonian Brazil. Biological Journal of the Linnean Society 114: 260–73.
42. Heil, M. (2013) Let the best one stay: screening of ant defenders by Acacia host plants functions independently of partner choice of host sanctions. Journal of Ecology 101: 684–8.
43. Heil, M., Barajas-Barron, A., Orona-Tamayo, D., Wielsch, N., and Svatos, A. (2014) Partner manipulation stabilises a horizontally transmitted mutualism. Ecology Letters 17: 185–92.
44. Whitehead, S. R., Reid, E., Sapp, J., Poveda, K., Royer, A. M., Posto, A. L., and Kessler, A. (2014) A specialist herbivore uses chemical camouflage to overcome the defences of an ant-plant mutualism. PLoS One 9(7): e102604.

45. Amador-Vargas, S. (2012) Run, robber, run: parasitic acacia ants use speed and evasion to steal food from ant-defended trees. Physiological Entomology 37: 323–9.
46. Jandér, K. C. (2015) Indirect mutualism: ants protect fig seeds and pollen dispersers from parasites. Ecological Entomology 40: 500–10.
47. Venkateshwaran, M., Volkening, J. D., Sussman, M. R., and Ané, J-M. (2013) Symbiosis and the social network of higher plants. Current Opinion in Plant Biology 16: 118–27.

7. KAPITOLA

1. Labandeira, C. C., Tremblay, S. L., Bartowski, K. E., and Hernick, L. V. (2014) Middle Devonian liverwort herbivory and antiherbivore defence. New Phytologist 202: 247–58.
2. Gulmon, S. L. and Mooney, H. A. (1986) Costs of defence on plant productivity. In: On the Economy of Plant Form and Function, ed. T. J. Givnish, 681–98. Cambridge: Cambridge University Press.
3. Herms, D. A. and Mattson, W. J. (1992) The dilemma of plants: to grow or defend. The Quarterly Review of Biology 67: 283–335.
4. Strauss, S. Y., Rudgers, J. A., Lau, J. A., and Irwin, R. E. (2002) Direct and ecological costs of resistance to herbivory. Trends in Ecology and Evolution 17: 278–85.
5. Strauss, S. Y., Siemens, D. H., Decher, M. B., and Mitchell-Olds, T. (1999) Ecological costs of plant resistance to herbivores in the currency of pollination. Evolution 53: 1105–13.
6. Ballhorn, D. J., Godschalx, A. L., Smart, S. M., Kautz, S., and Schädler, M. (2014) Chemical defense lowers plant competitiveness. Oecologia 176: 811–24.
7. Wallace, S. K. and Eigenbrode, S. D. (2002) Changes in the glucosinolate-myrosinase defense system in Brassica juncea cotyledons during seedling development. Journal of Chemical Ecology 28: 243–56.
8. Zangerl, A. R. and Rutledge, C. E. (1996) The probability of attack and patterns of constitutive and induced defense: a test of optimal defense theory. American Naturalist 147: 599–608.
9. Elton, C. S. (1958) The Ecology of Invasions by Animals and Plants. London: Methuen.
10. Keane, R. M. and Crawley, M. J. (2002) Exotic plant invasions and the enemy release hypothesis. Trends in Ecology and Evolution 17: 164–70.
11. Blossey, B. and Nötzold, R. (1995) Evolution of increased competitive ability in invasive nonindigenous plants: a hypothesis. Journal of Ecology 83: 887–9.
12. Uesugi, A. and Kessler, A. (2013) Herbivore-exclusion drives the evolution of plant competitiveness via increased allelopathy. New Phytologist 198: 916–24.
13. Joshi, J. and Vrieling, K. (2005) The enemy release and EICA hypothesis revisited: incorporating the fundamental difference between specialist and generalist herbivores. Ecology Letters 8: 704–14.

