



# 2024 Spring Conference of KSAE & ESK

Korean Society of Applied Entomology &  
The Entomological Society of Korea



**THREAT TO INSECT BIODIVERSITY BY HUMANS &  
THREAT TO HUMAN HEALTH BY INSECTS**

**25(Thu)-26(Fri) April 2024**  
Grand Plaza Cheongju Hotel

주최



(사)한국응용곤충학회  
Korean Society of Applied Entomology



(사)한국곤충학회  
The Entomological Society of Korea

후원



농촌진흥청



충청북도  
CHUNGCHONGBUK-DO



충북문화재단  
Chungbuk Cultural Foundation





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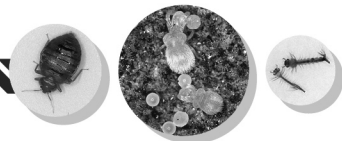
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# 인사말

존경하는 한국곤충학회 및 한국응용곤충학회 회원 여러분

안녕하십니까?

2023년에 이어 올해도 한국곤충학회와 공동으로 춘계 학술발표대회를 개최하게 되어 무척 기쁘게 생각합니다. 공동 개최를 통하여 더 넓고 다양한 분야까지 상호 정보를 교환 할 수 있게 되어 매우 감동적이고 미래 대한민국 곤충학 분야의 발전이 눈부실 것으로 기대가 됩니다. 덧붙여 연속 공동 개최를 위한 새로운 의미로 MOU 체결 행사로 더욱 양 학회 관계를 공공히 하고자 합니다.

우리는 미래에 자라나는 젊은 곤충학자들을 위해 다양한 분야의 다양한 경험을 할 수 있는 기회를 주어야 하고 이끌어 가야 할 의무가 있다고 생각합니다. 이것이 우리 기성세대의 역할이고 오늘 같은 공동 학회 개최를 통하여 단독 학회 개최시 경험할 수 없었던 부분이 있을 것으로 생각합니다.

당연히 공동학회 개최를 위해서는 상호 불편한 여러 가지 상황이나 느낌들이 발생 될 수 있습니다. 그럼에도 불구하고 이용석 학회장님을 중심으로 한국곤충학회 임원진 분들의 노력과 수고에 깊이 감사드립니다. 아울러 한국응용곤충학회의 임언택 학술위원장님을 비롯하여 여러 수고하신 위원님들에게도 감사의 말씀을 드립니다.

멀고 어렵고, 여러 가지 애로사항이 있을 수 있지만 지속적인 양 학회의 공동 개최 뿐 만 아니라 양봉, 양잠, 산업 곤충, 농약과학회, 방역관련 학회 및 협의 관련 학회와도 공동 개최가 이루어진다면 많은 시너지 효과가 있을 것으로 생각합니다.

오늘 공동 학술행사가 성공리에 이루어져 곤충학 발전에 큰 획이 될 것으로 믿으며, 다시한번 본 행사를 위해 수고하신 여러분들에게 깊이 감사드리고 항상 건강하시고 양 학회 회원 여러분 가정에 행운이 가득하시길 기원합니다.

2024년 4월 25일  
한국응용곤충학회장 박 중 균

존경하는 한국응용곤충학회 및 한국곤충학회 회원 여러분

작년 2023년 약 20년 만에 다시 시작된 공동학술대회를 성공적으로 잘 치루기 위해 노력했던 기억이 엇그제 같은데 벌써 일 년이 지나 다시 공동학술대회를 개최하게 되어 너무나 즐거운 마음이 벅차옵니다.

무엇보다도 이번 공동학술대회를 주최할 수 있도록 도와주신 한국응용곤충학회 박종균 회장님과 임언택 학술운영위원장님 그리고 김주일 사무총장님 또한 한국곤충학회 조용훈 학술위원장님, 충무 장호암 박사님께 진심어린 감사의 말씀을 올립니다. 또한 물심양면으로 도와주신 두 학회의 사무국 책임자 김선숙, 안현숙 선생님께도 감사의 말씀을 전합니다.

코로나19 이후 4차산업혁명 기술의 눈부신 발전 그리고 급속한 기후변화 등 곤충관련 연구는 첨단 최신 학문들과 융합되어 도약하고 있습니다.

하지만 곤충관련 기초연구를 할 새로운 신진인력이 점차 줄어들고 있습니다.

장기적으로 최신학문의 기술들을 겸비한 곤충 분류학자, 생태학자들이 많이 양성될 수 있도록 한국응용곤충학회와 한국곤충학회는 힘을 모아야 할 때라고 생각합니다. 그러한 노력의 일환으로 박종균 회장님께서 제안하셨던 양봉, 양잠, 산업곤충 관련 학회들과의 공동학술대회 개최를 위한 시작을 해야 할 듯 합니다. 두 학회의 임원진들과 회원들 모두의 염원이 대한민국 곤충학의 새로운 미래를 만들어 갈 수 있도록 노력하였으면 좋겠습니다.

이번 공동학술대회에서는 “자랑스러운 대한민국 곤충인 상”이 새롭게 만들어 졌습니다. 1회 수상자로는 양 학회 모든 회원들의 존경을 담아, 대전대학교 총장이신 남상호 교수님께서 추대 되셨습니다. 지면을 통해서 다시 한번 축하의 말씀 전합니다.

마지막으로 2024년 한국응용곤충학회, 한국곤충학회 춘계 공동학술대회에 참여 해 주신 모든 곤충학자님들께 감사의 말씀을 올리며, 양 학회 회원 모든 분들의 가정에 행복과 기쁨이 가득하시길 기원합니다. 감사합니다.

2024년 4월 25일  
한국곤충학회장 이 용 석

# Program

## ■ 2024 Spring Conference of KSAE & ESK ■

### “THREAT TO INSECT BIODIVERSITY BY HUMANS & THREAT TO HUMAN HEALTH BY INSECTS”

25(Thu)-26(Fri) April 2024 Grand Plaza Cheongju Hotel

#### 25 April (Thu)

Time	Section		Room
11:00~12:00	Registration		Desk
12:00~12:20	Opening Ceremony & Photography		Grand Ballroom A+B 3F
Plenary Lecture			
12:20~12:50	Current Status and Future Projections on Mosquito Borne Diseases and their Vectors in Korea Dong-Kyu Lee (Kosin University)		Grand Ballroom A+B 3F
12:50~13:20	Pterostichine Carabid Beetles and Why Fundamental Taxonomic Science is Critical to Modern Conservation Efforts Kipling Will (University of California, Berkeley)		
17:20~17:50	Mechanisms, Diagnosis and Management of Pesticide Resistance: Current Status and Future Prospects Si Hyeock Lee (Seoul National University)		Grand Ballroom A+B+C 3F
Oral Presentation			
13:20~16:00	Generals	All subjects	Grand Ballroom A+B 3F
	Graduates	Ecology / Pest Control / Medical Entomology I	Grand Ballroom C 3F
		Ecology / Pest Control / Medical Entomology II	Uam Hall 3F
		Physiology / Molecular Biology / Industrial Entomology / Forensic Entomology	Jikji Hall A 3F
		Taxonomy / Phylogeny / Morphology	Jikji Hall B 3F
	Generals	All subjects	Hwarang Room 2F
Graduates	Taxonomy / Phylogeny		
16:00~16:10	Coffee Break		
Poster Presentation			
16:10~17:10	In-person Presentation (Competition & Non Competition)		Jusung Hall 3F
17:10~17:20	Coffee Break		



## 25 April (Thu)

Time	Section	Room
<b>KSAE/ESK Meeting</b>		
17:20~18:00	Grand Ballroom A+B+C	Uam Hall
	General Meeting & Special Lectures of the Winner for Korean Entomologist Award Ceremony (KSAE)	General meeting (ESK)
18:00~18:20	<b>Coffee Break</b>	
18:20~20:00	Proud Korean Entomologist Award & Banquet	Grand Ballroom A+B+C 3F
<b>Small Group Meeting</b>		
20:00~21:00	Academic Committee Meeting (KSAE) Un Taek Lim (Andong National University) Donghun Kim (Kyungpook National University)	Mars 2F
	Industrialization of dsRNA Biopesticides (KSAE) Youngyun Kim (Andong National University) June-Sun Yoon (Jeonbuk National University)	Hwarang Room 2F
	Current Status of Pollinating Insect Research in Korea Il-Kwon Kim (Korea National Arboretum)	Jikji Hall A 3F
	Editorial Board Meeting (ENR) Ohseok Kwon (Kyungpook National University)	Uam Hall 3F
	ICE2024 Meeting (ESK) Yong Hun Jo (Soonchunhyang University)	Jikji Hall B 3F

## 26 April (Fri)

Time	Section	Room
<b>Symposia</b>		
09:00~11:30	Part I : Threat to Insect Biodiversity by Humans Ilgoo Kang (Kyungpook National University)	Grand Ballroom A+B 3F
	Part II : Threat to Human Health by Insects Yeon Soo Han (Chonnam National University)	
	Insect Chemical Ecology in Korea, 7th: The Road to Practical Application Junheon Kim (National Institute of Forest Science) Gwang Hyun Roh (Gyeongsang National University)	Grand Ballroom C 3F
	Insect-Microbe Immunity and Interaction June-Sun Yoon (Jeonbuk National University) Se Jin Lee (Sunchon National University)	Uam Hall 3F
	Vector Surveillance and Control Hee Il Lee (Korea Disease Control and Prevention Agency)	Jikji Hall A 3F
11:30~11:40	Modern Approaches to Artificial Intelligence (AI) in Entomology Ho Am Jang (Soonchunhyang University)	Jikji Hall B 3F
	<b>Coffee Break</b>	
11:40~	<b>Closing Ceremony</b> Awards of Competition and Raffle Tickets, Presidential Address Gwanjung Bok-Sung Cho Quiz	Grand Ballroom A+B 3F



# Contents

## Plenary Lecture

<b>4. 25. Thu</b>	<b>Grand Ballroom A+B (3F)</b>	<b>Organizer :</b> Yong Hun Jo (Soonchunhyang University)
<b>Plenary Lecture I</b> 12:20~12:50	Current status and future projections on mosquito-borne diseases and their vectors in Korea Dong-Kyu Lee	
<b>4. 25. Thu</b>	<b>Grand Ballroom A+B (3F)</b>	<b>Organizer :</b> Un Taek Lim (Andong National University)
<b>Plenary Lecture II</b> 12:50~13:20	Pterostichine carabid beetles and why fundamental taxonomic science is critical to modern conservation efforts Kipling Will	
<b>4. 25. Thu</b>	<b>Grand Ballroom A+B+C (3F)</b>	<b>Organizer :</b> Dong-Soon Kim (Jeju National University)
<b>Plenary Lecture III</b> 17:20~17:50	Mechanisms, diagnosis and management of pesticide resistance: Current status and future prospects Si Hyeock Lee	

## Symposium

### ➤ S1. Threat to Insect Biodiversity by Humans & Threats to Human Health by Insects

<b>4. 26. Fri</b>	<b>Grand Ballroom A+B (3F)</b> <b>KSAE</b>	<b>Organizer :</b> Ilgoo Kang (Kyungpook National University)
<b>S1-1</b> 09:05~09:23	Insect population dynamics according to environmental change: Prediction of forest pest distribution Yang-Seop Bae, Young-Seuk Park, Tae-Soo Chon, Bong-Kyu Byun, Seunghwan Lee, Jong Kyun Park and Tak-Gi Lee	
<b>S1-2</b> 09:25~09:43	Diversity and future of Hymenoptera in South Korea Jin-Kyung Choi	
<b>S1-3</b> 09:45~10:03	Current status and biodiversity of aquatic insects in Korea Sang Woo Jung	



4. 26. Fri

Grand Ballroom A+B (3F)

ESK

Organizer : Yeon Soo Han (Chonnam National University)

- S1-4** Human fatalities caused by social wasp in Korea  
10:20~10:50 Moon Bo Choi
- S1-5** Ecological understanding of Q fever diseases transmission among rodents, ticks, and cow  
10:50~11:20 Sungwon Hong, Young Ho Kim and Kyoung-Seong Choi

