

SCHRIFTENVERZEICHNIS - LIST OF PUBLICATIONS

**FULL PAPERS**

1. BARTH FG (1964) A phasic-tonic proprioceptor in the telson of the crayfish *Procambarus clarki* (Girard). Z vergl Physiol 48: 181-189
2. AUTRUM H, BARTH FG (1966) Einzelzelleitung von einem Spaltsinnesorgan der Spinne *Cupiennius salei* Keys. Naturwissenschaften 53 (16): 412-413
3. BARTH FG (1967) Ein einzelnes Spaltsinnesorgan auf dem Spinnentarsus: seine Erregung in Abhängigkeit von den Parametern des Luftschallreizes. Z vergl Physiol 55: 407-449
4. BARTH FG (1969) Die Feinstruktur des Spinnenintegumentes. I. Die Cuticula des Laufbeines adulter häutungsferner Tiere (*Cupiennius salei* Keys.). Z Zellforsch 97: 137- 159
5. BARTH FG, DEUTSCHLÄNDER N (1969) Zum Bau eines Einzelspaltsinnesorgans auf dem Tarsus der Spinne *Cupiennius salei* Keys. Bull Mus Nat Hist Natur 41 (1): 9-13
6. BARTH FG (1970) Die Feinstruktur des Spinnenintegumentes II. Die räumliche Anordnung der Mikrofasern in der lamellierten Cuticula und ihre Beziehung zur Gestalt der Porenkanäle (*Cupiennius salei* Keys., adult, häutungsfern, Tarsus). Z Zellforsch 104: 87-106
7. BARTH FG, LIBERA W (1970) Ein Atlas der Spaltsinnesorgane von *Cupiennius salei* Keys., Chelicerata (Araneae). Z Morph Tiere 68: 343-369
8. BARTH FG (1971) Gehörorgane der Insekten. Bild der Wissenschaft (Nov. 1971): 1106-1115
9. BARTH FG (1971) Der sensorische Apparat der Spaltsinnesorgane (*Cupiennius salei* Keys., Araneae). Z Zellforsch 112: 212-246
10. BARTH FG, SEYFARTH E-A (1971) Slit sense organs and kinesthetic orientation. Z vergl Physiol 74: 326-328
11. BARTH FG (1972) Die Physiologie der Spaltsinnesorgane. I. Modellversuche zur Rolle des cuticularen Spaltes beim Reiztransport. J Comp Physiol 78: 315-336
12. BARTH FG (1972) Die Physiologie der Spaltsinnesorgane. II. Funktionelle Morphologie eines Mechanoreceptors. J Comp Physiol 81: 159-186
13. SEYFARTH E-A, BARTH FG (1972) Compound slit sense organs on the spider leg: mechanoreceptors involved in kinesthetic orientation. J Comp Physiol 78: 176-191
14. BARTH FG (1973) Laminated composite material in biology. Microfiber reinforcement of an arthropod cuticle. Z Zellforsch 144: 409-433

15. BARTH FG (1973) Bauprinzipien und adäquater Reiz bei einem Mechanoreceptor. Verh Dtsch Zool Ges 1972: 25-30
16. BARTH FG (1973) Song and hearing of insects. Informa 2, Boehringer Ingelheim: 14-20
17. BARTH FG (1973) Canto y oido de los insectos. Informa 74, Boehringer Ingelheim: 14-20
18. OESTERLE D, BARTH FG (1973) Zur Feinstruktur einer elektrischen Synapse. Die Septen der dorsalen Riesenfaser von Regenwürmern (*Lumbricus terrestris*, *Eisenia foetida*). Z Zellforsch 136: 139-152
19. BARTH FG (1975) El esqueleto de los arthropodos: Una materia prime compuesta en el reino animal. Informa 85, Boehringer Ingelheim: 20-27
20. BARTH FG (1975) The skeleton of arthropods: a composite material in the animal kingdom. Informa 42, Boehringer Ingelheim: 21-27
21. BARTH FG, PICKELMANN H-P (1975) Lyriform slit sense organs. Modelling an arthropod mechanoreceptor. J Comp Physiol 103: 39-54
22. BARTH FG, WADEPUHL M (1975) Slit sense organs on the scorpion leg (*Androctonus australis*, *L. Buthidae*). J Morph 145 (2): 209-227
23. BARTH FG (1976) Sensory information from strains in the exoskeleton. In: The insect Integument. H.R.Hepburn (ed.) 445-473. Elsevier Sci. Publ. Co. Amsterdam-Oxford-New York
24. BARTH FG, STAGL J (1976) The slit sense organs of arachnids. A comparative study of their topography on the walking legs. Zoomorphology 86: 1-23
25. RICK R, BARTH FG, von PAWEL A (1976) X-ray microanalysis of receptor lymph in a cuticular arthropod sensillum. J Comp Physiol 110: 89-95
26. BARTH FG (1978) Aussenskelett bei Gliederfüßern Leben im Panzerkleid. Bild der Wissenschaft 15 (9): 32-44
27. BARTH FG (1978) Slit sense organs: "Strain gauges" in the arachnid exoskeleton. Symp zool Soc Lond 1977 42: 439-448
28. BARTH FG, BOHNENBERGER J (1978) Lyriform slit sense organ: threshold and stimulus amplitude ranges in a multi-unit mechanoreceptor. J Comp Physiol 125: 37-43
29. BARTH FG, SEYFARTH E-A (1979) *Cupiennius salei* Keys. (Araneae) in the highlands of central Guatemala. J Arachnol 7: 255-263
30. BLICKHAN R, BARTH FG (1979) Dehnungen und Spannungen im Aussenskelett von Arthropoden. GESA-Symposium, Experimentelle Spannungsanalyse, Braunschweig: 21
31. BARTH FG (1980) Campaniform sensilla: another vibration receptor in the crab leg. Naturwissenschaften 67: 201
32. BARTH FG (1981) Strain detection in the arthropod exoskeleton. In: Sense Organs, Chapter 8; M.S. Laverack, D. Cosens (eds.) 112-141; Blacky, Glasgow
33. BARTH FG (1981) Spiders and vibratory signals: Sensory reception and behavioral significance. In: Spider Communication. Mechanisms and ecological significance. Chapter 3; P.Witt, J.S.Rovner (eds.) 67-122; Princeton University Press, Princeton, NY

