

SCIENTIFIC PUBLICATIONS

Eberhard R. Horn, Professor Dr.

A. Original Articles

1. **Horn E** (1970) Die Schwerkraftreception bei der Geotaxis des laufenden Mehlkäfers (*Tenebrio molitor*). *Z Vergl Physiol* 66:343-354
2. Jander R, **Horn E**, Hoffmann M (1970) Die Bedeutung von Gelenkrezeptoren in den Beinen für die Geotaxis der höheren Insekten (Pterygota). *Z Vergl Physiol* 66: 326-354
3. **Horn E** (1973) Die Verarbeitung des Schwerereizes bei der Geotaxis der höheren Bienen (Apidae). *J Comp Physiol* 82: 379-406
4. Wehner R, **Horn E** (1975) The effect of object distance on pattern preferences in the walking fly, *Drosophila melanogaster*. *Experientia* 31:641-643
5. **Horn E** (1975) Mechanisms of gravity processing by leg and abdominal gravity receptors in bees. *J Insect Physiol* 21: 673-679
6. **Horn E**, Keßler W (1975) The control of antennae lift movements and its importance on the gravity reception in the walking blowfly, *Calliphora erythrocephala*. *J Comp Physiol* 97: 189-203
7. **Horn E**, Wehner R (1975) The mechanism of visual pattern fixation in the walking fly, *Drosophila melanogaster*. *J Comp Physiol* 101: 39-56
8. **Horn E**, Lang, H-G (1978) Positional head reflexes and the role of the prosternal organ in the walking fly, *Calliphora erythrocephala*. *J Comp Physiol* 126: 137-146
9. **Horn E** (1978) The mechanism of object fixation and its relation to spontaneous pattern preferences in *Drosophila melanogaster*. *Biol Cybernetics* 31: 145-158
10. **Horn E**, Fischer M (1978) Fixation-sensitive areas in the eyes of the walking fly, *Calliphora erythrocephala*. *Biol Cybernetics* 31: 159-162
11. **Horn E**, Greiner B, Horn I (1979) The effect of ACTH on habituation of the turning reaction in the toad *Bufo bufo* L. *J Comp Physiol* 131: 129-135
12. **Horn E**, Mittag J (1980) Body movements and retinal pattern displacements while approaching a stationary object in the walking fly, *Calliphora erythrocephala*. *Biol Cybernetics* 39: 67-77
13. **Horn E** (1982) Gravity reception in the walking fly, *Calliphora erythrocephala*: tonic and modulatory influences of leg afference on the head position. *J Insect Physiol* 28: 713-720
14. Horn I, **Horn E** (1982) The influence of ACTH fragments on habituation on the prey catching behaviour in the European Toad (*Bufo bufo* L.). *Physiol Behav* 28: 497-500
15. **Horn E**, Bischof H-J (1983) Gravity reception in crickets: the influence of cercal and antennal afferences on the head position. *J Comp Physiol* 150: 93-98
16. Rayer B, Cagol E, **Horn E** (1983) Compensation of vestibular-induced deficits in relation to the development of the Southern Clawed Toad, *Xenopus laevis* DAUDIN. *J Comp Physiol* 151: 487-498
17. **Horn E**, Knapp A (1984) On the invariance of visual stimulus efficacy with respect to variable spatial positions. Behavioural investigations with flies (*Calliphora erythrocephala*). *J Comp Physiol* 154: 555-567
18. **Horn E**, Föllner W (1985) Tonic and modulatory subsystems of the complex gravity receptor system in crickets, *Gryllus bimaculatus*. *J Insect Physiol* 31: 937-946
19. **Horn E**, Lang H-G, Rayer B (1986) The development of the static vestibulo-ocular reflex in the Southern Clawed Toad, *Xenopus laevis* Daudin: I. Intact animals. *J Comp Physiol* 159 A: 869-878
20. **Horn E**, Mack R, Lang H-G (1986) The development of the static vestibulo-ocular reflex in the Southern Clawed Toad, *Xenopus laevis* Daudin: II. Animals with acute vestibular lesions. *J Comp Physiol* 159 A: 879-885
21. Rayer B, **Horn E** (1986) The development of the static vestibulo-ocular reflex in the Southern Clawed Toad, *Xenopus laevis* Daudin: III. Chronic hemilabyrinthectomized tadpoles. *J Comp Physiol* 159 A: 887-895
22. Pompeiano O, Stampacchia G, **Horn E**, d'Ascanio P (1987) The role of the locus coeruleus in the gain regulation of vestibulospinal reflexes. *Acta Otolaryngol* (Stockh) 103: 404-409