## ➤ S2. Insect Chemical Ecology in Korea, 7th: The Road to Practical Application

4. 26. Fri

Grand Ballroom C (3F)

Organizer : Junheon Kim (National Institute of Forest Science)

Gwang Hyun Roh (Gyeongsang National University)

- S2-1** Study on the application of repellents from natural products for the control of two-spotted spider mites in greenhouse  
09:00-09:20 Ji Hye Oh, Dong Hee Kim, Ryeo Eun Kim, Hyeon Gu Kim, Eun Su Jang, Sung Youn Jo, Seo Yeon Park, Da Hyeon Yu and Gwang Hyun Roh
- S2-2** Seasonal occurrence of bark and woodboring Coleoptera in stands of *Pinus densiflora* (Pinales: Pinaceae) and *Larix kaempferi* (Pinales: Pinaceae) and monitoring method using multi-funnel traps baited with pine volatiles  
09:20-09:40 Il-Kwon Park, Ji-Hong Park, Min-Jung Huh, Jae-Woo Lee and Min-Woo Lee
- S2-3** Field Application of a combination treatment of pheromone and kairomone against Citrus Longhorned Beetle, *Anoplophora chinensis*  
09:40-10:10 Soon Hwa Kwon, Young Eel Moon, Kyung Jin Park and Jong Hwan Shin
- S2-4** Development and effectiveness testing of *Conogethes punctiferalis* mating disruptor emitter and treatment method  
10:10-10:30 Seongchae Jung
- S2-5** Approaches of urban forest pest management using pheromone-based mating disruption  
10:30-10:50 Junheon Kim, Sungchae Jung and Jong-Kook Jung
- S2-6** Technical aspects of sensory electrophysiology in insect chemical communication studies: EAG, GCEAD and SSR  
10:50-11:10 Kye Chung Park
- S2-7** Chemical communication system of three *Spodoptera* moth species for pheromones and plant volatiles  
11:10-11:30 Seon Ah Jeong, Hyun-Woo Oh, Doo-Sang Park, Bong-Kyu Byun and Kye Chung Park

## > S3. Insect-Microbe Immunity and interaction

4. 26. Fri	Uam Hall (3F)	<b>Organizer :</b> June-Sun Yoon (Jeonbuk National University) Se Jin Lee (Sunchon National University)
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- S3-1** Insect gut microbiome as a novel source for synthetic plastic biodegradation  
09:00~09:30 Jong-Hoon Kim
- S3-2** EpOMes act as immune resolvins in insects  
09:30~10:00 Yonggyun Kim
- S3-3** Insect host-pathogen interaction: Signaling pathway for antimicrobial peptides production  
10:00~10:30 Yong Hun Jo
- S3-4** Introduction of BRL: Insect-microbe interaction Lab  
10:30~11:00 Se Jin Lee, Tae Young Shin, June-Sun Yoon, Hoe Ri Kim, Hyun Wook Jung, Da Hee Kim, Seung Gyu Choe and Jae Su Kim

## > S4. Vector Surveillance and Control

4. 26. Fri	Jikji Hall A (3F)	<b>Organizer :</b> Hee Il Lee (Korea Disease Control and Prevention Agency)
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- S4-1** Importance of vector surveillance in the era of climate change  
09:00-09:20 Yong Seok Lee
- S4-2** Development of Smart Aerial Net Trap (SANT) for monitoring of migrating pests  
09:20-09:40 Min Hyeuk Lee, Hong Hyeon Park, Junsu Kim, Dageong Jeong and Chaehun Paik
- S4-3** National monitoring of mosquito populations in the Republic of Korea in 2023  
09:40-10:10 Hyunwoo Kim, Byung-Eon Noh, Sehoon Cho and Hee Il Lee
- S4-4** Surveillance of vectors for arthropod-borne animal diseases  
10:10-10:30 In-Soon Roh
- S4-5** AI-IoT based automated imaging trap system for monitoring vector mosquito population  
10:30-10:50 Junyoung Park, Dong In Kim and Hyung Wook Kwon
- S4-6** Paradigm shift to control strategy based on mosquito surveillance data  
10:50-11:10 Sun Ran Cho, Chang-Won Jang and HeeIl Lee
- S4-7** Differences in insecticide resistance profiles among medical insects: Status and patterns  
11:10-11:30 Ju Hyeon Kim, Do Eun Lee, Susie Cho and Si Hyeock Lee

## > S5. Modern Approaches to Artificial Intelligence (AI) in Entomology

4. 26. Fri	Jikji Hall B (3F)	Organizer : Ho Am Jang (Soonchunhyang University)
S5-1 09:00~09:30	Beyond visuals: unveiling the multifaceted applications of AI in entomology Yuno Do	
S5-2 09:30~10:00	Construction of an insect protein 3D structure prediction system using AlphaFold2 Dae Kwon Song, Min Kyu Sang, Jie eun Park, Jun Yang Jeong, Chan-Eui Hong, Yong Tae Kim, Hyeonjun Shin, Heon Cheon Jeong and Yong Seok Lee	
S5-3 10:00~10:30	Advances in artificial intelligence for vector identification and monitoring Tristan Ford, Jewell Brey, Sanket Padmanabhan and Autumn Goodwin	

## Oral Presentation

### > 1. Competition - Generals\_All subjects

4. 25. Thu	Grand Ballroom A+B (3F) KSAE	Moderator : Iksoo Kim (Chonnam National University) Heungsik Lee (Animal and Plant Quarantine Agency)
O1 13:25~13:40	Research on controlling harmful diseases and pests in soil using microwave penetration heating effect Moon Heon Choi, Soon Sin Jung and Heung Sik Lee	
O2 13:40~13:55	Remote sensing to predict insect vector migration and plant virus outbreaks: An example from California Hyoseok Lee and Christian Nansen	
O3 13:55~14:10	Seasonal occurrence of insect pests from endangered coniferous trees in subalpine forests of Korea Jongok Lim, Dong-Pyeo Lyu, Jun-Gi Byeon, Haneul Yu, Sung-Il Cho, JuNu Bak, Hojin Jeon and Jongman Park	
O4 14:10~14:25	Energy flux in soil ecosystem in the threats to biodiversity June Wee, Yun-Sik Lee, Yongeun Kim, Taewoo Kim, Jaejun Song and Kijong Cho	
O5 14:25~14:40	Development of binomial sampling plan of <i>Bemisia tabaci</i> in greenhouse tomato SoEun Eom, Taechul Park, Jiwon Jeong and Jung-Joon Park	



4. 25. Thu	Grand Ballroom A+B (3F) <b>ESK</b>	<b>Moderator :</b> Jin-Kyung Choi (Daegu National University of Education)
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- O6** Experimental investigation of the life history of *Chrysochroa coreana* (Coleoptera: Buprestidae) via nondestructive computed tomography method  
14:40~14:55 Dae-Am Yi, Jung-Sam Kim, Sung-Woo Jeon and Yong-Un Shin
- O7** Ecological integration of *Vespa velutina* lepeletier, 1836 in South Korea: A comprehensive study of Co-occurrence and interaction patterns with native social wasps  
14:55~15:10 Yuno Do, Woong-Bae Park, Moon Bo Choi
- O8** Fecal metabarcoding and prey pellets reveal differences in prey breadth of *Vespa mandarinia* in native and novel ecosystems  
15:10~15:25 Moon Bo Choi, Chris Looney, Telissa Wilson, Luke Tembrock, Jessica Orr, Sapphitah Dickerson, Shawn M. Cleveland and Mark Wildung
- O9** Detection of Orientia spp. from chiggers (Acari: Trombiculidae) in the Republic of Korea, 2022  
15:25~15:40 Hak Seon Lee, Seong Yoon Kim and Hee Il Lee
- O10** Decomposition ability of organic waste by *Protaetia brevitarsis seulensis* larval instar stages  
15:40~15:55 Yeon Woo Jeong and In Hag Choi

## > 2. Competition - Graduates\_Ecology, Pest Control, Medical Entomology I

4. 25. Thu	Grand Ballroom C (3F) <b>KSAE</b>	<b>Moderator :</b> Keon Mook Seong (Chungnam National University) Kyungjae Andrew Yoon (Seoul National University)
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- O11** Evidence against Thayer's hypothesis: Distractive markings hinder camouflage in moth-like targets  
13:25~13:37 Hyeon Sung, Hyoun-June Cho and Changku Kang
- O12** From Decay to Diversity: Ecological relationships of environmental variables and saproxylic beetles in dead wood  
13:37~13:49 Ji-Won Kang, Seung-II Lee, Ui-joung Byun and Jong-Seok Park
- O13** A sheep in wolf's clothing: A microlepidopteran species mimics jumping spiders  
13:49~14:01 Wonbin Lim and Changku Kang
- O14** Dissecting the molecular underpinnings of an ancient mutualism: An integrative study of fig-wasp symbiotic evolution  
14:01~14:13 Hyun-Gu Kim and Daehan Lee

- O15** Evaluation of insecticidal activity in western flower thrips, *Frankliniella occidentalis*, occurring from greenhouse peppers in Gyeonggi-do  
14:13~14:25  
Kyeong Woo Kim, Hwang Bin Yu, Ho Wook Lee, Min Jae Kim,  
Rosmary Malory Noli Erquinio, Yi Seul Kim, Abraham Okki Mwamula and DongWoon Lee
- O16** Biological and morphological characteristics of *Eriborus* sp. (Hymenoptera: Ichneumonidae), a parasitoid wasp of the box tree moth, *Cydalima perspectalis* Walker (Lepidoptera: Crambidae)  
14:25~14:37  
Byung-Chan Kim, Sung-Gum Sul and Il-Kwon Park
- O17** Evaluation of insecticide resistance in *Frankliniella occidentalis* from tomato greenhouses in Chungcheong-do, Cheongyang, Chungju and Gongju  
14:50~15:02  
Rosmary Malory Noli Erquinio, Min Jae Kim, Ho Wook Lee, Hwang Bin Yu, Yi Seul Kim, Abraham Okki Mwamula and Dong Woon Lee
- O18** Development of LAMP assay for rapid identification of *Spodoptera eridania* and *S. ornithogalli* (Lepidoptera: Noctuidae) using species-specific whole genome sequences  
15:02~15:14  
Seung Hyun Lee, Jeong Sun Park, Sangmi Lee and Iksoo Kim
- O19** Trade-off between reproduction and defense in *Akanthomyces attenuatus* JEF-147-infected two-spotted spider mite  
15:14~15:26  
Gahyeon Song and Jae Su Kim
- O20** Antennal olfactory receptor neurons for plant volatiles in harlequin ladybird, *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae)  
15:26~15:38  
Jaewoo Lee, Adriana Najar-Rodriguez, Andrew Twidle, Il-Kwon Park and Kye Chung Park
- O21** Invasion risk of *Tuta absoluta* (Meyrick) (Lepidoptera: Gelechiidae) in Korea under climate change: Predictions based on MaxEnt modeling with elevation and land cover  
15:38~15:50  
Ji-won Jeong, Taechul Park, SoEun Eom and Jung-Joon Park

## 3. Competition - Graduates\_Ecology, Pest Control, Medical Entomology II

4. 25. Thu	Uam Hall (3F) <b>KSAE</b>	<b>Moderator :</b> In-hong Jeong (National Institute of Agricultural Sciences) Young Su Lee (Gyeonggi Agricultural Research and Extension Services)
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- O22** Canceled by Author  
13:25~13:37
- O23** Effects of symbiotic bacteria, *Caballeronia insecticola*, on behaviors and fitness parameters of female *Riptortus pedestris* (Hemiptera: Alydidae)  
13:37~13:49  
Joo-Young Kim, Minhyung Jung, Jung-Wook Kho and Doo-Hyung Lee
- O24** *Frankliniella occidentalis* monitoring using deep learning algorithms  
13:49~14:01  
Taechul Park, SoEun Eom, Ji-won Jeong and Jung-Joon Park