14. Feeny, P. (1976) Plant apparency and chemical defense. In: Recent Advances in Phytochemistry, ed. J. W. Wallace and R. L. Mansell, 1–40. New York: Plenum Press.
15. Castagneyrol, B., Giffard, B., Péré, C., and Jactel, H. (2013) Plant apparency, an overlooked driver of associational resistance to insect herbivory. Journal of Ecology 101: 418–29.
16. Stenberg, J. A., Witzell, J., and Ericson, L. (2006) Tall herb herbivory resistence reflects historic exposure to leaf beetles in a boreal archipelago age-gradient. Oecologia 148: 414–25.
17. Coley, P. D. (1983) Herbivory and defensive characteristics of tree species in a lowland tropical forest. Ecological Monographs 53: 209–33.
18. Bryant, J. P., Chapin, F. S. III., and Klein, D. R. (1983) Carbon nutrient balance of boreal plants in relation to vertebrate herbivory. Oikos 40: 357–68.
19. Coley, P. D., Bryant, J. P., and Chapin, F. S. III. (1985) Resource availability and plant antiherbivore defense. Science 230: 895–9.
20. Stamp, N. (2003) Out of the quagmire of plant defence hypotheses. The Quarterly Review of Biology 78: 23–55.
21. Vannette, R. L. and Hunter, M. D. (2011) Plant defence theory re-examined: nonlinear expectations based on the costs and benefits of resource mutualisms. Journal of Ecology 99: 66–76.
22. Ehrlich, P. R. and Raven, P. H. (1964) Butterflies and plants: a study in coevolution. Evolution 18: 586–608.
23. Farrell, B. D., Dussourd, D. E., and Mitter, C. (1991) Escalation of plant defense: do latex and resin canals spur plant diversification? American Naturalist 138: 881–900.
24. Agrawal, A. A., Fishbein, M., Halitschke, R., Hastings, A. P., Robosky, D. L., and Rasmann, S. (2009) Evidence for adaptive radiation from a phylogenetic study of plant defences. Proceedings of the National Academy of Sciences of the USA 106: 18067–72.
25. Armbruster, W. S. (1997) Exadaptations link evolution of plant-herbivore and plant--pollinator interactions: a phylogenetic enquiry. Ecology 78: 1661–72.
26. Becerra, J. X. (1997) Insects on plants: macroevolutionary chemical trends in host use. Science 276: 253–6.
27. Speed, M. P., Fenton, A., Jones, M. G., Ruxton, G. D., and Brockhurst, M. A. (2015) Coevolution can explain defensive secondary metabolite diversity in plants. New Phytologist 208: 1251–63.
28. Gilman, R. T., Nuismer, S. L., and Jhwueng, D-C. (2012) Coevolution in multidimensional trait space favours escape from parasites and pathogens. Nature 483: 328–30.
29. Rausher, M. D. and Huang, J. (2015) Prolonged adaptive evolution of a defensive gene in the Solanaceae. Molecular Biology and Evolution 33: 143–51.

8. KAPITOLA

1. Schumann, G. L. and D'Arcy, C. J. (2012) Hungry Planet. St. Paul, MN: APS Press.
2. Informace získané z: BBC News'Science and Environment'. Dostupné na: <http://www.bbc.co.uk/news/science-environment-15623490>, ověřeno 19. února 2023.
3. D'Arcy, C. J. (2000) Dutch elm disease. The Plant Health Instructor. doi: 10.1094/PHI-I-2000-0721-02.
4. Parke, J. L. and Lucas, S. (2008) Sudden oak death and ramorum blight. The Plant Health Instructor. doi: 10.1094/PHI-I-2008-0227-01.
5. Havens, J. N. (1992) Observations on the Hessian fly. Society of Agriculture of New York 1: 89–107.
6. Ayres, P. G. (2005) Harry Marshall Ward and the Fungal Thread of Death. St. Paul, MN: APS Press, 140–2.
7. Biffen, R. H. (1907) Studies on the inheritance of disease resistance. Journal of Agricultural Science 2: 109–28.
8. Wallwork, H. (2009) The use of host plant resistance in plant disease control. In: Disease Control in Crops: Biological and Environmentally Friendly Approaches, ed. D. R. Walters, 122–41. Oxford: Wiley-Blackwell.
9. Nowicki, M., Foolad, M. R., Nowakowska, M., and Kozik, E. U. (2012) Potato and tomato late blight caused by Phytophthora infestans: an overview of pathology and resistance breeding. Plant Disease 96: 4–17.
10. Kim, H-J., Lee, H-R., Jo, K-R., Mortazavian, S. M. M., Jan Huigen, D., Evenhuis, B., Kessel, G., Visser, R. G. F., Jacobsen, E., and Vossen, J. H. (2012) Broad spectrum late blight resistance in potato differential set plants MaR8 and MaR9 is conferred by multiple stacked genes. Theoretical and Applied Genetics 124: 923–35.
11. Jorgensen, J. H. (1992) Discovery, characterization and exploitation of Mlo powdery mildew resistance in barley. Euphytica 63: 141–52.
12. Breseghello, F. (2013) Traditional andmodern plant breedingmethods with examples in rice (Oryza sativa L.). Journal of Agricultural and Food Chemistry 61: 8277–86.
13. Christensen, C. M. (1992) Elvin Charles Stakman. Washington, D.C.: National Academy of Sciences.
14. Rispail, N., Dita, M-A., González-Verdejo, C., Perez-de-Luque, A., Castillejo, M-A., Prats, E., Román, B., Jorrín, J., and Rubiales, D. (2007) Plant resistance to parasitic plants: molecular approaches to an old foe. New Phytologist 173: 703–12.
15. Parlevliet, J. E. and Van Ommeren, A. (1975) Partial resistance of barley to leaf rust, Puccinia hordei. II. Relationship between field trials, micro plot test and latent period. Euphytica 24: 293–303.