34. OESTERLE D, BARTH FG (1981) Dorsal giant fibre septum of earthworm. Fine structural details and further evidence for gap junctions. *Tissue and Cell* 13 (1): 9-18
35. ROVNER JS, BARTH FG (1981) Vibratory communication through living plants by a tropical wandering spider. *Science* 214: 464-466
36. BARTH FG (1982) Wie Insekten und Pflanzen Geschäfte machen. *Bild der Wissenschaft* 19 (3): 56-64
37. BARTH FG (1982) Vibratory communication in a spider. *Joint Symp Neurobiology and Strategies of Adaptation*. F.G.Barth (ed.) 1-9; Universitätsdruck, Frankfurt
38. BARTH FG, GEETHABALI (1982) Spider vibration receptors. Threshold curves of individual slits in the metatarsal lyriform organ. *J Comp Physiol* 148: 175-185
39. BLICKHAN R, BARTH FG, FICKER E (1982) Biomechanics in a sensory system. Strain detection in the exoskeleton of arthropods. *Vllth Internat Conf on Experimental Stress Analysis, Haifa*: 223-233
40. KLÄRNER D, BARTH FG (1982) Vibratory signals and prey capture in orb-weaving spiders (*Zygiella x-notata*, *Nephila clavipes*; Araneidae). *J Comp Physiol* 148: 445-455
41. SEYFARTH E-A, HERGENRÖDER R, EBBES H, BARTH FG (1982) Idiothetic orientation of a wandering spider: compensation of detours and estimates of goal distance. *Behav Ecol Sociobiol* 11: 139-148
42. SPECK J, BARTH FG (1982) Vibration sensitivity of pretarsal slit sensilla in the spider leg. *J Comp Physiol* 148: 187-194
43. BARTH FG (1983) A review of crustacean cuticular mechanoreceptors (abstr.). *Symp Recent Adv in Pure and Applied Marine Biol Livorno*
44. BARTH FG (1983) Biomechanik im Spinnenskelett. *Dehnungsmessungen in der Biologie. Umschau* 83: 363-364
45. BOHNENBERGER J, SEYFARTH E-A, BARTH FG (1983) A versatile feedback controller for electro-mechanical stimulation devices. *J Neurosci Methods* 9: 335-341
46. HERGENRÖDER R, BARTH FG (1983a) The release of attack and escape behavior by vibratory stimuli in a wandering spider (*Cupiennius salei* Keys.). *J Comp Physiol A* 152: 347-358
47. HERGENRÖDER R, BARTH FG (1983b) Vibratory signals and spider behavior: How do the sensory inputs from the eight legs interact in orientation? *J Comp Physiol A* 152: 361-371
48. BABU KS, BARTH FG (1984) Neuroanatomy of the central nervous system of a wandering spider, *Cupiennius salei* (Arachnida, Araneida). *Zoomorphology* 104: 344-359
49. BARTH FG, BLICKHAN R (1984) Mechanoreception. In: Bereiter-Hahn J, Matoltsy AG, Richards R (eds.) *Biology of the Integument*. Springer, Berlin, pp. 554-582
50. BARTH FG, FICKER E, FEDERLE H-U (1984) Model studies on the mechanical significance of grouping in compound spider slit sensilla. *Zoomorphology* 104: 204-215
51. BLECKMANN H, BARTH FG (1984) Sensory ecology of a semiaquatic spider (*Dolomedes triton*). II. The release of predatory behavior by water surface waves. *Behav Ecol Sociobiol* 14: 303-312

52. BABU KS, BARTH FG, STRAUSFELD NJ (1985) Intersegmental sensory tracts and contralateral motor neurons in the leg ganglia of the spider *Cupiennius salei* KEYS. Cell Tissue Res 241: 53-57
53. BARTH FG (1985a) Neuroethology of the spider vibration sense. In: Barth FG (ed.) Neurobiology of Arachnids. Springer-Verlag, Berlin-Heidelberg-New York-Tokyo, pp. 203-229
54. BARTH FG (1985b) Slit sensilla and the measurement of cuticular strains. In: Barth FG (ed.) Neurobiology of Arachnids. Springer-Verlag, Berlin-Heidelberg-New York-Tokyo, pp. 162-188
55. BLICKHAN R, BARTH FG (1985) Strains in the exoskeleton of spiders. J Comp Physiol A 157: 115-147
56. LACHMUTH U, GRASSHOFF M, BARTH FG (1984) Taxonomische Revision der Gattung *Cupiennius* SIMON 1891 (Arachnida - Araneae - Ctenidae). Senckenbergiana biol 65 (3/6): 329-372
57. SCHÜCH W, BARTH FG (1985) Temporal patterns in the vibratory courtship signals of the wandering spider *Cupiennius salei* KEYS. Behav Ecol Sociobiol 16: 263-271
58. BARTH FG (1986a) Zur Organisation sensorischer Systeme: die cuticularen Mechanorezeptoren der Arthropoden. Verh Dtsch Zool Ges 79: 69-90
59. BARTH FG (1986b) Vibrationssinn und vibratorische Umwelt von Spinnen. Naturwissenschaften 73 (9): 519-530
60. KLÄRNER D, BARTH FG (1986) The cuticular stress detector (CSD2) of the crayfish. I. Physiological properties. J Exp Biol 122: 149-159
61. SPECK-HERGENRÖDER J, BARTH FG (1987) Tuning of vibration sensitive neurons in the central nervous system of a wandering spider, *Cupiennius salei* Keys. J Comp Physiol A 160: 467-475
62. SPECK-HERGENRÖDER J, BARTH FG (1988) Vibration sensitive hairs on the spider leg. Experientia 44 (1): 13-14
63. BARTH FG, SEYFARTH E-A, BLECKMANN H, SCHÜCH W (1988) Spiders of the genus *Cupiennius* SIMON 1891 (Araneae, Ctenidae). I. Range distribution, dwelling plants, and climatic characteristics of the habitats. Oecologia 77: 187-193
64. BARTH FG, BLECKMANN H, BOHNENBERGER J, SEYFARTH E-A (1988) Spiders of the genus *Cupiennius* SIMON 1891 (Araneae, Ctenidae). II. On the vibratory environment of a wandering spider. Oecologia 77: 194-201
65. BARTH FG (1989) Vom Sinn der Sinne. Sinnesorgane zwischen Umwelt und Verhalten. Sitzungsber wiss Ges Univ Frankfurt, XXV/I, Steiner Verlag, Wiesbaden, pp 1-38
66. BARTH FG (1989) Vibrations and spider behavior. Proc XI Europ Arachnol Coll Berlin. TUB Dokumentation, Berlin, Heft 38:10-21
67. BABU KS, BARTH FG (1989) Central nervous projections of mechanoreceptors in the spider *Cupiennius salei* KEYS. Cell Tissue Res 258: 69-82
68. BARTH FG (1990) Spider courtship: male vibrations, female responsiveness and reproductive isolation. In: Gribakin FG, Wiese K, Popov AV (eds) Sensory Systems and Communication in Arthropods. Birkhäuser, Basel-Boston-Berlin, pp 161-166