23. Pompeiano O, d'Ascanio P, **Horn E**, Stampacchia G (1987) Effects of local injection of the alpha-2 adrenergic agonist clonidine into the locus coeruleus complex on the gain of the vestibulospinal and cervico-spinal reflexes in decerebrate cats. *Arch Ital Biol* 125: 225-269
24. **Horn E**, d'Ascanio P, Pompeiano O, Stampacchia G (1987) Pontine reticular origin of cholinergic excitatory afferents to the locus coeruleus controlling the gain of vestibulospinal and cervicospinal reflexes in decerebrate cats. *Arch Ital Biol* 125:273-304
25. Stampacchia G, d'Ascanio P, **Horn E**, Pompeiano O (1988) Gain regulation of the vestibulo-spinal (VS) reflex following microinjection of a β -adrenergic agonist or antagonist into the locus coeruleus and the dorsal pontine reticular formation. *Adv Oto-Rhino-Laryngol* 41:134-141
26. d'Ascanio P, **Horn E**, Pompeiano O, Stampacchia G (1989) Injections of β -adrenergic substances in the locus coeruleus affect the gain of vestibulospinal reflexes in decerebrate cats. *Arch Ital Biol* 127:187-218
27. d'Ascanio P, **Horn E**, Pompeiano O, Stampacchia G (1989) Injections of a β -adrenergic antagonist in pontine reticular structures modify the gain of vestibulospinal reflexes in decerebrate cats. *Arch Ital Biol* 127: 275-303
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29. **Horn E**, Eßeling K, Kornhuber HH (1990) The influence of cortical lesions on penicillin induced convulsive activity in the awake rat. *Arch Ital Biol* 128: 1-18
30. Pompeiano O, **Horn E**, d'Ascanio P (1991) Locus coeruleus and dorsal pontine reticular influences on the gain of vestibulo-spinal reflexes. *Prog Brain Res* 88:435-462
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32. **Horn E**, Eßeling K, Wagner R (1991) Time course of interictal EEG patterns induced by a penicillin injection into the olfactory cortex. *Pharmacol Biochem Behav* 40: 351-357
33. Kleiser B, Schamberger H, **Horn E**, Kornhuber HH (1992) Treatment of acute cerebral hematoma with the blocker of pathological sodium and calcium invasion R56865. *Neurol Psych Brain Res* 1:46-48
34. **Horn E**, Weber R (1993) Transient epileptiform experience affects the duration of penicillin induced convulsive activity in the awake rat. *Arch Ital Biol* 131:47-60
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37. Cirelli C, d'Ascanio P, **Horn E**, Pompeiano O, Stampacchia G (1993) Modulation of vestibulospinal reflexes through microinjection of the alpha1-adrenergic antagonist in the dorsal pontine tegmentum of decerebrate cats. *Arch Ital Biol* 131:275-302
38. André P, **Horn E**, Pompeiano O (1995) Microinjections of GABAergic agents in the locus coeruleus modify the gain of vestibulospinal reflexes in decerebrate cats. *Arch Ital Biol* 133:47-75
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40. Neubert J, Schatz A, Briegleb W, Bromeis B, Linke-Hommes A, Rahmann H, Slenzka K, **Horn E** (1995) Early development in aquatic vertebrates in near weightlessness during the D-2 mission Stalex project. *Adv Space Res* 17:275-279
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42. **Horn E**, Gehring B (1996) Expression of epileptiform activity induced by a penicillin focus within the posterior thalamus in the awake rat. *Pharm Biochem Behav* 54:759-770
43. **Horn E** (1996) Reduction of epileptiform activity by epileptiform activity - The principle of autoprotection during epilepsy. *Neurol Psych Brain Res* 4:211-224
44. Sebastian C, Eßeling K, **Horn E** (1996) Altered gravitational experience during early periods of life affects the static vestibulo-ocular reflex of tadpoles of the Southern Clawed Toad, *Xenopus laevis*. *Exp Brain Res* 112:213-222