- O25** Development of a metal detector system for tracking soil-dwelling insects  
14:01~14:13 Jung-Wook Kho, Joo-Young Kim, Minhyung Jung and Doo-Hyung Lee
- O26** The effect of temperature on rice stripe virus (RSV) acquisition and transmission of the small brown planthopper, *Laodelphax striatellus*  
14:13~14:25 Seoyul Hwang and Donghun Kim
- O27** Comparative monitoring of insecticide resistance of *Bemisia tabaci* collected from greenhouse peppers in the Republic of Korea  
14:25~14:37 Gyeongmo Gu, Minsung Ma, Seojin Jung and Donghun Kim
- O28** Insecticide resistance tests of *Bemisia tabaci* (Hemiptera: Aleyrodidae) collected from greenhouse cucumbers in Korea  
14:50~15:02 Myeonghwan Kim, Eun Young Choi, Jong Bong Choi, Taeyeong Kwon, Hee Soo Lee, Seungmin Shin, Gnim Sodavy, Jong Kyun Park
- O29** Co-evolutionary patterns between false heads and associated traits in lycaenid butterflies  
15:02~15:14 San Kang, Do Hoon Cha and Changku Kang
- O30** *Beauveria bassiana* (Balsamo) Vuillemin AAD16 control *Tetranychus kanzawai* Kishida and *Bemisia tabaci* Gennadius on greenhouse strawberry  
15:14~15:26 Md. Rajib Hasan, Md. Rasel Raju and Un Taek Lim
- O31** Control effect of anion on *Tetranychus urticae* and *Aphis gossypii*  
15:26~15:38 Dong-Hyun Kang, Gyeong Yeop Lim, Seung Geun Ye, Tae Woong Lee, Hyun-Na Koo and Gil-Hah Kim

4. 25. Thu

Uam Hall (3F)

ESK

**Moderator :** In-hong Jeong (National Institute of Agricultural Sciences)  
Young Su Lee (Gyeonggi Agricultural Research and Extension Services)

- O32** Occurrences of *Orientia tsutsugamushi* infection rates of chigger mites (Acari: Trombiculidae) captured in Yesan, Chungcheongnam-do (2018-2023)  
15:38~15:50 Hyeon Jun Shin, Jun Yang Jeong, Chan-Eui Hong, Hyeok Lee, Kyoung Won Lee, Min Kyu Sang, Jie Eun Park, Dae Kwon Song and Yong Seok Lee

#### ➤ 4. Competition - Graduates\_Physiology, Molecular Biology, Industrial Entomology

4. 25. Thu

Jikji Hall A (3F)

KSAE

**Moderator :** Junheon Kim (National Institute of Forest Science)  
Donghun Kim (Kyungpook National University)

- O33** Pharyngeal gustatory receptors: Gatekeepers of salt intake in *Drosophila*  
13:25~13:37 Jiun Sang, Bhau Shrestha and Youngseok Lee

- O34** Effects of several amino acid residues forming the back door on molecular properties of *Apis mellifera* acetylcholinesterase 1  
13:37~13:49 Jong Hyeok Lee, Kyungjae Andrew Yoon and Si Hyeock Lee
- O35** Detection of *kdr* mutations in local populations of the German cockroach and cloning of sodium channel genes from other cockroach species  
13:49~14:01 Hyun Kyu Shin, Susie Cho, Heung Chul Kim and Si Hyeock Lee
- O36** Comparative analysis of genome composition of non-ribosomal peptide synthetases and insecticidal virulence in six *Xenorhabdus* bacterial species  
14:01~14:13 Gahyeon Jin, Falguni Khan and Yonggyun Kim
- O37** An insect with ADHD?: Diet-mediated transgenerational effect on hyperactivity, impulsivity, and diffuse attention in *Riptortus pedestris* (Hemiptera: Alydidae)  
14:13~14:25 Woomin Kwon, Kwang Pum Lee
- O38** Environmental risk assessment of DvSNF7 dsRNA in transgenic corn using domestic non-target insect  
14:25~14:37 Ju Hyeon Baek and June-Sun Yoon
- O39** First outbreaks of cricket disease in South Korea  
14:37~14:49 Eunsun Kim, Chan-Ouk Kim, Kibeom Park and June-Sun Yoon
- O40** Development of Thrips-cide dsRNA and its application to hot peppers  
14:49~15:01 Falguni Khan and Yonggyun Kim
- O41** Effect of a commensal bacterium, *Bacillus subtilis*, on insect immune priming  
15:01~15:13 Shiva Haraji, Reza Talaei-Hassanloui and Yonggyun Kim

## ➤ 5. Competition - Forensic Entomology

4. 25. Thu	Jikji Hall A (3F) <b>ESK</b>	<b>Moderator :</b> Myeoung Cheol Kim (SOKN)
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- O42** History and current state of Korean forensic entomology  
15:13~15:25 Tae Mo Kang and Seong Hwan Park
- O43** Seasonal and habitat impacts on biodiversity of forensically important blowflies (Diptera: Calliphoridae) in Gyeongsangnam-do, South Korea  
15:25~15:37 Hyeon Seok Oh, In Seong Baek, Min Gyu Kang, Yi Re Kim and Sang Hyun Park
- O44** Influence of micro-environmental factors on decomposition and insect colonization  
15:37~15:49 Woong-Bae Park, Siae Park, Dae-Hee Kim and Yuno Do
- O45** Forensic entomology in South Korea: Cataloging insect species for legal investigations  
15:49~16:01 In-Seong Baek, Hyeon-Seok Oh, Min-Gyu Kang, Yi-Re Kim and Sang-Hyun Park



## > 6. Competition - Graduates\_Taxonomy, Phylogeny, Morphology

4. 25. Thu	Jikji Hall B (3F) KSAE	Moderator : Geonho Cho (Sunchon National University) Sol-Moon Na (Animal and Plant Quarantine Agency)
O46 13:25~13:37	Taxonomic review of the family Ptiliidae (Coleoptera: Staphylinoidea): The smallest known beetles in Korea Taeyoung Jang and Jong-Seok Park	
O47 13:37~13:49	Taxonomic review of the genus <i>Bucculatrix</i> Zeller, 1839 (Lepidoptera: Bucculatricidae) in Korea Jae-In Oh, Neung-Ho Ahn, Ji-Young Lee, June-Hyeok Jeong, Sang-Yoon Kim, Young-Gwang Song and Bong-Kyu Byun	
O48 13:49~14:01	Review of the family glyphipterigidae (Lepidoptera: Yponomeutoidea) in Korea June-Hyeok Jeong and Bong-Kyu Byun	
O49 14:01~14:13	Taxonomic notes of genus <i>Pidonia</i> Mulsant (Coleoptera: Cerambycidae: Lepturinae) from Korea with a new record Haneul Yu, Seunghwan Oh and Jongok Lim	
O50 14:13~14:25	Two new records of Chalcididae (Hymenoptera, Chalcidoidea) from Korea Sung-Il Cho and Jongok Lim	
O51 14:25~14:37	First complete molecular phylogeny of the subfamily Delininae (Diptera: Scathophagidae) Sangjin Han and Seungwan Shin	
O52 14:48~15:00	Phylogeographic relationships of the wild silkworm, <i>Bombyx mandarina</i> (Lepidoptera: Bombycidae), inferred from mitochondrial genome sequences Jee-Young Pyo, Jeong Sun Park, Min Jee Kim, Heon Cheon Jeong, Sung-Soo Kim, Yutaka Banno and Iksoo Kim	
O53 15:00~15:12	Comparative population genetics of the oriental fruit fly, <i>Bactrocera dorsalis</i> , using mitochondrial molecular markers Jiseok Kim and Donghun Kim	
O54 15:12~15:24	<i>Spelaeochthonius</i> - past, present, and future of pseudoscorpions Kyung-Hoon Jeong and Sora Kim	
O55 15:24~15:36	Beyond morphology: 3D modeling approach to species diversity in Stathmopodidae In-Won Jeong and Sora Kim	
O56 15:36~15:48	Revisiting Sípek <i>et al.</i> (2016): evolutionary analysis for flower chafers and its current status of phylogenetic study (Coleoptera: Scarabaeidae: Cetoniinae) Jihoon Kim and Seungwan Shin	
O57 15:48~16:00	Revision of subfamily Calonecrinae (Coleoptera: Cucujoidea: Nitidulidae), systematics and natural history of a mysterious group Min Hyeuk Lee, Seunghyun Lee, Josef Jelínek, Richard A. B. Leschen, Ming Bai and Seunghwan Lee	




## > 7. Non-Competition - Generals\_All subjects

4. 25. Thu	Hwarang Room (2F) KSAE	Moderator : Juil Kim (Kangwon National University) Myung Suk Rho (Seoul National University)
O58 13:25~13:37	Updated genome assembly of <i>Diadegma fenestrale</i> (Hymenoptera: Ichneumonidae), and its symbiotic virus DfIV Juil Kim	
O59 13:37~13:49	Tunnel specialization in termites: why do they never switch tasks during tunneling? Sang-Hee Lee and Cheol-Min Park	
O60 13:49~14:01	Neuropeptide modulation of female sexual drive through pC1 neurons and pyrexia TRP channel in <i>Drosophila melanogaster</i> Do-Hyoung Kim, Young-Hoon Jang, Minsik Yun, Kang-Min Lee and Young-Joon Kim	
O61 14:01~14:13	The central brain neurons play a role in the quicker removal of male ejaculate by <i>Drosophila</i> females in response to male pheromones Minsik Yun, Do-Hyoung Kim and Young-Joon Kim	
O62 14:13~14:25	Genome analysis of volvoxvirus isolated from <i>Gryllus bimaculatus</i> in South Korea Hyun Soo Kim and June-Sun Yoon	
O63 14:25~14:37	Ecological predictions using AI in the era of big data to advance pest management Hyoseok Lee, Christian Nansen and Nicholas Manoukis	
O64 14:37~14:49	Differences in seasonal dynamics and pyrethroid resistance development among <i>Anopheles</i> Hyrcanus Group species Do Eun Lee, Si Hyeock Lee and Ju Hyeon Kim	
O65 14:49~15:01	The effects of protein and carbohydrate intake on lifespan and reproduction in the yellow mealworm beetle, <i>Tenebrio molitor</i> Myung Suk Rho and Kwang Pum Lee	

## > 8. Competition - Taxonomy, Phylogeny

4. 25. Thu	Hwarang Room (2F) ESK	Moderator : Jong Chul Jeong (Wild Bugs Eco-Environment Institute)
O66 15:02~15:14	Revision of the monotypic New Zealand genus <i>Adalmus</i> Reitter (Staphylinidae: Pselaphinae) with six new species Ui-Joung Byeon, Donald S. Chandler, Richard A. B. Leschen and Jong-Seok Park	
O67 15:14~15:36	Molecular phylogenetics and biogeographic studies of the subgenus <i>Nialoe</i> s. lat. (Coleoptera: Carabidae: <i>Pterostichus</i> ) Dooyoung Kim and Ui Wook Hwang	

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- O68** Molecular systematics of Bythinini Raffray of Korea with two new species  
15:36~15:48 (Coleoptera: Staphylinidae: Pselaphinae)  
Yeon-Jae Choi and Jong-Seok Park
- O69** Taxonomic study on eight species of mature larvae of Genus *Vespa*  
15:48~16:00 (Hymenoptera: Vespidae) from South Korea  
Jaehee Kim, Moon Bo Choi and Ohseok Kwon

## Poster Presentation - Competition

### > 1. Graduate - Taxonomy, Phylogeny

**Moderator :** Deuk-Soo Choi (Quarantine Techonology Institute Inc.)  
Dong June Lee (Animal Research Division, Honam National Institute of Biological Resources)