69. SCHÜCH W, BARTH FG (1990) Vibratory communication in a spider: female responses to synthetic male vibrations. *J Comp Physiol A* 166: 817-826
70. SCHMITT A, SCHUSTER M, BARTH FG (1990) Daily locomotor activity patterns in three species of *Cupiennius* (Araneae: Ctenidae): The males are the wandering spiders. *J Arachnol* 18,3: 249-255
71. BARTH FG, SCHMITT A (1991) Species recognition and species isolation in wandering spiders (*Cupiennius* spp., Ctenidae). *Behav Ecol Sociobiol* 29: 333-339
72. BARNES WJP, BARTH FG (1991) Sensory control of locomotor mode in semi-aquatic spiders. In: Armstrong DM, Bush BMH (eds) *Locomotor Neural Mechanisms in Arthropods and Vertebrates*. Manchester Univ Press, Manchester, chap 10, pp 105-116
73. WELTZIEN P, BARTH FG (1991) Volumetric measurements demonstrate no argument for special role of the spider brain "central body" in web building. *J Morph* 208: 91-98
74. BARTH FG, KOMAREK S, HUMPHREY JAC, TREIDLER B (1991) Drop and swing dispersal behavior of a tropical wandering spider (*Cupiennius getazi*, Ctenidae): experimental measurements and numerical modeling. *J Comp Physiol A* 169: 313-322
75. BARTH FG (1992) "Technische" Perfektion in der belebten Natur. *Sitzber Wiss Ges a.d. J.W. Goethe-Universität Frankfurt a.M.* 28: 5-35, F Steiner Stuttgart
76. BAURECHT D, BARTH FG (1992) Vibratory communication in spiders. I. Representation of male courtship signals by female vibration receptor. *J Comp Physiol A* 171: 231-243
77. LAND MF, BARTH FG (1992) The quality of vision in the ctenid spider *Cupiennius salei*. *J Exp Biol* 164, 227-242
78. TICHY H, BARTH FG (1992) Fine structure of olfactory sensilla in myriapods and arachnids. *Micr Res Tech* 22, 4: 372-391
79. WIRTH E, BARTH FG (1992) Forces in the spider orb web. *J Comp Physiol A* 171: 359-371
80. SCHMITT A, SCHUSTER M, BARTH FG (1992) Male competition in a wandering spider (*Cupiennius getazi*, Ctenidae). *Ethology* 90: 293-306
81. BARTH FG (1993) Sensory guidance in spider pre-copulatory behavior. *Comp Biochem Physiol* 104A: 717-733
82. ANTON S, BARTH FG (1993) Central nervous projection patterns of trichobothria and other cuticular sensilla in the wandering spider *Cupiennius salei* (Arachnida, Araneae). *Zoomorphology* 113: 21-32
83. STRAUSFELD NJ, BARTH FG (1993) Two visual systems in one brain: neuropils serving the secondary eyes of the spider *Cupiennius salei*. *J Comp Neurol* 328: 43-62
84. STRAUSFELD NJ, WELTZIEN P, BARTH FG (1993) Two visual systems in one brain: neuropils serving the principal eyes of the spider *Cupiennius salei*. *J Comp Neurol* 328: 63-75
85. SCHMITT A, FRIEDEL T, BARTH FG (1993) Importance of pause between spider courtship vibrations and general problems using synthetic stimuli in behavioral studies. *J Comp Physiol A* 172: 707-714
86. BARTH FG, NAKAGAWA T, EGUCHI E (1993) Vision in the ctenid spider *Cupiennius salei*: spectral range and absolute sensitivity (ERG). *J Exp Biol* 181, 63-79

87. GORB S, ANTON S, BARTH FG (1993) Central projections of cheliceral mechanoreceptors in the spider *Cupiennius salei* (Arachnida, Araneae). *J Morph* 217: 129-136
88. BARTH FG, WASTL U, HUMPHREY JAC, DEVARAKONDA R (1993) Dynamics of arthropod filiform hairs. II. Mechanical properties of spider trichobothria (*Cupiennius salei* KEYS.). *Phil Trans R Soc Lond B* 340: 445-461
89. HUMPHREY JAC, DEVARAKONDA R, IGLESIAS J, BARTH FG (1993) Dynamics of arthropod filiform hairs. I. Mathematical modelling of the hair and air motions. *Phil Trans R Soc Lond B* 340: 423-444
90. HUBER KC, HAIDER THS, MÜLLER MW, HUBER BA, SCHWEYEN RJ, BARTH FG (1993) DNA-sequence data indicates the polyphyly of the family Ctenidae (Araneae). *J Arachnol* 21: 194-201
91. BAURECHT D, BARTH FG (1993) Vibratory communication in spiders. II. Representation of parameters contained in synthetic male courtship signals by female vibration receptor. *J Comp Physiol A* 173: 309-319
92. BARTH FG (1994) Courtship and Vibratory Communication in the Spider *Cupiennius salei* Keys. (Ctenidae). Begleitveröffentlichung zum wissenschaftlichen Film C 2318 des Österr. Bundesinstituts für den Wiss. Film Nr. 45/46, 71-76
93. SCHUSTER M, BAURECHT D, MITTER E, SCHMITT A, BARTH FG (1994) Field observations on the population structure of three ctenid spiders (*Cupiennius specc.*, Araneae). *J Arachnol* 22: 32-38
94. SCHMITT A, SCHUSTER M, BARTH FG (1994) Vibratory communication in a wandering spider (*Cupiennius getazi*, Ctenidae): Female and male preferences for various features of the conspecific male's releaser. *Anim Beh* 48: 1155-1171
95. GORB S, BARTH FG (1994) Locomotor behavior during prey-capture of a fishing spider *Dolomedes plantarius* (Araneae: Araneide): galloping and stopping. *J Arachnol* 22, 89-93
96. DIERKES ST, BARTH FG (1995) Mechanism of signal production in the vibratory communication of the wandering spider *Cupiennius getazi* (Arachnida, Araneae). *J Comp Physiol A* 176, 31-44
97. BARTH FG, HUMPHREY JAC, WASTL U, HALBRITTER J, BRITTINGER W (1995) Dynamics of arthropod filiform hairs. III. Flow patterns related to air movement detection in a spider (*Cupiennius salei* KEYS.). *Phil Trans R Soc Lond B* 347, 397-412
98. FRIEDEL T, BARTH FG (1995) Responses of female interneurons to male courtship vibrations in a spider (*Cupiennius salei* Keys., Ctenidae). *J Comp Physiol A* 177: 159-171
99. DEVARAKONDA R, BARTH FG, HUMPHREY JAC (1996) Dynamics of arthropod filliform hairs. IV. Hair motion in air and water. *Phil Trans R Soc Lond B* 351: 933-946
100. LANDOLFA MA, BARTH FG (1996) Vibrations in the orb web of the spider *Nephila clavipes*. Cues for discrimination and orientation. *J Comp Physiol A* 179: 493-508
101. GORB SN, BARTH FG (1996) A new mechanosensory organ on the anterior spinnerets of the spider *Cupiennius salei* (Araneae, Ctenidae). *Zoomorphology* 116: 7-14
102. SHIMIZU I, BARTH FG (1996) The effect of temperature on the temporal structure of the vibratory courtship signal of a spider (*Cupiennius salei* Keys.). *J Comp Physiol A* 179: 363-370