16. Borlaug, N. E. and Gibler, J. W. (1953) The use of flexible composite wheat varieties to control the constantly changing stem rust pathogen. Abstracts of the Annual Meetings of the American Society of Agronomy. Dallas, TX: 81.
17. Jensen, N. F. (1952) Intra-varietal diversification in oat breeding. Agronomy Journal 44: 30–4.
18. Newton, A. C. (2009) Plant disease control through the use of variety mixtures. In: Disease Control in Crops: Biological and Environmentally Friendly Approaches, ed. D. R. Walters, 162–71. Oxford: Wiley-Blackwell.
19. Walters, D. R., Ratsep, J., and Havis, N. D. (2013) Controlling crop diseases using induced resistance: challenges for the future. Journal of Experimental Botany 64: 1263–80.
20. Watanabe, T., Igarashi, H., Matsumoto, K., Seki, S., Mase, S., Sekizawa, Y. (1977) The characteristics of probenazole (oryzemate) for the control of rice blast. Journal of Pesticide Science 2: 291–6.
21. Iwata, M., Suzuki, Y., Watanabe, T., Mase, S., and Sekizawa, Y. (1980) Effect of probenazole on the activities of enzymes related to the resistant reaction in the rice plant. Annals of the Phytopathological Society of Japan 46: 297–306.
22. Leadbeater, A. and Staub, T. (2014) Exploitation of induced resistance: a commercial perspective. In: Induced Resistance for Plant Defense: A Sustainable Approach to Crop Protection, ed. D. R. Walters, A. C. Newton, and G. D. Lyon, 300–15. Oxford: Wiley-Blackwell.
23. Sergeeva, O. A., Kletke, O., Kragler, A., Poppek, A., Fleischer, W., Schubring, S. R., Görg, B., Haas, H. L., Zhu, X-R., Lübbert, H., Gisselmann, G., and Hatt, H. (2010) Fragrant dioxane derivatives identify β1-subunit-containing GABAA receptors. The Journal of Biological Chemistry 285: 23985–93.
24. Birkett, M. A., Campbell, C. A. M., Chamberlain, K., Guerrieri, E., Hick, A. J., Martin, J. L., Matthes, M., Napier, J. A., Pettersson, J., Pickett, J. A., Poppy, G. M., Pow, E. M., Pye, B. J., Smart, L. E., Wadhams, L. J., and Woodcock, C. M. (2000) New roles for cis-jasmone as an insect semiochemical and in plant defense. Proceedings of the National Academy of Sciences of the USA 97: 9329–34.
25. Pickett, J. A., Birkett, M. A., Bruce, T. J. A., Chamberlain, K., Gordon-Weeks, R., Matthes, M. C., Napier, J. A., Smart, L. E., and Woodcock, C. M. (2007) Developments in aspects of ecological phytochemistry: the role of cis-jasmone in inducible defence systems in plants. Phytochemistry 68: 2937–45.
26. Pickett, J. A., Aradottír, G. I., Birkett, M. A., Bruce, T. J. A., Hooper, A. M., Midega, C. A. O., Jones, H. D., Matthes, M. C., Napier, J. A., Pittchar, J. O., Smart, L. E., Woodcock, C. M., and Khan, Z. R. (2014) Delivering sustainable crop protection systems via the seed:

exploiting natural constitutive and inducible defence pathways. Philosophical Transactions of the Royal Society B 369: 20120281.