- P1** One newly recorded *Paragabara* species (Lepidoptera, Erebidiae, Boletobiinae) from Korea  
Ji-Young Lee and Bong-Kyu Byun
- P2** Review of the genus *Cephennodes* Reitter (Coleoptera: Staphylinidae: Scydmaeninae) in Korea with a new record  
Da-Um Na, Ui-Joung Byeon and Jong-Seok Park
- P3** Taxonomic study of the genus *Spilonota* Stephens (Lepidoptera: Tortricidae: Olethreutinae: Eucosmini) with descriptions of two new species in Korea  
Seokhoon Choi, Jeong-Nam Kim, Hanul Kim, Ulzijjargal Bayarsaikhan and Yang-Seop Bae
- P4** 3D Description of Stathmopodidae Type Species using Micro-CT  
In-Won Jeong and Sora Kim
- P5** First Record of genus *Dyseriocrania* Spuler, 1910 (Lepidoptera: Eriocraniidae), a Leaf Miner from Korea  
Dae-Kyeong Ra and Sora Kim
- P6** A New Record of a Forest Lepidopteran Pest of genus *Acrionicta* Ochsenheimer, 1816 (Lepidoptera: Noctuidae) from Korea with Molecular data  
Jinsung Park and Sora Kim
- P7** Species diversity comparisons of subtropical and tropical Lepidoptera in Vietnam: Noctuoidea fauna and flora  
Hee Han and Sora Kim
- P8** A new species of the genus *Altenia* (Lepidoptera: Gelechiidae) from Korea  
Jin-Ho Na, Jun-Mo Koo and Soowon Cho

- P9 Literature Review of Insect Pests on *Citrullus lanatus* in Korea  
Seung Hyun Park and Sora Kim
- P10 Revision of Genus *Addyme* Walker, 1863 (Phycitinae: Pyralidae: Lepidoptera)  
and its allied genera  
Tae-uk Yu, Kyu-tek Park and Soowon Cho
- P11 A New record of *Hemipsocus chloroticus* (Hagen, 1858) (Psocodea: Hemipsocidae)  
in South Korea  
Jaeyun Kim and Wonhoon Lee
- P12 The first record of *Greenidea nigra* Maki, 1917 (Hemiptera: Aphididae:  
Greenideinae) from South Korea  
Yejin Kang and Wonhoon Lee
- P13 Comparison of Male Genitalia of the *Coptolabrus smaragdinus* (Coleoptera:  
Carabidae) from South Korea  
Myeonghwan Kim, Eun Young Choi, Jong Bong Choi, Taeyeong Kwon, Seungmin Shin,  
Gnim Sodavy and Jong Kyun Park

**Moderator :** Jong-Seok Park (Chungbuk National University)  
Hee-A Lee (Gyeonggi-do Agricultural Research and Extension Services)

- P14 Review of the subgenus *Plataphus* (Bembidiini: Bembidiina: *Bembidion*) of Korea  
Eun Young Choi, Myeonghwan Kim, Jong Bong Choi, Taeyeong Kwon,  
Seungmin Shin and Jong Kyun Park
- P15 A new record of the crane fly, *Dolichozepeza (Orozepeza) satsuma* (Alexander, 1918)  
(Diptera: Tipulidae), from South Korea  
Jinsoo Kim, Jisoo Kim, Sangjin Han and Seunggwon Shin
- P16 A new species of *Plecoptera* Guenée 1852 (Lepidoptera: Erebidae) from Korea  
Hohun Ki, Tae-Uk Yu, Unhong Heo and Soowon Cho
- P17 Expansion of Korean records for the family Coleophoridae (Lepidoptera,  
Gelechioidea): Four newly recorded species and two overlooked additions  
Jun-Mo Koo and Soowon Cho
- P18 Molecular epidemiological investigation of the invasive pest Drywood termite  
(*Cryptotermes domesticus* Haviland) in South Korea, 2023  
Sohee Kim, Jungae Kim, Hyun-jik Lee, Yeonsoon Lee, Heung-Sik Lee and Jong-Ho Lee
- P19 Molecular epidemiological investigation of the invasive pest Western drywood  
termite (*Incisitermes minor* (Hagen)) in South Korea, 2023  
Sohee Kim, Jungae Kim, Hyun-jik Lee, Yeonsoon Lee, Heung-Sik Lee and Jong-Ho Lee



P20 Not Presented

P21 Reconciling the molecular phylogeny and fossil records by total evidence tip-dating in cave crickets (Rhaphidophoridae: Orthoptera)  
Do-Yoon Kim, Sangil Kim, Hojun Song and Seunggwon Shin

P22 To fly, or not to fly—that is the question: Wings in Melanoplinae  
Do-Yoon Kim, Hojun Song and Seunggwon Shin

P23 Complete mitochondrial genome of the *Vespa binghami* (Hymenoptera: Vespidae) and comparison to other species in *Vespa*  
Jee-Young Pyo, Jeong Sun Park and Iksoo Kim

P24 Complete mitochondrial genome of *Tropilaelaps mercedesae* Anderson and Morgan, 2007 (Acari: Laelapidae)  
Min Woo Park, Jeong Sun Park, Jee-Young Pyo, Seung Hyun Lee and Iksoo Kim

P25 Morphological identification of subfamily Plusiinae (Lepidoptera: Noctuidae) using the patterns of forewings based on multivariate analysis  
Sori Choi, Jin Woo Heo, Hyeon Suk Jo, Han Ni Aye, Yong Kyun Shin, Myungeun Chwa and Dong-soon Kim

## ➤ 2. Graduate - Ecology, Pest Control

**Moderator :** Changku Kang (Seoul National University)  
Young-gyun Park (Purdue University)

P26 Host preferences of *Spodoptera frugiperda* by corn varieties and nutrient composition by corn cultivar  
Jungwon Jeon, Yunseo Lee, Sun-Il Choi, Jae-Keun Choi, Moonjong Kim, Shihwan Ryu and Juil Kim

P27 Studies on some biological characteristics and summer diapause of the *Euonymus* defoliator moth, *Pryeria sinica* Moore (Lepidoptera: Zygaenidae) in Seoul, Korea  
Ji-Yun Yeo, Min-Woo Lee and Il-Kwon Park

P28 Survey on the diversity of visiting and pollinating insects in major gardens at Sejong national arboretum  
Hojin Jeon, Keum Seon Jeong and Jongok Lim

P29 Seasonal occurrence of forest insect pests (Scolytinae, Cerambycidae) on the border of South and North Korea  
Haneul Yu, Seunghwan Oh, Sangwook Park, Sung-Il Cho, Hojin Jeon, Jongman Park, Yonghwan Park, Chansik Jung and Jongok Lim



- P30** Insect fauna of Gotjawal Provincial Park and Seonheulgot Dongbaek-Dongsan in Jeju, Korea  
Soo-Jeong Park, Eunjoong Kim, Joo Hyuk Yoon and Seong-Jin Ji
- P31** Assessing the effectiveness of combined application of *Beauveria bassiana* (Balsamo) Vuillemin AAD16 and azadirachtin against *Plodia interpunctella* Hubner larvae in laboratory  
Md. Rajib Hasan, Md. Rasel Raju and Un Taek Lim
- P32** Confirmation of the mycological characteristics and insecticidal activity of *Metarhizium pemphigi*  
Young Seo Hong, SeulKi Kim, InJi Heo, Dong Young Hwang, Ji Won Jang, Seo Jin Moon and Tae Young Shin
- P33** A comparison of biological characteristics between *Metarhizium anisopliae* strains  
Hoe Ri Kim, Hyun Wook Jung, Da Hee Kim, Seung Gyu Choe and Se Jin Lee
- P34** Investigating the interaction between mosquitoes and fungi through transcriptome analysis  
Hyun Wook Jung, Hoe Ri Kim, Da Hee Kim, Seung Gyu Choe and Se Jin Lee
- P35** Spatial repellent and oviposition deterring activities of series compounds from ester-containing natural products against *Tetranychus urticae* Koch (Acari: Tetranychidae)  
Dong Hee Kim, Ji Hye Oh, Ryeo Eun Kim, Hyeon Gu Kim, Sung Youn Jo, Eun Su Jang, Seo Yeon Park, Da Hyeon Yu and Gwang Hyun Roh
- P36** Development and assessment of microencapsulation-based formulation of *Autographa californica* multiple nucleopolyhedrovirus  
Minghui Wang, Jae Young Choi, Dong Hwan Park, Siyi Liu and Yeon Ho Je
- P37** Mass-production and Formulation of *Bacillus thuringiensis* IMBL-B9 Strain  
Liu Siyi, Dong Hwan Park, Jae Young Choi, Minghui Wang and Yeon Ho Je
- P38** Investigation of the insect pests and natural enemies of *Cnidium officinale* Makino in Korea  
Jae-In Oh, Bong-Kyu Byun, June-Hyeok Jeong, Chung-Ryul Jung, Yonghwan Park, Ji-Young Lee, Sang-Yoon Kim and Young-Gwang Song

### ➤ 3. Graduate - Medical Entomology, Physiology, Molecular Biology

**Moderator :** Se Jin Lee (Sunchon National University)  
Tae Young Shin (Jeonbuk National University)

- P39** Report on Mosquito Monitoring Results through a smart high-altitude insect net  
Hyobin Lee, Gwansuk Lee and Wonhoon Lee



- P40** Exploring host-parasite interactions between human and the body louse via miRNA  
Gang Chan Lee, Do Eun Lee, Junhyeong Choi, Jeong Heum Han, Si Hyeock Lee and Ju Hyeon Kim
- P41** Development of Molecular Diagnostic Protocols for Simultaneous Identification between Common Bed Bugs and Tropical Bed Bugs  
Jeong Heum Han, Junhyeong Choi, Susie Cho, Si Hyeock Lee and Ju Hyeon Kim
- P42** Genome Analysis of *Anopheles kleini* and *Anopheles pullus*, Vectors of Vivax Malaria in South Korea  
Do Eun Lee, Jeong Heum Han, Il Hwan Kim, Jongsun Park and Ju Hyeon Kim
- P43** Development of a Point-of-Care Testing (POCT) Kit for Scabies Diagnosis  
Wonyong Kwun, Hanna Jin, Min-Ho Choi and Ju Hyeon Kim
- P44** Negative effect of exposure to four pesticides on homing ability and expression of genes associated with ‘learning and memory’ in honey bee, *Apis mellifera*  
Euijin You, YeoungHo Kim and Young Ho Kim
- P45** Expression of genes associated with putative pathway for chemical tolerance in *Drosophila melanogaster*  
YeoungHo Kim and Young Ho Kim
- P46** Transcriptome profiling reveals differential gene expression of detoxification and mitochondrial-related enzymes in *Tribolium castaneum* responding to carbonyl sulfide  
Na Ri Shin and Keon Mook Seong
- P47** A chromosome-scale and annotated reference genome assembly of *Plecia longiforceps* (Diptera: Bibionidae)  
Jonghwan Choi, Sangil Kim, Seunghun Jung and Seungwan Shin
- P48** MicroRNA expression profiling of *Spodoptera frugiperda* under Chlorantraniliprole, Indoxacarb and Thiamethoxam exposure  
Jun Won Shin, Rashmi Manohar Mahalle and Keon Mook Seong
- P49** *Gryllus bimaculatus* densovirus suppression using RNAi in two-spotted cricket (*Gryllus bimaculatus*)  
Hyeon-Jun Koo, Ju Hyeon Baek and June-Sun Yoon
- P50** Evaluation of Next Generation Sequencing assembly software for the genome of *Oryctes rhinoceros nudivirus*  
Ji-Young Kim and June-Sun Yoon



#### ➤ 4. Graduate - Applied Entomology

**Moderator :** Kyeong Yong Lee (National Institute of Agricultural Sciences)  
Bo-Sun Park (National Institute of Agricultural Sciences)

- P51      Prevalence of virus in the Ascomycota and Zygomycota fungus in Korea  
Seo Jin Moon, SeulKi Kim, Dong Young Hwang, InJi Heo, Ji Won Jang,  
Young Seo Hong and Tae Young Shin
  
- P52      Molecular characterization of virus in the entomopathogenic fungus *Metarhizium*  
*pinghaense*  
Dong Young Hwang, InJi Heo, Ji Won Jang, Seo jin Moon, SeulKi Kim,  
Young Seo Hong and Tae Young Shin
  
- P53      Differences in immune response between *Aphis gossypii* adults and nymphs  
against entomopathogenic fungal infection  
Ji Won Jang, June Sun Yoon and Tae young Shin
  
- P54      Profiling of destruxins, the toxin from entomopathogenic fungi *Metarhizium*  
against *Aphis gossypii*  
In Ji Heo, Seulki Kim, Young Seo Hong, Ji Won Jang, Dong Young Hwang,  
Seo Jin Moon and Tae Young Shin
  