103. WALLA P, BARTH FG, EGUCHI E (1996) Spectral sensitivity of single photoreceptor cells in the eyes of the ctenid spider *Cupiennius salei* Keys. Zoological Science 13: 199-202
104. FRIEDEL T, BARTH FG (1997) Wind-sensitive interneurons in the spider CNS (*Cupiennius salei*): Directional information processing of sensory inputs from trichobothria on the walking legs. J Comp Physiol A 180: 223-233
105. GRUSCH M, BARTH FG, EGUCHI E (1997) Fine structural correlates of sensitivity in the eyes of the ctenid spider *Cupiennius salei* Keys. Tissue & Cell 29(4): 421-430
106. BARTH FG (1997) Vibratory communication in spiders: Adaptation and compromise at many levels. In: M Lehrer (ed) Orientation and Communication in Arthropods. Birkhäuser, pp 247-272
107. BARTH FG (1998) The vibrational sense of spiders. In: Fay et al (eds) Springer Handbook of Auditory Research. Comparative Hearing: Insects. Springer, New York, pp 228-278
108. BARTH F, CORDES D (1998) *Cupiennius remediatus* Araneae, Ctenidae), a new species in Central America, and a key for the genus *Cupiennius* . J Arachnol 26: 133-141
109. GORB S, LANDOLFA M, BARTH FG (1998) Dragline-associated behavior of the orb web spider *Nephila clavipes* (Araneoidea, Tetragnathidae). J Zool Lond, 244: 323-330
110. ENDL W, WALLA P, LINDINGER G, LALOUSCHEK W, BARTH FG, DEECKE L, LANG W (1998) Early cortical activation indicates preparation for retrieval of memory for faces: an event-related potential study. Neuroscience Letters 240: 58-60
111. BARTH FG, HÖLLER A (1999) Dynamics of arthropod filiform hairs. V. The response of spider trichobothria to natural stimuli. Phil Trans R Soc Lond B, 354: 183-192
112. BARTH FG (2000) How to catch the wind: spider hairs specialized for sensing the movement of air. Naturwissenschaften 87(2): 51-58
113. JARAU S, HRNCIR M, ZUCCHI R, BARTH FG (2000) Recruitment behavior in stingless bees, *Melipona scutellaris* and *M. quadrifasciata*, I. Foraging at food sources differing in distance and direction. Apidologie 31: 81-91
114. HRNCIR M, JARAU S, ZUCCHI R, BARTH FG (2000) Recruitment behavior in stingless bees, *Melipona scutellaris* and *M. quadrifasciata*. II. Possible mechanisms of communication. Apidologie 31: 93-113
115. DECHANT H-E, BARTH FG, RAMMERSTORFER FG (2000) Mechanics of a tactile hair. In: Mechanics of Plants, Animals and their Environments, Sensors and Sensing in the Natural and Fabricated Worlds. United Engineering Foundation, 4 p
116. HUMPHREY JAC, BARTH FG, VOSS K (2001) The motion-sensing hairs of arthropods: using physics to understand sensory ecology and adaptive evolution. In: Barth FG, Schmid A (eds) The Ecology of Sensing. Springer, Berlin Heidelberg New York , pp 105-125
117. ALBERT JT, FRIEDRICH OC, DECHANT H-E, BARTH FG (2001) Arthropod touch reception: spider hair sensilla as rapid touch detectors. J Comp Physiol A 187: 303-312
118. DECHANT H-E, RAMMERSTORFER FG, BARTH FG (2001) Arthropod touch reception: stimulus transformation and finite element model of spider tactile hairs. J Comp Physiol A 187: 313-322

119. DECHANT H-E, RAMMERSTORFER FG, BARTH FG (2001) Arthropod touch reception: stimulus transformation and finite element model of spider tactile hairs. *J Comp Physiol A* 187: 851
120. BARTH FG (2002) Spider Senses – technical perfection and biology. Karl von Frisch-Lecture. *Zoology* 105: 271-285
121. HUMPHREY JAC, BARTH FG, REED M, SPAK A (2003) The Physics of Arthropod Medium-Flow Sensitive Hairs: Biological Models for Artificial Sensors. In: Barth FG, Humphrey JAC, Secomb TW (eds) *Sensors and Sensing in Biology and Engineering*. Springer-Verlag, Wien-New York, pp 129-144
122. BARTH FG, DECHANT H-E (2003) Arthropod cuticular hairs: tactile sensors and the refinement of stimulus transformation. In: Barth FG, Humphrey JAC, Secomb TW (eds) *Sensors and Sensing in Biology and Engineering*. Springer-Verlag, Wien-New York, pp 159-171
123. BARTH FG (2003) Sensors and sensing: a biologist's view. In: Barth FG, Humphrey JAC, Secomb TW (eds) *Sensors and Sensing in Biology and Engineering*. Springer-Verlag, Wien New York, pp 3-15
124. SCHMIDT VM, ZUCCHI R, BARTH FG (2003) A stingless bee marks the feeding site in addition to the scent path (*Scaptotrigona aff. depilis* MOURE 1942). *Apidologie* 34: 237-248
125. HRNCIR M, JARAU S, ZUCCHI R, BARTH FG (2003) A stingless bee (*Melipona seminigra*) uses optic flow to estimate flight distances. *J Comp Physiol A* 189: 761-768
126. JARAU S, HRNCIR M, SCHMIDT VM, ZUCCHI R, BARTH FG (2003) Effectiveness of recruitment behavior in stingless bees (Apidae, Meliponini). *Insectes soc* 20: 365-374
127. HRNCIR M, JARAU S, ZUCCHI R, BARTH FG (2004a) On the origin and properties of scent marks deposited at the food source by a stingless bee, *Melipona seminigra*. *Apidologie* 35: 3-13
128. JARAU S, HRNCIR M, AYASSE M, SCHULZ C, FRANCKE W, ZUCCHI R, BARTH FG (2004) A stingless bee marks food sources with a pheromone from its claw retractor tendons. *J Chem Ecol* 30.4: 793-804
129. JARAU S, HRNCIR M, ZUCCHI R, BARTH FG (2004) A stingless bee uses labial gland secretions for scent trail communication (*Trigona recursa* Smith 1863). *J Comp Physiol A* 190: 233-239
130. BARTH FG (2004) Spinnen-Sinne. In: *Diversität und Biologie von Webspinnen, Skorpionen und anderen Spinnentieren*. *Denisia* 12: 63-92
131. BARTH FG, NÉMETH SS, FRIEDRICH OC (2004) Arthropod touch reception: structure and mechanics of the basal part of a spider tactile hair. *J Comp Physiol A* 190: 523-530
132. HRNCIR M, JARAU S, ZUCCHI R, BARTH FG (2004b) Thorax vibrations of a stingless bee (*Melipona seminigra*). I: No influence of visual flow. *J Comp Physiol A* 190: 539-548
133. HRNCIR M, JARAU S, ZUCCHI R, BARTH FG (2004c) Thorax vibrations of a stingless bee (*Melipona seminigra*). II. Dependence on sugar concentration. *J Comp Physiol A* 190: 549-560
134. BARTH FG (2004) Spider mechanoreceptors. *Current Opinion in Neurobiology* 14: 415-422
135. JARAU S, HRNCIR M, ZUCCHI R, BARTH FG (2005) Morphology and structure of the tarsal glands of the stingless bee *Melipona seminigra* FRIESE 1903. *Naturwiss* 92: 147-150



