



2019年第15期 总168期

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## ▶ 前沿资讯

### 1. Output of Darjeeling tea likely to fall 20% (今年印度大吉岭茶产量可能下降20%)

简介: In early March, Darjeeling teas had fetched Rs 3,500 per kg against Rs 1,500 a year ago in private sales. The continuing chill in the hills of Darjeeling has affected the first-flush tea output in March, with planters estimating this year's production to drop by a fifth. These premium teas, which is part of the season's earliest harvest have robust demand in Japan, Germany, France, and the United States. Darjeeling tea exporters said that while the output drop could still be made up in April if the weather improves. A stronger rupee has become a concern as price realisation would decline. The rupee has appreciated against the dollar in the past one month and closed at 69.16 to a dollar on Friday. It had fallen below 74 to a dollar last autumn.

来源: The Economic Times 网站

发布日期: 2019-04-01

全文链接: <http://agri.ckcest.cn/file1/M00/06/69/Csgk0FylajiABj2hAATqk3X1B8E200.pdf>

## ▶ 学术文献

### 1. The effect of temperature on male mating signals and female choice in the red mason bee, *Osmia bicornis* (L.) (温度对红色工蜂 (*Osmia bicornis*) 的雄性交配信号和雌性选择的影响)

简介: Climate change and the resulting changes in air temperature are known to have a major influence on most animals, especially poikilothermic insects, because they depend on the high enough temperatures to function. Previous studies have shown that various signals can be affected by changes in temperature. However, research into the effect of temperature on mating signals and subsequently communication between mates and on female choice is still rare. In the red mason bee, *Osmia bicornis*, which emerges early in spring and is therefore subject to extensive temperature changes, females choose suitable males based on, among other criteria, their thorax vibrations and odor. So far there has been no research into the effect of temperature changes on these signals. We therefore investigated whether the environmental temperature has an influence on the male's mating signals by measuring vibrations using a laser vibrometer and collecting male and female odor at different temperatures. Furthermore, we performed behavioral experiments in order to show whether there is an effect of temperature-induced changes and female choice. Our results showed that rejected males differed in their vibrations between the two temperature settings but accepted ones did not. Temperature changes therefore seem to have a stronger effect on those males that are rejected by the females, whereas the accepted males are the ones that can produce desirable signals despite temperature fluctuations. Furthermore, we found that the differences in odor profiles were greater between temperature settings than between the sexes and that females change their preference for odor with temperature. We conclude that temperature strongly influences the male mating signals and therefore may have a major impact on sexual selection in this species. This is an important aspect to consider, not only in future studies on

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mating behavior, but also in view of our ever raising temperatures.

来源: Ecology and Evolution 期刊

发布日期: 2017-09-23

全文链接: <http://agri.ckcest.cn/file1/M00/06/61/Csgk0FyYiueAMPm8AAuiD8Lrnk581.pdf>

## 2. Design of a candidate vibrational signal for mating disruption against the glassy-winged sharpshooter, *Homalodisca vitripennis* (干扰玻璃翅神射手昆虫 (*Homalodisca vitripennis*) 交配的候选振动信号设计)

简介: BACKGROUND: The glassy-winged sharpshooter (GWSS), *Homalodisca vitripennis*, is an important pest of grapevines due to its ability to transmit *Xylella fastidiosa*, the causal agent of Pierce's disease. GWSS mating communication is based on vibrational signals; therefore, vibrational mating disruption could be an alternative to insecticides for suppression of the GWSS population. Our objectives were to identify spectral features of the female signal that elicit male signaling, design disruptive signals able to alter male perception and acceptance of a female, and determine the signal intensity required for future field applications. RESULTS: Male responses to playback of modified female signals were significantly reduced by 6075% when part of the female signal spectral components above or below 400 Hz were deleted. Playback bioassays showed that transmission of an 80 Hz pure frequency tone to plants completely suppressed male signaling to female signal playback, even if the disruptive signal amplitude was 10 dB lower than the female signal playback. CONCLUSION: Although the mechanism underlying cessation of male signaling activity in the presence of disruption is not yet understood, results suggest that an 80 Hz vibrational signal should be tested in laboratory and field experiments to assess its efficacy in disrupting mating of GWSS.