- P55      Construction of optimal expression forms for efficient production of hand, foot,  
and mouth disease virus like particles  
Hyun Jung Kim, Hyuk Jin Moon and Soo Dong Woo
  
- P56      Increasing the efficiency of target protein production by regulating VLF-1 in  
insect cell expression system  
Seo Yeong Mun, Min Kong, Hyuk Jin Moon and Soo Dong Woo
  
- P57      Biological potential of Bacteria 'Ch-1' isolated from Chinese Tiger Beetle  
(*Cicindela chinensis*) against Fungi and Antibiotics  
Tae Yun Choi, Jun Ho Lee, Gang Hoon Lee and Saeyoull Cho
  
- P58      Biochemical characterization and IAA activation test of potential plant growth  
promoting bacteria *Enterobacter roggenskampi* isolated from *Monochamus*  
*alternatus* gut  
Jun Ho Lee, Tae Yun Choi, Gang Hoon Lee and Saeyoull Cho

#### ➤ 5. General - Taxonomy , Phylogeny

**Moderator :** Il-Kwon Kim (Korea National Arboretum)  
Sora Kim (Jeonbuk National University)

- P59      Taxonomic review of the genus *Nycteola* Hübner (Lepidoptera, Nolidae) in Korea  
Yeong-Bin Cha and Sora Kim





- P60 First report of the western drywood termite *Incisitermes minor* (Hagen, 1858), a new invasive alien species in South Korea  
Beom-jun Jang, Jongwon Song, Dayeong Kim, Yijung Kim, Minju Kim and Heejo Lee
- P61 A report of two provisional micro-lepidopteran pests from Jeju island  
Sol-Moon Na, Gyu-Won Kang, Kang-Moon Na, Young-Mi Park, Young-Min Shin, Jaekwang Jwa, Minyoung Kim and Min Jee Kim
- P62 Two species of the genus *Grapholita* (Lepidoptera: Tortricidae) new to Korea  
Jin-Sung Kweon, Yonghwan Park and Bong-Kyu Byun
- P63 First records of *Acerocnema* Becker, 1894 (Diptera: Scathophagidae) from South Korea  
Sangjin Han and Seungwan Shin
- P64 A new species of *Pararhabdepyris* Gorbатовsky (Hymenoptera, Bethyridae) from the Korean Peninsula with an updated key to the world species  
Jongok Lim and Il-Kwon Kim
- P65 Three newly recorded species of the genus *Argyresthia* Hübner (Lepidoptera: Argyresthiidae) from Korea  
Sang-Yoon Kim and Bong-Kyu Byun
- P66 Complete mitochondrial genome of the clearwing moth, *Synanthedon bicingulata* (Lepidoptera: Cossioidea: Sesiidae)  
Woo Jin Kim, Seung Hyun Lee, Jeong Sun Park and Iksoo Kim
- P67 Integrative species delimitation and mitochondrial heteroplasmy of the East Asian genus *Aphaenomurus* Yosii (Tomoceridae, Collembola)  
Gyu-Dong Chang and Jeong-Hun Song
- P68 Preliminary research on fruit fly (Diptera: Tephritidae) larvae  
Yong-Bong Lee and Kyujin Jeong

## ➤ 6. General - Ecology, Pest Control

**Moderator :** Youngjin Park (Andong National University)  
Jong-Hoon Kim (Pukyong National University)

- P69 Investigation of insect diversity on the golf course using light traps  
Yujeong Park, Kyung-Duck Kim, Seung In Lee and Eung-Tae Kim
- P70 Impacts of arsenate on the size and fecundity of *Myzus persicae* across generations  
Jaejun Song, Yongeun Kim, Minyoung Lee, June Wee and Kijong Cho

- P71** Computational behavior applied to spatio-temporal movement of individuals and groups in insects  
Tae-Soo Chon, Yong-Hyeok Jang, Hye-Won Kim and Chunlei Xia
- P72** Field monitoring and genetic diversity of the large copper butterfly *Lycaena dispar* (Lepidoptera: Lycaenidae), a near-threatened species in South Korea  
Jeong Sun Park, Seung Hyun Lee, Jee-Young Pyo, Heon Cheon Jeong, Sung-Soo Kim and Iksoo Kim
- P73** Characteristics Investigation of *Apis cerana* RX Genotype in JEONBUK STATE  
Sang Sik Lee, Eun Jin Lee, Chang Sung Song, Woong Kim, Eun Ju Song and Yong Soo Choi
- P74** Comparison of biomass of herbivores using macromoths in two forest characteristics  
Min-Hee Kim, Jae-Young Lee and Sei-Woong Choi
- P75** Injury symptoms and diagnosis result caused by *Cuphodes diospyrosella* Issiki of Persimmon in Gyeongsangbuk-do Province  
Si-Hyun Kim, Yang-Sook Lim, Kyung-Mi Jung, Hye-Young Seo, Jeong-Seok Ha and Woo-Tae Jeong
- P76** Ecological characteristics and control of three invasive termites (*C. domesticus*, *C. gestroi*, *I. minor*) and potential risk species in South Korea  
Minju Kim, Beom-jun Jang, Jongwon Song, Dayeong Kim, Yijung Kim and Heejo Lee
- P77** Attraction test method for effective Codling moth (*Cydia pomonella*) pheromone trap  
Hyerin Kang and Hyoung-ho Mo
- P78** A comprehensive analysis of global measures implemented to control the spread of the Khapra beetle during quarantine  
Anandapadmanaban Gokulanathan, Suh Soo Jung and Hyoung-Ho Mo
- P79** Genetic techniques for controlling stored food products insects  
Anandapadmanaban Gokulanathan, Suh Soo Jung and Hyoung-Ho Mo
- P80** Managing early invasion of alien species in Korea: a perspective from the differential grasshopper, *Melanoplus differentialis* (Orthoptera: Acrididae)  
Jongwon Song, Beom-jun Jang, Dayeong Kim, Yijung Kim, Nanghee Kim and Heejo Lee

## 7. General - Medical Entomology, Physiology , Molecular Biology

**Moderator :** Gwang Hyun Roh (Gyeongsang National University)  
Jong-Kook Jung (Kangwon National University)

- P81** Survey of scrub typhus vectors at epidemic season in Honam region, Korea 2023  
Wonil Park, Hyeon Jeong Lee, Eun-Ah Yu, Chi-Kyeong Kim and Wook-Gyo Lee



- P82      Reporting on molecular authentication and counterfeit distribution cases of animal-derived medicine 'O-gong,' the centipedes through DNA barcode analysis  
Sumin Noh, Wook Jin Kim, Woojong Jang, Goya Choi and Byeong Cheol Moon
- P83      The effect of rapid cold hardening followed by low temperature treatment on the expression of glycerol kinase gene in fall armyworm, *Spodoptera frugiperda*  
Youngjin Park, Anandapadmanaban Gokulanathan and Hyoung-ho Mo
- P84      Computational movement analysis of behavioral modulation by cGMP-dependent protein kinase of the western flower thrips, *Frankliniella occidentalis*  
Chunlei Xia, Gahyeon Jin, Yong-Hyeok Jang, Hye-Won Kim, Falguni Khan, Yonggyun Kim and Tae-Soo Chon
- P85      Groups I and II chitinases, TcCHT5 and TcCHT10, function in turnover of chitinous cuticle during embryo hatching and post-embryonic molting in the red flour beetle, *Tribolium castaneum*  
Myeongjin Kim, Mi Young Noh, Seulgi Mun, Subbaratnam Muthukrishnan, Karl J. Kramer and Yasuyuki Arakane
- P86      Development of genetic database for detected quarantine pests  
Hyemi Park, Soo-Jung Suh and Hyoung-ho Mo

## ➤ 8. General - Applied Entomology

**Moderator :** Gwang Hyun Roh (Gyeongsang National University)  
Jong-Kook Jung (Kangwon National University)

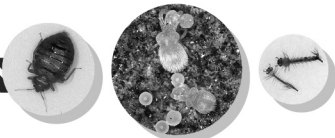
- P87      Study on the breeding satisfaction survey of Orthoptera breeding kits  
Yun Ji Lim, Duck-Soo Choi, Sun Am Kim, Yu Beom Lee, Sang A Oh, Ji Soo Kim and Ju Young Lee
- P88      Addition of agricultural byproducts to feeding substrate affects growth performance and nutritional value of mealworms, *Tenebrio molitor* (Coleoptera: Tenebrionidae)  
Sang A Oh, Duck-Soo Choi, Do Ik Kim, Sun Am Kim, Ji Soo Kim, Yun Ji Lim and Ju Young Lee
- P89      Trend of ants (Hymenoptera: Formicidae) at quarantine and surveillance sites in South Korea  
Yunjong Han and Soo Jung Suh
- P90      Management of Storage Pests in grain exporting countries and Detection status of Stored Grain Pests at Quarantine Sites  
Seokyoung Son and Soo-Jung Suh



## Poster Presentation - Non-Competition

### ➤ 9. Taxonomy

- P91      Unrecorded genus *Psectra* and *Psectra* diptera (Neuroptera: Hemerobiidae) new to Korea  
Seulki Kim and Soowon Cho
  
- P92      New record of genus *Necyla* (Neuroptera: Mantispidae: Mantispinae) from Korea  
Seulki Kim and Soowon Cho
  
- P93      Taxonomic study of *Trichophysetis* (Crambidae, Lepidoptera) in Korea  
Tak-Gi Lee and Neung-Ho Ahn
  
- P94      Native insect Bio-scan project for Korean islands  
Hyeon Lee, Seung Jin Roh, Jae-Seok Lee, Jongwon Kim, Mun-Ja Choi,  
Ji Yeon Chu and Dong-June Lee
  
- P95      A first record of invasive species, *Lepisiota frauenfeldi* (Mayr, 1855) (Hymenoptera: Formicidae) from Korea  
Dayeong Kim, Ye Hyung Lee, Jongwon Song, Beom-jun Jang, Yijung Kim and Heejo Lee
  
- P96      New species of the genus *Olethreutes* (Lepidoptera: Tortricidae: Olethreutinae) in Korea  
Jeong-Nam Kim, Ulziijargal Bayarsaikhan, Hanul Kim, Seok-Hoon Choi and Yang-Seop Bae
  
- P97      Taxonomic notes on the genus *Hypsopygia* Hübner, 1825 (Lepidoptera, Pyralidae, Pyralinae) in Korea  
Hanul Kim, Ulziijargal Bayarsaikhan, Jeong-Nam Kim, Seokhoon Choi and Yang-Seop Bae
  
- P98      Taxonomy of the Subfamily Miltogramminae (Diptera: Sarcophagidae) in Korea  
Jongwon Kim and Sang Jae Suh
  
- P99      New record of the genus *Megastylus* Schiødte, 1838 (Hymenoptera, Ichneumonidae, Orthocentrinae) from South Korea  
Jin-Kyung Choi and Andrei E. Humala
  
- P100      eDNA analysis of some terrestrial insects in Korea  
Kyung-Ho Cho, Kwang-Yong Lee, Min-Jae Sung, Dong-Geun Lee, June-Hyeok Jeong, Sang-Yoon Kim and Bong-Kyu Byun
  
- P101      Morphological characteristics of the reproductive system and DNA barcoding for the classification of the Herminiinae (Lepidoptera, Erebiidae) in Korea  
Ki-Rang Kim, Yu-Jin Kim, Hyun-Chul Song, Soo-Hyun Lee, Ji-Young Lee, Jae-In Oh and Bong-Kyu Byun
  
- P102      First record of the coprophagous beetle genus *Stenotothorax* Schmidt (Scarabaeidae: Aphodiinae) in Korea  
Jaeil Shim and Jeong-Hun Song