136. SCHMIDT VM, ZUCCHI R, BARTH FG (2005) Scent marks left by *Nannotrigona testaceicornis* at the feeding site: cues rather than signals. *Apidologie* 36: 285-291
137. BATHELLIER B, BARTH FG, ALBERT JT, HUMPHREY JAC (2005) Viscosity-mediated motion coupling between pairs of trichobothria on the leg of the spider *Cupiennius salei*. *J Comp Physiol A* 191: 733-746
138. HRNCIR M, BARTH FG, TAUTZ J (2006) Vibratory and airborne-sound signals in bee communication (Hymenoptera). In: S Drosopoulous, MF Claridge, (eds) *Insect Sounds and Communication*. CRC-Press: 421-436
139. GINGL E, BURGER A-M, BARTH FG (2006) Intracellular recording from a spider vibration receptor. *J Comp Physiol A* 192: 551-558
140. SCHMIDT VM, ZUCCHI R, BARTH FG (2006) Recruitment in a scent trail laying stingless bee (*Scaptotrigona* aff. *depilis*): Changes with reduction but not with increase of the energy gain. *Apidologie* 37: 487-500
141. JARAU S, SCHULZ C, HRNCIR M, FRANCKE W, ZUCCHI R, BARTH FG, AYASSE M (2006) Hexyl decanoate, the first trail pheromone compound identified in a stingless bee, *Trigona recursa*. *J Chem Ecol* 32: 1555-1564
142. HÖBL B, BÖHM HJ, RAMMERSTORFER FG, MÜLLAN R, BARTH FG (2006) Studying the deformation of arachnid slit sensilla by a fracture mechanical approach. *J Biomechanics* 39: 1761-1768
143. HRNCIR M, SCHMIDT VM, SCHORKOPF DLP, JARAU S, ZUCCHI R, BARTH FG (2006) Vibrating the food receivers: a direct way of signal transmission in stingless bees (*Melipona seminigra*). *J Comp Physiol A* 192: 879-887
144. SCHMIDT VM, SCHORKOPF DLP, HRNCIR M, ZUCCHI R, BARTH FG (2006) Collective foraging in a stingless bee: dependence on food profitability and sequence of discovery. *Anim Behav* 72: 1309-1317
145. DECHANT H-E, HÖBL B, RAMMERSTORFER FG, BARTH FG (2006) Arthropod mechanoreceptive hairs: modeling the directionality of the joint. *J Comp Physiol A* 192: 1271-1278
146. SCHORKOPF DLP, JARAU S, FRANCKE W, TWELE R, ZUCCHI R, HRNCIR M, SCHMIDT VM, AYASSE M, BARTH FG (2007) Spitting out information: *Trigona* bees deposit saliva to signal resource locations. *Proc R Soc B* 274: 895-898
147. SCHMIDT VM, ZUCCHI R, BARTH FG (2007) Futterqualität und Rekrutierungsverhalten bei einer stachellosen Biene, die einen Duftpfad legt (*Scaptotrigona* aff. *depilis*). *Mitt Dtsch Ges Allg Angew Ent* 16: 205-208
148. HÖBL B, BÖHM HJ, RAMMERSTORFER FG, BARTH FG (2007) Finite element modeling of arachnid slit sensilla – I. The mechanical significance of different slit arrays: *J Comp Physiol A* 193: 445-459
- 148a. HÖBL B, BÖHM HJ, RAMMERSTORFER FG, BARTH FG (2007) (Erratum) Finite element modeling of arachnid slit sensilla – I. The mechanical significance of different slit arrays: *J Comp Physiol A* 193: 575

149. McCONNERY ME, SCHABER CF, JULIAN MD, BARTH FG, TSUKRUK VV (2007) Viscoelastic nanoscale properties of cuticle contribute to high-pass properties of spider vibration receptor (*Cupiennius salei* Keys.) J R Soc Interface 4: 1135-1143
150. PIRHOFER-WALZL K, WARRANT E, BARTH FG (2007) Adaptations for vision in dim light: impulse responses and bumps in nocturnal spider photoreceptor cells (*Cupiennius salei* Keys.). J Comp Physiol A 193: 1081-1087
151. KLOPSCH C, BARTH FG, HUMPHREY JAC (2007) The air flow generated by a flying prey insect around a wandering spider and its motion-sensing hair sensilla. Proceedings of the 5<sup>th</sup> International Symposium on Turbulence and Shear Flow Phenomena, Vol. 3, TU Munich, August 27-29, 2007, pp 1023-1028
152. HUMPHREY JAC, BARTH FG (2008) Medium flow-sensing hairs: biomechanics and models. In: Casas J, Simpson SJ (eds) Advances in Insect Physiology. Insect Mechanics and Control, Vol. 34, Elsevier Ltd, pp 1-80
153. HRNCIR M, GRAVEL A-I, SCHORKOPF DLP, SCHMIDT VM, ZUCCHI R, BARTH FG (2008) Thoracic vibrations in stingless bees (*Melipona seminigra*): resonances of the thorax influence vibrations associated with flight but not those associated with sound production. J Exp Biol 211: 678-685
154. HRNCIR M, SCHORKOPF DLP, SCHMIDT VM, ZUCCHI R, BARTH FG (2008) The sound field generated by tethered stingless bees (*Melipona scutellaris*): inferences on its potential as a recruitment mechanism inside the hive. J Exp Biol 211: 686-698
155. BARTH FG, HRNCIR M, JARAU S (2008) Signals and cues in the recruitment behavior of stingless bees (Meliponini) J Comp Physiol A 194: 313-327
156. SCHMIDT VM, HRNCIR M, SCHORKOPF DL, MATEUS S, ZUCCHI R, BARTH FG (2008) Food profitability affects intranidal recruitment behaviour in the stingless bee *Nannotrigona testaceicornis*. Apidologie 39: 260-272
157. RAMMERSTORFER FG, HÖßL B, DECHANT HE, BÖHM HJ, BARTH FG (2008) Computational biomechanics of sense organs in spiders. In: Topping BHV, Papadrakakis M (eds) Trends in Engineering Computational Technology. Saxe-Coburg Publ, pp 321-334
158. JARAU S, BARTH FG (2008) Stingless bees of the Golfo Dulce region, Costa Rica (Hymenoptera, Apidae, Apinae, Meliponini). In: Weissenhofer et al (eds) Natural and cultural history of the Golfo Dulce region. Stapfia 88, zugleich Kataloge der oberösterreichischen Landesmuseen, Neue Serie 80, pp 267-276
159. BARTH FG (2008) *Cupiennius* (Araneae, Ctenidae): Biology and Sensory Ecology of a Model Spider. In: Weissenhofer et al (eds) Natural and cultural history of the Golfo Dulce region. Stapfia 88, zugleich Kataloge der oberösterreichischen Landesmuseen, Neue Serie 80, pp 211-224
160. BARTH FG, CORDES D (2008) Key to the genus *Cupiennius* (Araneae, Ctenidae). In: Weissenhofer et al (eds) Natural and cultural history of the Golfo Dulce region. Stapfia 88, zugleich Kataloge der oberösterreichischen Landesmuseen, Neue Serie 80, pp 225-228
161. SCHORKOPF DL, HRNCIR M, MATEUS S, ZUCCHI R, SCHMIDT VM, BARTH FG (2009) Mandibular gland secretions of meliponine worker bees: further evidence for their role in inter- and intraspecific defence and aggression and against their role in food source signalling. J Exp Biol 212: 1153-1162

