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茶学研究专题

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学术文献

1. Rivalry between Stink Bug Females in a Vibrational Communication Network (振动传播网中雌性臭虫之间的竞争行为)

简介: In the field, male pheromone attracts stink bugs to meet on the same plant and triggers females to call a male by the emission of the calling song. As first among Pentatomidae we describe female rivalry in *Chinavia impicticornis*, *C. ubica* and *Euschistus heros*. Rivalry starts in *C. impicticornis* by synchronized exchange of the first type of the female calling song pulse trains and proceeds by one of them either to change pulse trains from the first to the second type or to produce readily repeated single pulses. Both reactions either inhibit calling of the rival female or trigger her to respond by alternation with the second type of the calling song pulse trains. Female rivalry in *C. ubica* differs by the emission of the rival song that replaces alternation with the second type of the calling song typical for *C. impicticornis*. *E. heros* females synchronize pulses of the calling song duets and induce emission of the female rival song by one of them that partly inhibits singing of the other. These competitive interactions in *Chinavia* species reduce the proportion of couples when compared with single couples on a plant. Contrary to both *Chinavia* species, *E. heros* female rivalry does not inhibit male response, male signals overlap female emissions and create complex vibrations with modified amplitude modulation pattern caused by interference.

来源: Journal of Insect Behavior 期刊

发布日期: 2017-11-20

全文链接:

<http://agri.ckcest.cn/file1/M00/06/5D/Csgk0FvJLvqAFm2QABsfeiAokNI161.pdf>

2. Vibrational signalling in a Gondwanan relict insect (Hemiptera : Coleorrhyncha : Peloridiidae) (Gondwanan子遗昆虫(半翅目:鞘喙亚目:鞘喙蝽科)的振动信号)

简介: Ancient, long-extinct floras and faunas can be reassembled through fossils and phylogenetics, and even palaeo-environments can be reconstructed with the aid of palaeoclimatology. However, very little is known about the sound-scape of the past. Of what kind were the first biologically meaningful sounds and vibrations ever emitted and perceived? The earliest signals in the history of life were probably produced by arthropods making use of the mechanical properties of their exoskeleton. Here, we report an observation of vibrational signalling in the coleorrhynchan *Hackeriella veitchi*, a representative of a Gondwanan relict insect lineage which is still extant in the Queensland rainforest. Our finding suggests that vibrational signalling by tymbal organs is ancestral for the Hemiptera (exclusive of Sternorrhyncha)--the song of the Coleorrhyncha was a likely element of the acoustic environment in the Permian moss forests and had possibly changed little since.

来源: Biology letters 期刊

发布日期: 2006-07-21

全文链接:

<http://agri.ckcest.cn/file1/M00/06/5D/Csgk0FvJLIcyALPm-AAILzN4UUG0196.pdf>

3. Vibrational Communication and the Ecology of Group-Living, Herbivorous Insects (振动传播与群体生活的草食性昆虫的生态学)

简介: Communication among members of a colony is a key feature of the success of eusocial insects. The same may be true in other forms of insect sociality. I suggest that substrate-borne vibrational communication is important in the success of group-living, herbivorous insects. I examine three challenges encountered by herbivorous insects: locating and remaining in a group of conspecifics; locating food resources; and avoiding predation. Studies of groups of immature treehoppers, sawflies and butterflies suggest that vibrational communication can be important in each of these contexts, enhancing the ability of these group-living herbivores to exploit the resources of their host plants.

来源: Integrative and Comparative Biology 期刊

发布日期: 2001-10-01

全文链接: <http://agri.ckcest.cn/file1/M00/06/5D/Csgk0FxFJKeSAMTcwAAND7IJmCbY134.pdf>

4. VIBRATIONAL COMMUNICATION AND REPRODUCTIVE ISOLATION IN THE *ENCHENOPA BINOTATA* SPECIES COMPLEX OF TREEHOPPERS (HEMIPTERA: MEMBRACIDAE) (双目圆叶树蝉 (半翅目: 角蝉科) 种群复合体的振动传播与生殖隔离)