- 
- P103** Lepidopterous insect fauna of Chungju and Eumseong, Chungcheongbuk-do, Korea  
Ji-Young Lee, Jae-In Oh, June-Hyeok Jeong, Sang-Yoon Kim,  
Young-Gwang Song and Bong-Kyu Byun
- P104** Monitoring of the genus *Grapholita* (Lepidoptera: Tortricidae) in Korea  
Jae-In Oh, June-Hyeok Jeong, Sang-Yoon Kim, Young-Gwang Song,  
Ji-Young Lee and Bong-Kyu Byun
- P105** Taxonomic study of *Trichophysetis* (Crambidae, Lepidoptera) in Korea  
Tak-Gi Lee and Neung-Ho Ahn
- P106** The sugarcane looper, collected from Byeonsanbando National Park, Korea  
Mun-Ki Paek, Tak-Gi Lee and Neung-Ho Ahn
- P107** A new silkworm variety, NuriGeumJam, producing yellow sericin cocoons  
Seong Wan Kim, Seul Ki Park, Sang Kug Kang, Jong Woo Park,  
Ji Hae Lee and Seong Ryul Kim

## ➤ 10. Ecology

- P108** A tentative mechanism for the pupal chamber construction of the Japanese pine sawyer, *Monochamus alternatus* Hope (Coleoptera: Cerambycidae) in pine trees  
Subin Kim, Jin Woo Heo, Hyeon Suk Jo, Han Ni Aye and Dong-Soon Kim
- P109** A prediction model for the adult emergence of *Delia antiqua* (Diptera: Anthomyiidae) from overwintered pupae and its field validation  
Yong Kyun Shin, Subin Kim, Jin Woo Heo, Myeongeun Chwa,  
Hyeon Suk Jo and Dong-soon Kim
- P110** Growth period by temperature of *Rhopalosiphum nymphaeae* (Hemiptera: Aphididae) occurring on medicinal crop *Alisma plantago-aquatica* L. subsp. *orientale* (Sam.) Juz.  
Sang-Ku Lee, Chaehoon Paik, Kyung Sook Han and Yong-Goo Kim
- P111** Potential distribution in South Korea of three quarantine mealybug species (Hemiptera: Pseudococcidae): here's what CLIMEX says  
Soo-Jung Suh, Hyoung-ho Mo, Su Bin Kim and Hong-Hyun Park
- P112** Report on the Survey Results of Terrestrial Insects in Muju-gun, Jeollabuk-do  
Eunjoong Kim, Soo-Jeong Park, Joo Hyuk Yun, Eun Young Jeong and Seong-Jin Ji
- P113** Seasonal adult occurrence of three pest moths in Iksan, Korea  
Hyung Cheol Moon, Su Ji Jang, Jae Heon Yoo, Kyo Hoon Jin, Duck Ryeol Lee and Ju Hee Kim
- P114** Effect of temperature on the development of *Autographa nigrisigna* (Lepidoptera: Nictuidae)  
Hyung Cheol Moon, Su Ji Jang, Jae Heon Yoo, Kyo Hoon Jin, Duck Ryeol Lee and Ju Hee Kim

- P115 Estimate occurrence period of the brown planthopper, *Nilaparvata lugens* using a temperature-dependent developmental model  
Jaekun Kim, Nak Jung Choi, Bo Yoon Seo, Ju-Rak Lim and Jae Buhm Chun
- P116 Occurrence of three Noctuid moths in July and September (2020-2023)  
Leesun Kim and In-Hong Jeong
- P117 Effects of fluctuating temperature on the population parameters and growth of *Myzus persicae* (Sulzer) (Hemiptera: Aphididae)  
Jeong Joon Ahn, Jung-Eun Kim and Chun Hwan Kim
- P118 Community structure and Biodiversity of Rice field spiders in Korea  
Chang Moon Jang and Seung Tae Kim
- P119 Population dynamics of Soybean insect pests in climate change scenario  
Rameswor Maharjan, Seo Yeon Hong, Young Nam Yoon and Yun Woo Jang

## ➤ 11. Pest Control

- P120 Selection of pine sawyer, *Monochamus salturius* aerial sparying control agent with low honeybee toxicity  
Sunhee Kim and Gun-hyung Kwon
- P121 Regional release effect of *Neodryinus typhlocybae* (Hymenoptera: Dryinidae) for controlling *Metcalfa pruinosa* (Hemiptera: Flatidae)  
HyunOh Sun, HongHyun Park, Jeong Hwan Kim, Meeja Seo, ChaeHoon Paik, In Hong Jeong, Dageyeong Jeong and Min Hyeuk Lee
- P122 Parasitic fly species(Diptera: Tachinidae) on the third generation of *Hyphantria cunea* and the difference in parasitic rates by disturbance  
TaeHo Kang, Hyeban Namgung and HyoJoong Kim
- P123 Detection and frequency of nematode infestations in Chinese Ginger during quarantine  
Soo-Jung Suh, Jae-Yong Chun, Young-jin Park and Hyoung-ho Mo
- P124 Control effect of *Frankliniella occidentalis* using eco-friendly agricultural materials package in a pepper greenhouse  
Young Su Lee, Hee-A Lee, So-Hee Kim, Jong Yoon Choi, Ju-Hyung Yoo and Hyun Ju Lee
- P125 Ovicidal effect of plant extract mixture against seven major insect pests  
Hee-A Lee, Young Su Lee, So-Hee Kim, Jong Yoon Choi, Ju-Hyung Yoo and Hyun Ju Lee
- P126 Impact of release densities on parasitism efficiency of larval parasitoids, *Exorista japonica* and *Meteorus pulchricornis*  
Meeja Seo, HyunOh Sun, ChaeHoon Paik, In Hong Jeong, Dageyeong Jeong and Min Hyeuk Lee



- P127** Establishment of soybean banker plant system for aphid parasitoid, *Binodoxys communis* (Hymenoptera, Braconidae)  
Meeja Seo and Bueyong Park
- P128** Orientation bioassay for chemical synthesis aggregation pheromone of *Scotinophara lurida* using 4 choice olfactometer  
Jae Ung Seol, Tae Hwa Kang, Jong Kook Jung, Young Kean Shim, Jae Jun Oh and Sun woo Lee
- P129** Control effect of several insecticides on adults of the black rice bug, *Scotinophara lurida* (Hemiptera: Pentatomidae)  
You Kyoung Lee, Jae Buhm Chun, Ju-Rak Lim and Bo Yoon Seo
- P130** Initial Exploration of Nematicide-Based Control for Plant-Parasitic Nematodes  
Dong Bin Kim, Se-In Park, Byeoung Jun Kim, Jin-Won Seo, Won-Jin Kang and Byung-Ho Lee
- P131** Efficacy of phosphine and low temperature treatment on *Drosophila suzukii*  
Jinsung Yoo, Jun-ran Kim, Bong-su Kim and Eun-seon Kyoung
- P132** Mortality of *Ceratitis capitata* (Diptera:Tephritidae) and phytotoxicity of dragon fruits by combined treatment of ethyl formate, phosphine and low-temperature  
Sung Woo Cho, Eun Seon Kyoung, Jun Ran Kim and Bong Su Kim
- P133** Investigation of phosphine resistance of stored-product insects collected from Rice Processing Complex (RPC) in Korea, 2021-2023  
Ji-Eun Choi, Won-Jeong Choi, Jun-Ran Kim, Bong-Su Kim and Eun-Seon Kyoung
- P134** Insect repellent effects of multilayer films with adhesives containing natural plant extracted anti-insect materials  
Jahyun Na, Jungmin Kim, Sanghun Yeo and Taekyong Moon
- P135** Improved model for the time of upward-movement to reset the control period of overwintered *Cacopsylla jukyungi* in southern region of Korea  
Ah Rang Kang, Ho-jin Seo, Il sheob Shin, Kyung ho Won, Hae won Jung, Keum sun Kim and Young-sik Cho

## ➤ 12. Medical Entomology\_Physiology

- P136** Investigation the Role of Flies as Vector in the Spread of Lumpy Skin Disease Virus During Outbreak in the Republic of Korea  
Jong-Uk Jeong, Hae-Eun Kang and In-Soon Roh
- P137** Plasticity in ovariole number is mediated by complex interactions between temperature and nutrient balance in *Drosophila melanogaster*  
Eva Šulková, Taehwan Jang and Kwang Pum Lee



P138 Not Presented

P139 Effects of macronutrient balance on larval life-history traits in the two sibling species of *Drosophila*: *D. melanogaster* and *D. simulans*  
Taehwan Jang and Kwang Pum Lee

P140 Geographical characteristics of *Culex tritaeniorhynchus* and *Culex orientalis* microbiome in Korea  
Jeong-Hyeon Lee, Hee-Il Lee and Hyung Wook Kwon

P141 miRNA-Target mRNA Interactions Reveal Novel Insights into Detoxification Mechanisms in *Spodoptera frugiperda*  
Rashmi Manohar Mahalle, Barry R. Pittendrigh and Keon Mook Seong

P142 Mitochondrial COI-based population genetic analysis of the cicada, *Cryptotympana atrata* (Cicadidae: Hemiptera), which is a climate-sensitive indicator species in South Korea  
Jeong Sun Park, Jee-Young Pyo, Heon Cheon Jeong, Sung-Soo Kim and Iksoo Kim

P143 Expression profiles and phylogenetic properties of venom gland-specific viruses in some Aculeate bees and wasps  
Kyungjae Andrew Yoon, Woo Jin Kim, Hee Jong Shin and Si Hyeock Lee

### ➤ 13. Applied Entomology

P144 Pollination activities of *Apis mellifera* and *Apis cerana* in strawberry greenhouse  
Heeji Kim, Kyeong Yong Lee, Young Bo Lee, Bo-Sun Park, Su-Bae Kim, Kyu-Won Kwak, Dong Hee Lee and Sung Hyun Min

P145 Comparative analysis of reporting status about the Invasive Alien Species Report Center in 2022 and 2023  
Min-ji Cha, Beom-jun Jang, Heejo Lee, Dayeong Kim, Jongwon Song, Yijung Kim and Minju Kim

P146 Long-term storage and growth control of the yellow mealworm, *Tenebrio molitor* Linnaeus  
Chan-Ouk Kim, Sangmin Ji, Gyu-Dong Chang, So-Yun Kim and Jeong-Hun Song

P147 2023 IRA reports and case study for avocado fruit from Philippines  
Sangmok Cha, Bokyoung Park, Junghoon Hwang, Inshin Jeong, Junwoo Kim, Youngseop Choi, Yeonmi Chu, Minkyung Kim, Seungjae Kim, Changseok Ryu, Hyeonguk Ha and Heesoo Park

P148 Research on data collection and utilization for smart rearing of edible insects  
Sun Am Kim, Yu Beom Lee, Sang A Oh, Ji Soo Kim, Ju Young Lee, Yun Ji Lim, Duck Soo Choi and Kyung Chun Joo





- P149** Investigating the viability of silkworm seeds post extended low-temperature preservation  
Seul-Ki Park, Sang-Kug Kang, Jong-Woo Park, Seong-Ryul Kim,  
Ji-Hae Lee and Seong-Wan Kim
- P150** Effects of a sound insect-based animal assisted therapy program on depression in the elderly  
Yun-Seok Jang, Okjin Kim and Won-Guk Kang
- P151** Effects of a sound insect counseling program on emotional expression in the elderly  
Yun-Seok Jang, Okjin Kim and Hyeon-A Lee
- P152** Flight patterns of *Apis mellifera* and *Bombus terrestris* near their hives for image deep learning  
Kyeong Yong Lee, Jongho Park, Young Bo Lee, Heeji Kim, Su-bae Kim, Bosun Park, Sujin Lee, Kyu-Won Kwak, Seong Hyun Min and Dong Hee Lee
- P153** The field application and test of insect pollinators in 5 fruit and vegetable crops  
Kyeong yong Lee, Hee Chul Lee, Somi Lee, Jeonghyeon Lim, Sun-young Lee, Young Uk Park, Young Bo Lee, Heeji Kim, Su-bae Kim, Bosun Park, Sujin Lee, Kyu-Won Kwak, Seong Hyun Min and Dong Hee Lee
- P154** Research on smart beekeeping data collection and utilization  
Yu Beom Lee, Sun Am Kim, Sang A Oh, Ji Soo Kim, Ju Young Lee, Yun Ji Lim, Duck Soo Choi and Kyung Chun Joo
- P155** Biological control of entomopathogenic nematode *Heterorhabditis megidis* (Rhabditida: Heterorhabditidae) GJ1-2 from Korea  
Namjun Chung, Youngjoon Kim, Geungon Kim, Dajeong Son, Youngmoo Choo and GilSang Jeong