162. McCONNAY ME, SCHABER CF, JULIAN MD, EBERHARDT WC, HUMPHREY JAC, BARTH FG, TSUKRUK VV (2009) Surface force spectroscopic point load measurements and viscoelastic modelling of the micromechanical properties of air flow sensitive hairs of a spider (*Cupiennius salei*). J R Soc Interface 6: 681-694
163. HÖBL B, BÖHM HJ, SCHABER, CF, RAMMERSTORFER FG, BARTH FG (2009) Finite element modeling of arachnid slit sensilla: II. Actual lyriform organs and the face deformations of the individual slits. J Comp Physiol A 195: 881-894
164. MOLINA J, SCHABER CF, BARTH FG (2009) In search of differences between the two types of sensory cells innervating spider slit sensilla (*Cupiennius salei* Keys.) J Comp Physiol A 195: 1031-1041
165. FRATZL P, BARTH FG (2009) Biomaterial systems for mechanosensing and actuation. Nature 462: 442-448
166. BATHELLIER B, BARTH FG, ALBERT JT, HUMPHREY JAC (2010) Erratum to: Viscosity-mediated motion coupling between pairs of trichobothria on the leg of the spider *Cupiennius salei*. J Comp Physiol A 196: 89
167. CONRAD T, PAXTON RJ, BARTH FG, FRANCKE W, AYASSE M (2010) Female choice in the red mason bee, *Osmia rufa* (L.) (Megachilidae). J Exp Biol 213, 4065-4073
168. SCHORKOPF DLP, MORAWETZ L, BENTO MS, ZUCCHI R, BARTH FG (2011) Pheromone paths attached to the substrate in meliponine bees: helpful but not obligatory for recruitment success. J Comp Physiol A 197: 755-764
169. BARTH FG (2012) Spider strain detection. In: Barth FG, Humphrey JAC, Srinivasan MV (eds) Frontiers in sensing: from biology to engineering. Springer, Wien - New York, pp 251-273
170. BARTH FG (2012) Sensory perception: adaptation to life style and habitat. In: Barth FG, Giampieri-Deutsch P, Klein H-D (eds) Sensory perception: mind and matter. Springer, Wien - New York, 89-107
171. SCHABER CF, GORB SN, BARTH FG (2012) Force transformation in spider strain sensors: white light interferometry. J R Soc Interface 9, 1254-1264, doi 10.1098/rsif.2011.0565
172. BATHELLIER B, STEINMANN T, BARTH FG, CASAS J (2012) Air motion sensing hairs of arthropods detect high frequencies at near-maximal mechanical efficiency. J R Soc Interface 9, 1131-1143, doi 10.1098/rsif.2011.0690
173. POLITI Y, PRIEWASSER M, PIPPEL E, ZALANSKY P, HARTMANN J, SIEGEL S, LI C, BARTH FG, FRATZL P (2012) A spider's fang. How to design an injection needle using chitin-based composite material. Adv Funct Mater 22, 2519-2528, doi: 10.1002/adfm.201200063
174. BARTH FG (2012) Learning from animal sensors: The clever "design" of spider mechanoreceptors. In: Lakhtakia A, Martin-Palma RJ (eds) Bioinspiration, Biomimetics, and Bioreplication 2012. Proc of SPIE Vol. 8339, 833904, doi: 10.1117/12.902456
175. KLOPSCH C, KUHLMANN HC, BARTH FG (2012) Airflow elicits a spider's jump towards airborne prey. I. Airflow around a flying blowfly. J R Soc Interface 9, 2591-2602, doi 10.1098/rsif.2012.0186
176. BARTH FG (2012) Arthropod strain sensors. In: Bhushan Bharat (ed) Encyclopedia of Nanotechnology. DOI 10.1007/978-90-481-9751-4Springer, New York, pp 127-136

177. KLOPSCH C, KUHLMANN HC, BARTH FG (2013) Airflow elicits a spider's jump towards airborne prey. II. Flow characteristics guiding behaviour. *J Roy Soc Interface* 10: <http://rsif.doi2012.0820m>
178. BARTH FG (2013) Comparative neuroscience. In: Azari NP, Runehov ALC, Oviedo L (eds) *Encyclopedia of Sciences and Religions*. Springer, Heidelberg, pp 431-435
179. BARTH FG (2014) The slightest whiff of air: Airflow sensing in arthropods. In: H Bleckmann, J Mogdans, LS Coombs (eds) *Flow sensing in air and water- behavioural, neural and engineering principles of operation*. Chapter 7, Springer Berlin Heidelberg, DOI: 10.1007/978-3-642-41446-6\_7, pp 169-196
180. BARTH FG (2014) Sinneswelten im Spiegel von Verhalten und Lebensraum – zugleich ein Plädoyer für die organismische Biologie. *Leopoldina Lecture, Leopoldina Jahrbuch* 2013: 389-396
181. BAR-ON B, BARTH FG, FRATZL P, POLITI Y (2014) Multiscale structural gradients optimize the biomechanical functionality of the spider fang. *Nature Comm* 5, doi:10.1038/ncomms4894
182. YOUNG SL, CHYASNAVICHYUS M, ERKO M, BARTH FG, FRATZL P, ZLOTNIKOV I, POLITI Y, TSUKRUK VV (2014) A spider's biological vibration filter: micromechanical characteristics of a biomaterial surface. *Acta Biomater* 10: 4832-4842, doi: 10.1016/j.actbio.2014.07.023
183. HRNCIR M, BARTH FG (2014) Vibratory communication in stingless bees (*Meliponini*): The challenge of interpreting the signals. In: RB Cocroft et al. (eds.) *Studying vibrational communication - Animal signals and communication* 3, DOI:10.1007/978-3-662-43607-3\_18. Springer-Verlag Berlin Heidelberg. Chapter 18, 26pp
184. ERKO M, YOUNUS-METZLER O, RACK A, ZASLANSKY P, YOUNG SL, MILLIRON G, CHYASNAVICHYUS M, BARTH FG, FRATZL P, TSUKRUK V, ZLOTNIKOV I, POLITI Y (2015) Micro- and nano-structural details of a spider's filter for substrate vibrations: relevance for low-frequency signal transmission. *J R Soc Interface* 20141111. <http://dx.doi.org/10.1098/rsif.2014.1111>
185. BARTH FG (2015) A spider's tactile hairs. In: *Scholarpedia* 10(3):7267; doi:10.4249/scholarpedia.7267. Also in: T Prescott (ed) *Scholarpedia encyclopedia of touch*. Springer
186. SCHABER CF, BARTH FG (2015) Spider joint hairs sensilla: adaptation to proprioceptive stimulation *J Comp Physiol A* 201(2):235-48. doi: 10.1007/s00359-014-0965-4
187. BARTH FG (2016) A spider's sense of touch: What to do with myriads of tactile hairs? In: Von der Emde G, Warrant E (eds) *The ecology of animal senses. Matched filters for economical sensing*. Springer International Publishing AG, Switzerland, Chapter 2: 27-57
188. POLITI Y, PIPPEL E, LICUCO-MASSOUH A, BERTINETTI L, BLUMTRITT H, BARTH FG, FRATZL P (2016) Nano-channels in the spider fang for the transport of Zn ions to cross-link His-rich proteins pre-deposited in the cuticle matrix. *Arthropod Structure & Development*, 46(1): 30-38; <http://dx.doi.org/10.1016/j.asd.2016.06.001>
189. VALVERDE SERRANO C, LEEMREIZE H, BAR-ON B, BARTH FG, FRATZL P, ZOLOTUYABKO E, POLITI Y (2016) Ordering of protein and water molecules at their interface with chitin nanocrystals. *J Struct Biol* 193:124-131
190. YOUNG SL, CHYASNAVICHYUS M, BARTH FG, FRATZL P, ZLOTNIKOV I, POLITI Y, TSUKRUK VV (2016) Micromechanical properties of strain-sensitive lyriform organs of a wandering spider (*Cupiennius salei*) *Acta Biomaterialia* 41:40-51