27. Tamiru, A., Bruce, T. J. A., Woodcock, C. M., Caulfield, J. C., Midega, C. A. O., Ogol, C. K. P. O., Mayon, P., Birkett, M. A., Pickett, J. A., and Khan, Z. R. (2011) Maize landraces recruit egg and larval parasitoids in response to egg deposition by a herbivore. Ecology Letters 14: 1075–83.
28. Bruce, T. J. A., Midega, C. A. O., Birkett, M. A., Pickett, J. A., and Khan, Z. R. (2010) Is quality more important than quantity? Insect behavioural responses to changes in a volatile blend after stemborer oviposition on an African grass. Biology Letters 6: 314–17.
29. Degenhardt, J., Hiltpold, I., Köllner, T. G., Frey, M., Gierl, A., Gershenzon, J., Hibbard, B. E., Ellersieck, M. R., and Turlings, T. C. J. (2009) Restoring a maize root signal that attracts insect-killing nematodes to control a major pest. Proceedings of the National Academy of Sciences of the USA 106: 13213–18.
30. Pickett, J. A., Woodcock, C. M., Midega, C. A. O., and Khan, Z. R. (2014) Push-pull farming systems. Current Opinion in Biotechnology 26: 125–32.
31. Miller, J. R. and Cowles, R. S. (1990) Stimulo-deterrent diversionary cropping: a concept and its possible application to onion maggot control. Journal of Chemical Ecology 16: 3197–3212.
32. Khan, Z. R., Midega, C. A. O., Bruce, T. J. A., Hooper, A. M., and Pickett, J. A. (2010) Exploiting phytochemicals for developing a 'push-pull' crop protection strategy for cereal farmers in Africa. Journal of Experimental Botany 61: 4185–96.
33. Hilder, V. A., Gatehouse, A. M. R., Sheerman, S. E., Baker, R. F., and Boulter, D. (1987) A novel mechanism of insect resistance engineered into tobacco. Nature 330: 160–3.
34. Jones, J. D. G., Witek, K., Verweij, W., Jupe, F., Cooke, D., Dorling, S., Tomlinson, L., Smoker, M., Perkins, S., and Foster, S. (2014) Elevating crop disease resistance with cloned genes. Philosophical Transactions of the Royal Society B 369: 20130087.
35. Rupe, J. and Sconyers, L. (2008) Soybean rust. The Plant Health Instructor. DOI: 10.1094/PHI-I-2008-0401-01.
36. Kawashima, C. G. and 25 others. (2016) A pigeonpea gene confers resistance to Asian soybean rust in soybean. Nature Biotechnology 34: 661–5.
37. Nunes, C. C. and Dean, R. A. (2012) Host-induced gene silencing: a tool for understanding fungal host interaction and for developing novel disease control strategies. Molecular Plant Pathology 13: 519–29.
38. Aragão, F. J., Nogueira, E. O., Tinoco, M. L., and Faria, J. C. (2013) Molecular characterization of the first commercial transgenic common bean immune to Bean golden mosaic virus. Journal of Biotechnology 166: 42–50.

39. Bonfim, K., Faria, J. C., Nogueira, E. O. P. L., Mendes, E. A., and Aragão, F. J. L. (2007) RNAi-mediated resistance to Bean golden mosaic virus in genetically engineered common bean (Phaseolus vulgaris). Molecular Plant-Microbe Interactions 20: 717–26.
40. Doudna, J. A. and Charpentier, E. (2014) The new frontier of genome engineering with CRISPR-Cas9. Science 346: 1077. DOI: 10.1126/science.1258096.
41. Wang, F., Wang, C., Liu, P., Lei, C., Hao, W., Gao, Y., Liu, Y-G., and Zhao, K. (2016) Enhanced rice blast resistance by CRISPR/Cas9-targeted mutagenesis of the ERF transcription factor gene OsERF922. PLoS One 11(4): e0154027.
42. Ali, Z., Abulfaraj, A., Idris, A., Ali, S., Tashkandi, M., and Mahfouz, M. M. (2015) CRISPR/Cas9-mediated viral interference in plants. Genome Biology 16: 238. DOI: 10.1186/s13059-015-0799-6.