来源: Pest Management Science 期刊

发布日期: 2017-05-19

全文链接: [http://agri.ckcest.cn/file1/M00/06/61/Csgk0FyYNz2AQHnyAAj5Kgd\\_QHU365.pdf](http://agri.ckcest.cn/file1/M00/06/61/Csgk0FyYNz2AQHnyAAj5Kgd_QHU365.pdf)

## 3. Vibrational signals of African stingless bees (非洲无刺蜂的振动信号)

简介: Many bee species produce thoracic vibrations in various contexts. Among the social stingless bees (Meliponini) pulsed thoracic vibrations are used to communicate with nestmates. To date all studies on stingless bee vibrational communication have been conducted in the Neotropics. We, therefore, focused on six African stingless bee species of five genera: *Meliponula*, *Hypotrigona*, *Liotrigona*, *Dactylurina*, *Plebeina*. We analysed the signals' temporal patterns. Vibrational signals appear to play a role in the recruitment of stingless bees. The degree of signal variation in the studied species was much lower than the variation in the signals of Neotropical stingless bees. Furthermore, the inter-signal variation of the temporal patterns exceeded intra-signal variation. This might reveal that the bees are able to modulate the temporal patterns and the signals potential communicative value. Furthermore, foraging activity correlates with pulse production in *H. gribodoi* and *M. bocandei*, supporting the hypothesis that the vibrational signals are used in the context of foraging and recruitment.

来源: Insectes Sociaux 期刊

发布日期: 2017-04-24

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全文链接:<http://agri.ckcest.cn/file1/M00/06/61/Csgk0FyYNMKAZQgPAAuhYbYxWSI022.pdf>

#### 4. Duetting Behaviour in the Leafhopper *Aphrodes makarovi* (Hemiptera: Cicadellidae) (叶蝉(半翅目: 蝉科)的决斗行为)

简介: Mate recognition and location in Cicadellidae is mediated exclusively via substrate-borne vibrational signals. In the present study we investigated vibrational signals and mate searching behaviour of the leafhopper *Aphrodes makarovi*. We studied mating behaviour and exchange of vibrational signals between live insects and in playback experiments. Males emitted long and complex calling signals composed of several sections. Female reply was long and always overlapped the end of the male call. The exchange of male and female vibrational signals was a complex and dynamic interaction during which both partners modified their signals according to partner's reply. The duration of female reply was influenced by the duration of the male call to which she was responding, while the duration of male call was influenced by the duration of the previous female reply. Such relationship suggests the role of sexual selection in the evolution of male vibrational signals.

来源: Journal of Insect Behavior 期刊

发布日期: 2012-09-20

全文链接: <http://agri.ckcest.cn/file1/M00/06/68/Csgk0FykAmAPqidAAoPDSIXKUK958.pdf>

### ▶ 统计数据

#### 1. Tea Area Harvested in Least Developed Countries in 2013-2017 (FAOSTAT) (2013-2017年度最不发达国家茶叶种植面积(FAOSTAT))

简介: 根据FAOSTAT, 最新统计了2017年度最不发达国家的茶叶种植面积, 2013-2017年度茶叶种植面积逐年增多, 相应数据见Tea Area Harvested in Least Developed Countries in 2013-2017 (FAOSTAT)。

Year	Area Harvested (ha)	DATA Description
2013	304588	Aggregate, may include official, semi-official, estimated or calculated data
2014	315213	Aggregate, may include official, semi-official, estimated or calculated data
2015	319983	Aggregate, may include official, semi-official, estimated or calculated data
2016	322167	Aggregate, may include official, semi-official, estimated or calculated data
2017	324156	Aggregate, may include official, semi-official, estimated or calculated data
合计	1586107	

来源: FAO 网站

发布日期: 2018-12-26

全文链接: [http://agri.ckcest.cn/file1/M00/06/69/Csgk0FylzNiAbVmzAAU9gFnWG\\_k637.pdf](http://agri.ckcest.cn/file1/M00/06/69/Csgk0FylzNiAbVmzAAU9gFnWG_k637.pdf)

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