191. SCHORKOPF DL, de Sá FILHO FG, MAIA-SILVA C, SCHORKOPF M, HRNCIR M, BARTH FG (2016) Nectar profitability, not empty honey stores, stimulate recruitment and foraging in *Melipona scutellaris* (Apidae, Meliponini). *J Comp Physiol A* 202 (9,10): 14 pp; doi:10.1007/s00359-016-1102-3
192. BARTH FG (2016) 125 Jahre 'Deutsche Zoologische Gesellschaft' (DZG) – von der Zootomie zur Epigenetik und Kognitionsforschung. *Zoologie* 2015, Mitteilungen d Dtsch Zool Ges, 7-19
193. HRNCIR M, JARAU S, BARTH FG (2016) Stingless bees (Meliponini): senses and behavior. Editorial. *J Comp Physiol A* 202 (9,10): 5 pp. doi:10.1007/s00359-016-1117-9
194. BARTH FG (2017) Remembering *Franz Huber* (November 20,1925 – April 27,2017), a pioneer of insect neuroethology. *J Comp Physiol A* 203,12 , 5pp, DOI10.1007/s00359-017-1225-1
195. BARTH FG (2019) Mechanics to pre-process information for the fine tuning of mechanoreceptors. *J Comp Physiol A*, 205 : 661 - 686 . doi.org/10.1007/s00359-019-01355-z
196. BARTH FG (2019) One of the most fascinating stories in biology. Editorial. *J Comp Physiol A* 205,3: 281-284
197. VALVERDE SERRANO C, AZURI I, BAR-ON B, KRONIK L, BARTH FG, FRATZL P, ZOLOTAYABKO E, POLITI Y (2016) Anisotropic lattice distortions in the alpha-chitin crystals composing the tarsal tendon of a spider (*Cupiennius salei*). (submitted, *Biomacromolecules*)
198. SCHORKOPF D-L, HRNCIR M, NASCIMENTO R, ZUCCHI R, BARTH FG: Odor plumes and social facilitation rather than symbolic language (in prep)
199. BARTH FG (2020) A spider in motion: facets of sensory guidance. *J Comp Physiol A* 207:239 – 255; doi.org/10.1007/s00359-020-01449-z;
200. TADAYON M, YOUNES-METZLER O, SHELEF Y, ZASLANSKY P, RECHELS A, BERNER A, ZOLOTAYABKO E, BARTH FG, FRATZL P, BAR-ON B, POLITI Y (2020) Adaptations for wear resistance and damage resilience: micromechanics of spider cuticular "tools". *Adv Funct Mater* 30,2000400; doi:10.1002/adfm.202000400; 13 pp + supporting information 6pp
201. BLICKHAN R, WEIHMANN T, BARTH FG (2021) Measuring strain in the exoskeleton of spiders – virtues and caveats. *J Comp Physiol A* 207: 191 – 204; doi.org/10.1007/s00359-020-01458-y
202. POLITI Y, BERTINETTI L, FRATZL P, BARTH FG (2021) The spider cuticle: a remarkable material toolbox for functional diversity. *Phil Trans R Soc A* 379:20200332. doi.org/10.1098/rsta.2020.0332
203. DYER AG, GREENTREE AD, GARCIA JE, DYER EL, HOWARD SR, BARTH FG (2021) Einstein, von Frisch and the honeybee: a historical letter comes to light. *J Comp Physiol A* 207/4; doi.org/10.1007/s00359-021-01490-6

There is a separate list of some 180 Abstracts.

## BÜCHER - BOOKS

- BARTH FG (1982) Biologie einer Begegnung. Die Partnerschaft der Insekten und Blumen. Deutsche Verlags-Anstalt, Stuttgart
- (1985) American edition: Insects and Flowers. The Biology of a Partnership. Princeton University Press, Princeton N J
- (1991) dto. Paperback edition, Princeton Science Library
- (1997) Japanese edition: Insects and Flowers. The Biology of a Partnership. Yasaka Publ Comp
- BARTH FG (ed.) (1983) Verhandlungen der Deutschen Zoologischen Gesellschaft. Proceedings of the German Zoological Society. G. Fischer Verlag, Stuttgart-New York
- dto. 1984, 1985, 1986, 1987, 1988
- BARTH FG (ed) (1985) Neurobiology of Arachnids. Springer-Verlag, Berlin-Heidelberg-New York-Tokyo
- ELSNER N, BARTH FG (eds) (1988) Sense Organs. Interfaces between Environment and Behaviour. Proceedings of the 16th Goettingen Neurobiology Conference. G. Thieme Verlag, Stuttgart-New York
- BARTH FG (2001) Sinne und Verhalten: aus dem Leben einer Spinne. Springer-Verlag, Berlin-Heidelberg-New York-Tokyo, 424 pp
- BARTH FG, SCHMID A (eds) (2001) Ecology of Sensing. Springer- Verlag, Berlin-Heidelberg-New York -Tokyo
- BARTH FG (2002) A Spider´s World: Senses and Behavior. Springer-Verlag, Berlin-Heidelberg-New York, 394 pp
- BARTH FG, HUMPHREY JAC, SECOMB TW (eds) (2003) Sensors and Sensing in Biology and Engineering. Springer, Wien New York, 399 pp
- BARTH FG, HUMPHREY JAC, SRINIVASAN MV (eds) (2012) Frontiers in Sensing: From Biology to Engineering. Springer, Wien New York, 438 pp
- BARTH FG, GIAMPIERI-DEUTSCH P, KLEIN H-D (eds) (2012) Sensory Perception: Mind and Matter. Springer-Verlag, Wien-New York, 404 pp
- BARTH FG (ed) (2019) Insects and flowers- new views of an old partnership. Special Issue J Comp Physiol A 205,3: 281 – 450