## Poster Presentation - ESK

### ➤ 14. A - 분류

- A-01** New species of *Asphalmus* (Curculionidae: Entiminae) from Gangwon Province, Korea  
Su-Ho Choi and Jong-Seok Park
- A-02** A taxonomic review of the genus *Caenoscelis* C. G. Thomson (Coleoptera: Cucujoidea: Cryptophagidae) in Korea with description of a new species  
Joong-In Shin and Jong-Seok Park
- A-03** Seven species of the family Cryptophagidae (Coleoptera: Cucujoidea) new to Korea  
Joong-In Shin and Jong-Seok Park

- A-04      An additional jewel beetle species of *Trachys* (Coleoptera: Buprestidae), new to Korea, with ecological and distributional information  
Donguk Kim and Kwang Shik Choi
- A-05      Taxonomic study of the genus *Priopoda* Holmgren, 1856(Hymenoptera, Ichneumonidae, Ctenopelmatinae) from South Korea  
Jin-Kyung Choi
- A-06      Taxonomy of the genus *Helictes* Haliday, 1837(Hymenoptera, Ichneumonidae, Orthocentrinae) from South Korea  
Jin-Kyung Choi and Andrei E. Humala
- A-07      New additions to the Korean fauna based on the tenthredinid sawflies housed in the Hungarian Natural History Museum (Hymenoptera)  
Bia Park and Ui Wook Hwang
- A-08      Taxonomic note on three species of the genus *Trixagus* Kugelann (Coleoptera: Throscidae) in Korea with a new species  
Ui-Jun Hwang and Jong-Seok Park
- A-09      New distribution record of genus *Neomyrnessus* Minkina (Coleoptera, Scarabaeidae, Aphodiinae) from South Korea  
Changseob Lim and Yeon Jae Bae
- A-10      Review of distribution of *Bactrocera dorsalis* (Diptera: Tephritidae)  
Seojeong Kim and Deuk-Soo Choi
- A-11      PCR-based species identification method using unique genetic markers for invasive drywood termites (*Cryptotermes domesticus*), domestic termites (*Reticulitermes speratus*), and kanmon termites (*Reticulitermes kanmonensis*)  
Kibeom Park, Beom-jun Jang, Youngho Cho and Youngjun Park
- A-12      Taxonomic review of the genus *Campylomyza* Meigen (Diptera: Cecidomyiidae) in Korea with description of seven new species  
Daseul Ham, Mathias Jaschhof and Yeon Jae Bae
- A-13      New finding of the Subfamily Catotrichinae (Diptera: Cecidmyiidae) from South Korea with DNA barcode  
Daseul Ham, Dae-Am Yi and Yeon Jae Bae
- A-14      Taxonomic note on the family Anamorphidae Strohecker (Coleoptera: Coccinelloidea) in Korea  
Ui-Jun Hwang and Jong-Seok Park
- A-15      New species of the spiny crawler mayfly *Drunella* Needham (Ephemeroptera: Ephemerellidae) from South Korea  
Sang Kyu Shin and Yeon Jae Bae



- A-16 First report of the genus *Anaclasiger* Raffray (Coleoptera, Staphylinidae, Pselaphinae) from South Korea  
Jun-Young Kang, Gyu Young Han, Ji-Won Kang and A Young Kim
- A-17 First record of *Dolichovespula kuami* from Jilin Province, China  
Moon Bo Choi, Yicen He and Tan JiangLi
- A-18 The complete mitochondrial genome of a burying beetle, *Nicrophorus quadraticollis* Portevin, 1903 (Coleoptera: Staphylinidae: Silphinae)  
Gyu Young Han, Jeong-Hwan Choi, Seung-Su Euo, Il-Kwon Kim and A Young Kim
- A-19 A newly recognized species, *Nemophora ochsenheimerella* Hoffmannsegg, 1798, of Adelidae (Lepidoptera) from South Korea  
Jun-Min Seo, Bong-Woo Lee and Il-Kwon Kim
- A-20 A new species of the genus *Valgus* Kolbe, 1909 (Coleoptera: Scarabaeidae: Cetoniinae) from South Korea  
A Young Kim, Jeong Hwan Choi and Sang Wook Park
- A-21 Three minute orb weavers (Araneae: Theridiosomatidae and Mysmenidae) new to Korea  
Jun-Gi Lee and Sam-Kyu Kim
- A-22 A taxonomic study on the genus *Peromitra* (Diptera: Phoridae) from South Korea  
Jun-Ho Lee and Sam-Kyu Kim
- A-23 Three moth fly genera (Diptera: Psychodidae) newly recorded from Korea and one more...?  
Sangwoo Kim and Sam-Kyu Kim
- A-24 Automatic detection of intraspecific variation in *Stenaptinus occipitalis* (Coleoptera: Carabidae: Brachininae) using machine learning  
Dogyun Han and Sam-Kyu Kim
- A-25 A newly recognized gall midge, *Schizomyia castanopsisae*, inducing inflorescence galls on *Castanopsis sieboldii* from southern areas of South Korea  
Il-Kwon Kim, Eun-Do Lee, Jung-Hyun Lee, Jeong-Hwan Choi, Seung-Su Euo and Dong Hyuk Lee
- A-26 *Baetis spinoculis* sp. nov., a new mayfly from Korea (Ephemeroptera: Baetidae)  
Wooseong Kim and Yeon Jae Bae
- A-27 Taxonomy of the genus *Muscidideicus* Becker (Diptera: Dolichopodidae) with three new species  
Young-Kun Kim and Sang Jae Suh
- A-28 Three newly recorded species of the family Conopidae (Diptera: Conopoidea) from Korea  
Hyeonho Bae and Sang Jae Suh

- A-29 Taxonomic revision of the genus *Dichaetomyia* (Diptera: Muscidae) from Korea  
Dongmin Kim and Sang Jae Suh
- A-30 First record of the genus *Hyadina* Haliday (Diptera: Ephydriidae) from Korea  
Dongmin Kim, Jinseo Kim and Sang Jae Suh

## ➤ 15. B - 생태

- B-01 Surveillance of Wild rodents and chigger mites in southern part of Gyeongsangbuk-do, Korea in 2022 and 2023  
Jun Hyuk Chang, Jiseung Jeon, Jihun Ryu, Seung Pak An, Ye Jin Kim, Ilyeong Jeong, Seon Min Kim, Dong Yeol Lee and Kwang Shik Choi
- B-02 Benthic Macroinvertebrates monitoring in the weirs of Han River  
Myoung chul Kim, Ji Won Kim, Taek Guen Lee, Jung Woo Kim, Seong Yu Noh and Sang Hun Kim
- B-03 The effects of urban heat island-induced temperature differences on the hatching rates of *Aedes albopictus*  
Jihun Ryu and Kwang Shik Choi
- B-04 Urban webs: analyzing spider diversity and ecological dynamics in urban habitats  
Dae-Hee Kim, Woong-Bae Park and Yuno Do
- B-05 Analysis of brown trout living downstream of Soyang River Dam and benthic macroinvertebrates used as a food resource  
Jae Hun Kim, Young Jin Yun, Su Hwan Kim and Jong Eun Lee
- B-06 Seasonal community fluctuation of benthic macroinvertebrates in Gonyangcheon Estuarine Wetland  
Hui Won Roh and Jong Eun Lee
- B-07 Functional Feeding Groups (FFGs) of benthic macroinvertebrates in Gucheon stream of Deogyusan National Park  
Hui Won Roh and Jong Eun Lee
- B-08 Community structure of benthic macroinvertebrates in Wangpicheon water system  
Sang Hoon Kim, Ki Jeong Kim, In Ho Lee, Won Jong Jeong, Hui Won Roh and Jong Eun Lee
- B-09 26 year-monitoring reveals changes on the spring occurrence of butterflies in the Gwangneung Forest, South Korea  
Moo-Sung Kim, Jeong-Dal Shon, Jun-Min Seo, Myung-Ho Kim and Il-Kwon Kim
- B-10 Distribution of hymenoptera insects in Korean national parks  
Seung-Ho Kang, Jong Chul Jeong, Taeman Han and Sam-kyu Kim
- B-11 Biodiversity assessment of insect population in Ilgwang, Busan  
In Seong Baek, Hyeon Seok Oh, Min Gyu Kang, Yi Re Kim and Sang Hyun Park



- B-12** Sex-dependent variations in the gut bacterial communities of *Monochamus alternatus* in response to *Bursaphelenchus xylophilus* infection  
Siae Park, Woong-Bae Park and Yuno Do
- B-13** Seasonal prevalence of mosquitoes collected with mosquito traps in Gyeongsangnam-do Province, Republic of Korea, 2023  
Hye-Rim Ju, Jae-Soon Park, Chang-Jun Lee, Suvin Cho, Hyunji Shin, Sun Ho Jung, So-Eun Shin and Dong-Kyu Lee
- B-14** Surveillance of hard ticks (Acarina: Ixodidae), the Vector of Severe Fever with Thrombocytopenia Syndrome (SFTS) in Gyeongsangnam-do, Republic of Korea, 2023  
Chang-Jun Lee, Jae-Soon Park, Hye-Rim Ju, Suvin Cho, Hyunji Shin, Sun Ho Jung, Sehoon Cho and Dong-Kyu Lee
- B-15** Seasonal prevalence of chigger mites from wild rodents in Gyeongsangnam-do Province, Republic of Korea, 2023  
Jae-Soon Park, Chang-Jun Lee, Hye-Rim Ju, Suvin Cho, Hyunji Shin, Sun Ho Jung, Sehoon Cho and Dong-Kyu Lee
- B-16** Predicting the potential distribution of an invasive species, *Anoplophora horsfieldii* (Coleoptera: Cerambycidae), under climate change using species distribution model  
TaeGeun Kim and Youngho Cho
- B-17** First record of two predators of the invasive alien hornet, *Vespa velutina nigrithorax*  
Moon Bo Choi, Jaehee Kim, Ohseok Kwon and Jeong Ok Ha
- B-18** Survey of nest density of the invasive alien hornet, *Vespa velutina nigrithorax*, in apiaries in Uiseong and Andong, Gyeongsangbuk-do  
Moon Bo Choi, Jaehee Kim and Ohseok Kwon
- B-19** Quantitative study of wild bees diversity in Seocheon Maeul-soop  
Sanghun Lee, Ohchang Kwon, Dong Su Yu, Na-Hyun Ahn and Jeongseop An
- B-20** Occurrence of stylopization by *Xenos* in invasive alien hornet, *Vespa velutina*, in South Korea  
Moon Bo Choi, Il-Kwon Kim, Chang-Jun Kim and Jeong-Hwan Choi
- B-21** Measurement of the growth rate of *Parasarcophaga similis*, one of the major necrophagous flies for forensic entomological applications  
Jun-Ho Son, Jong-Chul Jeong, Dong-Sik Bae, Su-Bin Lee, Tae-Mo Kang, Kwang-Soo Ko, Seong-Hwan Park and Jin-Kyung Choi
- B-22** Investing insect diversity in coastal habitats of East Busan: Implications for conservation and policy  
Hyeon Seok Oh, In Seong Baek, Min Gyu Kang, Yi Re Kim and Sang Hyun Park