45. **Horn E**, Sebastian C (1996) A hypergravity related sensitive period during the early development of the roll induced vestibuloocular reflex in the Southern Clawed Toad (*Xenopus laevis*). **Neurosci Lett** 216:25-28
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48. Sebastian C, Horn E (1998) The minimum duration of microgravity experience during space flight which affects the development of the roll induced vestibuloocular reflex in an amphibian. **Neurosci Lett** 253:171-174
49. **Horn E**, Föllner W (1998) Induction of a gravity-related response by a single receptor cell in an insect. **Naturwissenschaften** 85:121-123
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51. Sebastian C, **Horn E** (1999) Light-dependent suppression of the vestibulo-ocular reflex during development. **NeuroReport** 10:171-176
52. Sebastian C, Esseling K, **Horn E** (2001) Altered gravitational forces affect the development of the static vestibuloocular reflex in fish (*Oreochromis mossambicus*). **J Neurobiol** 46:59-72
53. Sebastian C, **Horn E** (2001) Features of vestibuloocular reflex modulations induced by altered gravitational forces in tadpoles (*Xenopus laevis*). **Adv Space Res** 28:579-588.
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55. **Horn E**, Böser S, Förster S, Riewe P, Sebastian C, Agricola H (2001) Crickets in Space. **Acta Astronautica** 49:345-363
56. El-Yamany NA, **Horn E** (2002) Time courses of aspartate and glutamate concentrations in the focus area during penicillin induced epileptiform activity in awake rats. **Arch Ital Biol** 140:13-30
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59. **Horn ER** (2004) "Critical periods" in vestibular development or adaptation of gravity sensory systems to altered gravitational conditions? **Arch Ital Biol** 142:155-174.
60. Böser S, **Horn ER** (2006) Hypergravity susceptibility of ventral root activity during fictive swimming in tadpoles (*Xenopus laevis*). **Arch Ital Biol** 144: 99-113
61. **ER Horn** (2006) Microgravity-induced modifications of the vestibuloocular reflex in *Xenopus laevis* tadpoles are related to development and the occurrence of tail lordosis. **J Exp Biol** 209:2847-2858
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63. S Böser, Dournon C, Gualandris-Parisot L, Horn E (2008) Altered gravity affects ventral root activity during fictive swimming and the static vestibuloocular reflex in young tadpoles (*Xenopus laevis*) **Arch Ital Biol** 146:1-20
64. **Horn ER**, Gabriel M (2011) Gravity-related critical periods in vestibular and tail development of *Xenopus laevis* **J Exp Zool** 315: 505-511
65. **Horn ER**, Böser S, Franz M, Gabriel M, Hiesgen N, Kübler U, Porciani M, Schwarzwälder A, Zolesi V (2011) Development of the flight hardware for the experiment XENOPUS on the Kubik BIO4-Mission. **Microgravity Sci. Technol.** 23:243-248
66. **Horn ER**, El-Yamani, Gradl D (2013) The vestibuloocular reflex of tadpoles (*Xenopus laevis*) after knock-down of the isthmus-related transcription factor XTcf-4. **J Exp Biol** 216:733-741
67. **Horn ER**, Gabriel M (2014) Gender-related sensitivity of development and growth to real microgravity in *Xenopus laevis* **J Exp Zool** 321A:1-12