## FILM

- BARTH FG (1992) Balz und vibratorische Kommunikation der Spinne *Cupiennius salei* Keys. (Ctenidae). Film C 2318, Österreichisches Bundesinstitut für den wissenschaftlichen Film, Wien (25 min, Farbe, Ton)
- dto. (1993) English version: Courtship and Vibratory Communication in the Spider *Cupiennius salei* Keys. (Ctenidae)

**VARIA**

- BARTH FG (ed) (1981) Neurobiology and Strategies of Adaptation. Joint Symposium of the Hebrew Univ of Jerusalem, Université Lyon, and J.W. Goethe-Universität Frankfurt am Main. Universität Frankfurt am Main
- BARTH FG (1990) Review: Stavenga DG, Hardie RC (eds) Facets of vision. Springer Berlin 1989. TINS 13(3): 115-116
- BARTH FG (1991) Review: Wiese K, Krenz W-D, Tautz J, Reichert H, Mulloney B (eds) Frontiers in crustacean biology. Birkhäuser Basel. Ethology 88: 173
- BARTH FG (1992) Review: Lindauer M Wie Tiere sich verständigen. Piper München. Ethology 90: 174
- BARTH FG (1994) (Co-Editor) Neuroscience in Austria, Federal Ministry for Science and Research
- BARTH FG (1995) The study of biology at the universities of Austria. In: C Susanne (ed) Evaluation of Biology in the European Union. VUB Press, Brüssel, pp 85-94
- BARTH FG (ed) (1996) Biology at the University of Vienna. Vienna University Press, 99 pp
- BARTH FG (1996) Briefe der Präsidenten. ÖGN Newsletter 1996,2; pp 3-4
- BARTH FG (editor in chief since 1996) Journal of Comparative Physiology A, Neuroethology, Sensory, Neural and Behavioral Physiology. Springer-Verlag, Heidelberg
- BARTH FG (1997) Editorial. J Comp Physiol A 181: 1
- BARTH FG (1997) Das Jahrhundert des Gehirns. Lese-Buch "schafft:wissen", Österr Akademie der Wissenschaften, pp 65-67
- BARTH FG (1998) Research Group Report. Neurobiology of Sensory Systems. ISN, Newsletter pp 4-6
- BARTH FG (1999) Martin Lindauer, on the occasion of his 80<sup>th</sup> birthday. J Comp Physiol A 185: 215-216
- BARTH FG (2000) Editorial comment: King Solomon Lectures in Neuroethology. J Comp Physiol A 186: 217
- BARTH FG (2000) Sensors and sensing in the natural and fabricated world. Kongressbericht, ÖGN-Newsletter 2 (13) 2000: 15-16
- BARTH FG (2002) ... entlang des Weges. Zoologie 2002, Mitt. DZG: 49-50
- BARTH FG (2002) Karl von Frisch Lectures. Die Biologie der Sinne, ein Beitrag zur integrativen Biologie. ÖGN. Newsletter 15: 20-22
- BARTH FG (2003) Karl von Frisch lectures: the biology of senses – a contribution to integrative biology. J Comp Physiol A189: 163
- BARTH FG (2004) Hansjochem Autrum: 6 February 1907 – 23 August 2003. J Comp Physiol A 190: 85-89
- BARTH FG (2005) Head of Lorenz Institute is not to blame for delays. Nature Vol 435: 413
- BARTH FG (2008) Editorial. Early recollections of one in a crowd of admirers. J Comp Physiol A 194: 115-117
- BARTH FG (2009) Gerhard Neuweiler, Nachruf. Almanach der Österr. Akademie der Wissenschaften, Jg 158: 565-571

- BARTH FG (2009) Thomas Eisner, Laudatio zum 80. Geburtstag. Jahrbuch der Deutschen Akademie der Naturforscher Leopoldina, Jg. 54
- BARTH FG (2013) Zwischen Physik und Ökologie. Laudatio auf Horst Bleckmann anlässlich der Verleihung des Karl-Ritter-von-Frisch-Preises 2012. Zoologie 2013, Mitt Dtsch Zool Ges, 7-14
- BARTH FG (2014) 200 volumes in 90 years. Editorial. J Comp Physiol A 200:1-4. DOI: 10.1007/s00359-013-0874-y
- BARTH FG (2014) A spider's web. Contribution to artist book accompanying an exhibition in Genova (2014) entitled "Spider and silk acoustics in engineering communication. Studio Tomas Saraceno, Berlin
- BARTH FG, HUMMEL T, TECHNAU U (eds.) (2015) Faculty of Life Sciences at the University of Vienna. Generating knowledge for the future. Published by the Faculty of Life Sciences at the occasion of the 650-year anniversary of the University of Vienna. 75 pp
- BARTH FG (2016) Zur Biologie der Wahrnehmung – Spurensuche in der Malerei. In: Akademie im Dialog 3, 5-15, Verlag der Österr Akad d Wiss, Wien
- BARTH FG (2016) Bio-mimetics needs more biology. Newsletter, International Society for Bionic Engineering, 12-13
- BARTH FG (2016) 125 Jahre `Deutsche Zoologische Gesellschaft` (DZG) – von der Zootomie zur Epigenetik und Kognitionsforschung. Zoologie 2016, Mitt Dtsch Zool Ges, 7 – 19
- BARTH FG (2017) Michael Wagner. Almanach 2016, 166.Jahrgang, der Österreichischen Akademie der Wissenschaften. p.173
- BARTH FG (2017) Remembering *Franz Huber* (November 20,1925 – April 27,2017), a pioneer of insect neuroethology. J Comp Physiol A 203,12; 953-958; DOI 10.1007/s00359-017-1225-1
- BARTH FG (2019) Friedrich Schaller. Nachruf. Almanach der Österreichischen Akademie d. Wissenschaften 168:360-363
- BARTH FG (2019) My vote for the "invertebrates". Preface in: C Carere, J Mather (eds) The welfare of invertebrate animals. Springer, Heidelberg, 4 pp
- BARTH FG (2020) Ulrich Technau. Almanach 2019, 169. Jahrgang, Österreichische Akademie der Wissenschaften. p. 178
- BARTH FG (2021) Editorial. As time passes by – an editor's farewell. J Comp Physiol A 207:681-683. doi.org/10.1007/s00359-021-01514-1