简介: Sexual communication can contribute to population divergence and speciation because of its effect on assortative mating. We examined the role of communication in assortative mating in the *Enchenopa binotata* species complex of treehoppers. These plant-feeding insects are a well studied case of sympatric speciation resulting from shifts to novel host-plant species. Shifting to hosts with different phenologies causes changes in life-history timing. In concert with high host fidelity, these changes reduce gene flow between populations on ancestral and novel hosts and facilitate a rapid response to divergent natural selection. However, some interbreeding can still occur because of partial overlap of mating periods. Additional behavioral mechanisms resulting in reproductive isolation may thus be important for divergence. In *E. binotata*, mating pairs form after an exchange of plant-borne vibrational signals. We used playback experiments to examine the relevance of inter- and intraspecific variation in male advertisement signals for female mate choice in a member of the *E. binotata* species complex. Female signals given in response to male signals provided a simple and reliable assay. Male species and male individual identity were important determinants of female responses. Females failed to respond to the signals of the two most closely related species in the complex, but they responded strongly to the signals of conspecific males, as well as to those of the most basal species in the complex. Communication systems in the *E. binotata* species complex can therefore play a role in reproductive isolation. Female responses were influenced by among-individual variation in male signals and females, suggesting the involvement of sexual selection in the evolution of these communication systems.

来源: Evolution 期刊

发布日期: 2004-03-01

全文链接: <http://agri.ckcest.cn/file1/M00/06/5D/Csgk0FxFJMqAZnvmAAKT5Ekv9wg776.pdf>

➤ 相关专利

1. IMPROVED INSECT CONTROL STRATEGIES UTILIZING PHEROMONES AND RNAI (利用信息素和RNAi改进昆虫防治策略)

简介: Systems and methods of preventing or reducing crop damage from pests are provided. In one embodiment, the method comprises: a) applying a mating disruption tactic to a field plot; and b) disrupting expression of one or more target genes in one or more pests, wherein crop damage is reduced in the field plot. In another embodiment, the method comprises applying an attract-and-kill tactic to a field plot, wherein said attract-and-kill tactic comprises: a) applying one or more semiochemicals or factors; and b) disrupting expression of one or more target genes in one or more pests, wherein said disruption is capable of killing the one or more pests, wherein crop damage is reduced in the field plot.

来源: 世界知识产权组织专利

发布日期: 2017-11-30

全文链接: <http://agri.ckcest.cn/file1/M00/06/5C/Csgk0Fw-2U2AfogRAMfCNIQUaBg667.pdf>

➤ 统计数据

1. Tea Yield in World and Five Continents in 2013-2017 (FAOSTAT) (2013-2017年度全球及五大洲茶叶产量 (FAOSTAT))

简介: 根据FAOSTAT, 最新统计了2017年度全球及五大洲茶叶产量, 2013-2017年度相应数据见Tea Yield in World and Five Continents in 2013-2017 (FAOSTAT)。

Area	Year	Yield (kg/ha)
World	2013	1472.6
World	2014	1454.2
World	2015	1492.2
World	2016	1502.1
World	2017	1496.8
Africa	2013	2021.2
Africa	2014	2046.4
Africa	2015	1886
Africa	2016	2050.5
Africa	2017	1983.5
Americas	2013	2095.6
Americas	2014	2067.4
Americas	2015	2046
Americas	2016	2093.1
Americas	2017	1987.4
Asia	2013	1404.6
Asia	2014	1382.6
Asia	2015	1442.9

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Asia	2016	1435.2
Asia	2017	1440.5
Europe	2013	416.3
Europe	2014	616.2
Europe	2015	619.8
Europe	2016	905.9
Europe	2017	1179.3
Oceania	2013	1487.5
Oceania	2014	1478.1
Oceania	2015	1468.6
Oceania	2016	1459.2
Oceania	2017	1449.8

Note: Calculated data

来源: FAO网站

发布日期: 2018-12-26

全文链接: <http://agri.ckcest.cn/file1/M00/06/5C/Csgk0FxFawKAIE7bAAJ61H38jIQ812.pdf>