B. Short Communications, Abstracts, Extended Abstracts, Conference Contributions

1. **Horn E** (1969) Die Bedeutung von Körpergelenken für die geotaktische Orientierung von Calliphora. **Zool Anz Suppl** 33: 570-574
2. **Horn E** (1975) Untersuchungen zum Problem des tropo- und telotaktischen Verhaltens bei Fliegen. **Verh Dtsch Zool Ges** 1975:153
3. **Horn E** (1975) The contribution of different receptors for gravity orientation in insects. In: *Mechanisms of spatial perception and orientation as related to gravity*, Schöne H (ed) (**Fortschr Zool** 23), Gustav Fischer Verlag, Stuttgart New York, pp1-20
4. **Horn E**, Rayer B (1978) Compensation of vestibular lesions in relation to development. **Naturwissenschaften** 65:441
5. **Horn E**, Cagol E, Rayer B, Lang H-G (1979) Zur Ontogenese vestibulärer Funktionen. Zentrale Kompensation nach Labyrinthektomie und der vestibulo-oculare Reflexbogen. **Verh Dtsch Zool Ges** 1979, p282
6. **Horn E**, Mittag J (1979) Die Bedeutung des binokularen Sehraums für die visuelle Fixation bei der laufenden Fliege, Calliphora erythrocephala. **Verh Dtsch Zool Ges** 1979:208
7. **Horn E**, Rayer B (1980) A hormonal component in central vestibular compensation. **Z Naturforsch** 35c:1120-1121
8. Lang H-G, **Horn E** (1980) The development of the static vestibulo-ocular reflex in Xenopus. **Z Naturforsch** 35c:1122-1123
9. **Horn E** (1981) An ontogenetic approach to vestibular compensation mechanisms. In: *Lesion-induced neuronal plasticity in sensori-motor systems*, Flohr H, Precht W (eds), Springer Verlag, Berlin Heidelberg New York, pp 173-183
10. **Horn E** (1983) Die funktionelle Entwicklung des Vestibularsystems beim Krallenfrosch Xenopus - eine verhaltensphysiologische Untersuchung. **Verh Dtsch Zool Ges** 1983, p249
11. **Horn E** (1984) The interaction between gravitational and visual stimuli in flies, Calliphora erythrocephala. In: *La vision chez les invertebrates*, Clement P, Ramousse R (eds), Editions du CRNS, Paris, pp249-251
12. **Horn E**, Horn I (1985) Influences of small ACTH-fragments on the habituation of prey catching behaviour in Bufo (Amphibia). **Neurosci Lett Suppl** 22, p575
13. Föller W, **Horn E** (1985) Functional regeneration of an insect gravity sense organ. **Neurosci Letters Suppl** 22: 367
14. **Horn E** (1985) Funktionelle Entwicklung der Schweresinnesorgane bei Insekten und Vertebraten. **DFVLR-Mitt** 85(16):121-128; (cf. Functional development of gravity receptors in insects and vertebrates. **ESA TT-988:p91-98**)
15. **Horn E** (1985) Programmentwurf für die Fachrichtung Gravitationsbiologie. **DFVLR-Mitt** 85(16):173-189; (Draft programme for gravitational biology as a specialism. **ESA TT-988:p127-142**)
16. **Horn E** (1985) Gain-compensation of the vestibulo-ocular reflex (VOR) in hemilabyrinthotomized tadpoles of Xenopus (Amphibia). **Neurosci Lett Suppl** 22, p152
17. Rayer B, **Horn E** (1985) Labyrinthine influences on the development of the vestibular nuclei in Xenopus (Amphibia). **Neurosci Lett Suppl** 22, p152
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19. Pompeiano O, d'Ascanio P, **Horn E**, Stampacchia G (1985) Gain regulation of the vestibulospinal reflex by the noradrenergic locus coeruleus system. **Amer Soc Neurosci** 11, p695
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25. **Horn E**, Eßeling K (1988) Electrocorticogram and movement patterns of awake convulsing rats with cortical lesions. *Eur J Neurosci, Suppl 1*, p34
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30. Eßeling K, Weber R, **Horn E** (1989) The influence of epileptogenic or substantial cortical lesions on the GABAergic sensitivity of the motor cortex in awake rats. *Eur J Neurosci, Suppl 2*, p59
31. **Horn E**, Weber R, Eßeling K (1989) Epileptogene Läsion vs Substanz-Läsion - Unterschiedliche Auswirkungen auf einen akuten epileptischen Fokus. *Verh Dtsch Neurol Ges 5*: 1182-1183
32. Eßeling K, **Horn E** (1989) Evidence for counterregulation during locally induced hyperexcitation of the cortex. In: *Dynamics and plasticity in neuronal systems*, Elsner N, Singer W (eds), G. Thieme Verlag, Stuttgart New York, p438
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36. **Horn E**, Eßeling K (1991) Development of vestibuloocular reflexes in amphibia and fishes with micro-gravity experience. In: *Research program of the German spacelab mission D-2*, Sahn PR, Keller MH, Schiewe B (eds). Bonn: WPF, pp 93-94
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40. Eßeling K, **Horn E** (1992) Wechselbeziehungen zwischen motorischem und visuellem Cortex während sekundär generalisiertem Anfallsgeschehen bei der wachen Ratte. In: *Epilepsie 91*, Scheffner D (ed). Einhorn-Pressen Verlag, Reinbek, pp330-335
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48. Neubert J, Briegleb W, Schatz A, Bromeis B, Linke-Hommes A, Rahmann H, Slenzka K, **Horn E**, Eßeling K, Sebastian C (1993) Spacelab Mission D-2 experiment STATEX "Gravity Perception and Neuronal Plasticity". Comparative Investigations of near weightlessness effects on the development and function of the gravity perceiving system of two water-living vertebrates (*Xenopus laevis* Daudin, *Oreochromis mossambicus*). *ESA SP-366:77-81*
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