- B-23** Monitoring of mosquito populations in Chungnam Province during the period of 2017 to 2020  
Sumin Oh, Sunhee Yoon, Jae-Min Jung, Jongmin Bae, Hye-Min Byun, Subin Choi, Geunho Jang, Minjoon Kang, Eunji Kim, Jaekook Park, Keon Mook Seong, Wang-Hee Lee and Sunghoon Jung
- B-24** Analysis of spatial and seasonal variations of *Haemaphysalis longicornis* population based on field survey collected under different habitats and years  
Sumin Oh, Sunhee Yoon, Jae-Min Jung, Jongmin Bae, Hye-Min Byun, Subin Choi, Geunho Jang, Minjoon Kang, Eunji Kim, Jaekook Park, Keon Mook Seong, Wang-Hee Lee and Sunghoon Jung
- B-25** Measurement of the growth rate of *Lucilia illustris* at constant temperatures  
Jaeha Lee, Sang Bong Son, Sang Woo Jung, Jae Ho Ko, Dae-Hyun Lee, Yoon-Ho Kim, Tae-Mo Kang, Kwang-Soo Ko and Seong-Hwan Park
- B-26** A survey to confirm the population trends and monitoring methods for *Haplotropis brunneriana* (Orthoptera: pamphagidae)  
Mannyun Kim, Hye-Rin Lee and Jong Eun Lee
- B-27** Effects of removal of artificial structures in valleys on benthic macroinvertebrates  
Seung Cheol Han, Jong Eun Lee and Yung-Chul Jun
- B-28** Surveillance the occurrence of chigger mites (Acari: Trombiculidae) in Yesan, Chungcheongnam-do (2017-2023)  
Hyeon Jun Shin, Jun Yang Jeong, Chan-Eui Hong, Hyeok Lee, Kyoung Won Lee, Min Kyu Sang, Jie Eun Park, Dae Kwon Song and Yong Seok Lee
- B-29** Occurrence of Flavi-virus infection rate in mosquito collected in sanctuary of migratory birds (Dangjin, Chungcheongnam-do) (2021-2023)  
Kyoung Won Lee, Jun Yang Jeong, Chan-Eui Hong, Hyeon Jun Shin, Hyeok Lee, Min Kyu Sang, Jie Eun Park, Dae Kwon Song and Yong Seok Lee
- B-30** Occurrence of SFTS infection rate in hard ticks collected in Dangjin, Chungcheongnam-do (2018-2023)  
Kyoung Won Lee, Jun Yang Jeong, Chan-Eui Hong, Hyeon Jun Shin, Hyeok Lee, Min Kyu Sang, Jie Eun Park, Dae Kwon Song and Yong Seok Lee

## ➤ 16. C - 형태

- C-01** Functional morphology of stabilimentum in the Garden Spider, *Argiope bruennichi*  
Seung-Min Lee and Myung-Jin Moon
- C-02** Microstructural observation of non-woven silk fabric in the golden orb web spider, *Trichonephila clavata*  
Seung-Min Lee and Myung-Jin Moon



- C-03 Microstructure of the *Trichonephila clavata* orb-web spider's cardiac muscle cells  
Yan Sun and Myung Jin Moon
- C-04 Microstructural characteristic of the silk-based hydrogel scaffolds derived from *Trichonephila clavata*  
Yan Sun and Myung Jin Moon
- C-05 Differences in the microstructure of silk-based film scaffolds derived from spider cocoons (*Trichonephila clavata*) and silkmoth (*Bombyx mori*)  
Yan Sun and Myung Jin Moon

## ➤ 17. D - 생리

- D-01 Anti-obesity efficacy of Japanese Rhinoceros Beetle (*Allomyrina dichotoma*) larvae Flavourzyme and Protana Prime hydrolyzate  
Gang Hoon Lee, Jun Ho Lee, Tae Yun Choi and Saeyoull Cho
- D-02 Anticoagulant properties and therapeutic potentials of wasp venom  
Moon Bo Choi and Yong-Ho Lee

## ➤ 18. E - 분자생물

- E-01 Complete mitochondrial genome sequence of the Korean turnip sawfly *Athalia japonica* (Klug) (Hymenoptera: Tenthredinoidea)  
Bia Park and Ui Wook Hwang
- E-02 Development and Characterization of novel microsatellite markers for *Nemoura geei* (Plecoptera: Nemouridae)  
Ji Hyoun Kang, Jun Mi Hur, Yeon Jae Bae and Jeong Mi Hwang
- E-03 Identification of SFTS virus infected *Haemaphysalis longicornis* ticks using immune response gene-based screening approach  
Minchae Gu, Yujin Baek and Il-Hwan Kim
- E-04 Functional importance of group I lytic polysaccharide monooxygenase in turnover of chitinous cuticle in two longhorn beetle species, *Monochamus alternatus* and *Psacotha hilaris*  
Daehyeong Kim, Myeongjin Kim, Yasuyuki Arakane and Mi Young Noh
- E-05 JNK Kinase, *hep*, regulating AMP production in *Tenebrio molitor*  
Seo Jin Lee, Ho Am Jang, Sung Min Ku, Jea Hui Kim, Dong Woo Kang, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-06 *In silico* identification and expression analysis of glutathione S-transferase in *Tenebrio molitor*  
Seo Jin Lee, Ho Am Jang, Sung Min Ku, Jea Hui Kim, Dong Woo Kang, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo



- E-07** Study on immunological role of *TmPelle* in *Tenebrio molitor*  
Sung Min Ku, Ho Am Jang, Seo Jin Lee, Jea Hui Kim, Dong Woo Kang, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-08** Study on antimicrobial function of *TmTRAF* in *Tenebrio molitor*  
So Yeon Choi, Ho Am Jang, Seo Jin Lee, Sung Min Ku, Jea Hui Kim, Dong Woo Kang, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-09** Functional study of *TmTube* on AMPs production against microbial infection  
Dong Woo Kang, Ho Am Jang, Seo Jin Lee, Sung Min Ku, Jea Hui Kim, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-10** Effects of *TmPellino* silencing on larval mortality and AMPs production  
Jae Hui Kim, Ho Am Jang, Seo Jin Lee, Sung Min Ku, Dong Woo Kang, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-11** Enhancement of Antimicrobial peptides production by epigenetic regulation  
Jea Hui Kim, Ho Am Jang, Hyeon Jun Shin, Jun Yang Jeong, Seo Jin Lee, Sung Min Ku, Dong Woo Kang, So Yeon Choi, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-12** Transcriptomic analysis of RNA expression in mice treated with insect-derived chitin and chitosan  
Ho Am Jang, Dae Kwon Song, Yong-Su Song, Jie Eun Park, Min Kyu Sang, Keunho Yun, Woo-jin Jung, Yong Seok Lee, Yeon Soo Han and Yong Hun Jo
- E-13** Transcriptome analysis and identification of SSR markers in *Haemaphysalis flava* females using Illumina HiSeq 4000  
Chan Eui Hong, Min Kyu Sang, Hongray Howrelia Patnaik, Jie Eun Park, Dae Kwon Song, Jun Yang Jeong, Yong Tae Kim, Hyeon Jun Shin, Liu Ziwei, Hee Ju Hwang, So Young Park, Se Won Kang, Seung-Hwan Park, Sung-Jae Cha, Jung Ho Ko, E Hyun Shin, Hong Seog Park, Yong Hun Jo, Yeon Soo Han, Bharat Bhusan Patnaik and Yong Seok Lee
- E-14** Characterization of *Haemaphysalis longicornis* microbiome collected from different regions of Korean Peninsula  
Min Kyu Sang, Jie eun Park, Dae Kwon Song, Jun Yang Jeong, Hee Ju Hwang, Hyun woo Kim, Tae Yun Kim, So Young Park, Se Won Kang, Bharat Bhusan Patnaik, Sung-Jae Cha, Yeon Soo Han, Hee Il Lee and Yong Seok Lee
- E-15** Comparison of microbial communities of *Vespa mandarinia* according to sequencing platforms (Illumina MiSeq and PacBio HiFi)  
Min Kyu Sang, Jie eun Park, Dae Kwon Song, Jun Yang Jeong, Chan-Eui Hong, Yong Tae Kim, Ziwei Liu, Hyeonjun Shin, Heon Cheon Jeong, Yong Hun Jo, Yeon Soo Han, Moon Bo Choi and Yong Seok Lee
- E-16** Whole transcriptome analysis of *Haemaphysalis longicornis* with Phlebovirus contamination in Korea  
Hyeok Lee, Jie Eun Park, Min Kyu Sang, Bharat Bhusan Patnaik, Dae Kwon Song, Jun Yang Jeong, Chan Eui Hong, Chan Eui Hong, Hyeon Jun Shin, Liu Ziwei, Hee Ju Hwang, So Young Park, Se Won Kang, Hang Chul Cho, Heon Cheon Jeong, Hong Seog Park, Hongray Howrelia Patnaik, E Hyun Shin, Sung-Jae Cha0, Yong Hun Jo, Yeon Soo Han and Yong Seok Lee





- E-17 Transcriptome analysis of the endangered dung beetle *Copris tripartitus* (Coleoptera: Scarabaeidae) and characterization of genes associated to immunity, growth and reproduction  
Hyeok Lee, Hee Ju Hwang, Bharat Bhusan Patnaik, Snigdha Baliarsingh, Hongray Howrelia Patnaik, Min Kyu Sang, Jie eun Park, Hang Chul Cho, Dae Kwon Song, Jun Yang Jeong, Chan Eui Hong, Yong Tae Kim, Hyeon Jun Sin, Liu Ziwei, So Young Park, Se Won Kang, Heon Cheon Jeong, Hong Seog Park, Yeon Soo Han and Yong Seok Lee
- E-18 Transcriptome analysis of *Polyphylla laticollis* manchurica for discovering characteristics of endangered species  
Jun Yang Jeong, Chan-Eui Hong, Yong Tae Kim, Ziwei Liu, Hyeonjun Shin, Lee Hyeok, Min Kyu Sang, Jie eun Park, Dae Kwon Song, Hongray Howrelia Patnaik, Bharat Bhusan Patnaik, Heon Cheon Jeong and Yong Seok Lee
- E-19 Investigating the effects of *TmTak1* silencing on AMP production as an Imd pathway component in *Tenebrio molitor*  
Su Hyeon Hwang, Keunho Yun, Ji Hyeon Kim, Ho Am Jang, Yong Seok Lee, Yong Hun Jo and Yeon Soo Han
- E-20 Molecular characterization of *FADD* gene in *T. molitor* and its requirement for survivability against *E. coli* infection  
Keunho Yun, Su Hyeon Hwang, Ji Hyeon Kim, Ho Am Jang, Yong Seok Lee, Yong Hun Jo and Yeon Soo Han

## ➤ 19. F - 방제

- F-01 Insecticide resistance mutations in *Anopheles sinensis* from Republic of Korea  
Jiseung Jeon, Heung Chul Kim, Terry A. Klein and Kwang Shik Choi
- F-02 Phyto-metabolites 3-hydroxy-1,2-dimethyl-4(1H)-pyridone and Tyrosol from coral jasmine (*Nyctanthes arbor-tristis*) flower extracts toxicity and enzyme inhibitory actions on agricultural pest and beneficial earthworm  
Prabhakaran Vasanth-Srinivasan and Yeon Soo Han

## ➤ 20. G - 식용곤충

- G-01 Effects of density, feed material, and container on development of *Protaetia brevitarsis* larvae  
Namkyong Min, Moon Bo Choi and Ohseok Kwon

## ➤ 21. H - 기타

- H-01 Temperature effect on *Sarcophaga peregrina* (Diptera: Sarcophagidae) for PMI estimation in South Korea  
Yi-Re Kim, In-Seong Baek, Hyeon-Seok Oh, Min-Gyu Kang and Sang-Hyun Park

H-02

Content of 20-Hydroxyecdysone in *Achyranthes japonica* (roots) and *Protaetia brevitarsis* (larvae)  
Seung Cheol Han and Jong Eun Lee

Small Group Meeting

> 1. Academic Committee Meeting

4. 25. Thu	Mars (2F) KSAE	Organizer : Un Taek Lim (Andong National University) Donghun Kim (Kyungpook National University)
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> 2. Industrialization of dsRNA Biopesticides

4. 25. Thu	Hwarang Room (2F) KSAE	Organizer : Youggyun Kim (Andong National University) June-Sun Yoon (Jeonbuk National University)
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- SG1-1

dsRNA pesticides from laboratory to industry  
Yonggyun Kim
- SG1-2

Laboratory Research: Development of dsRNA as a Sustainable Bioinsecticide  
June Sun Yoon
- SG1-3

Industrial aspects: Development of dsRNA as a Sustainable Biopesticide  
Woojin Kim and Minlee Kim
- SG1-4

Study on institutionalizing pesticide registration standards for industrialization of dsRNA  
Young-Eun Na, Kyung-won Lee and Seong-Hyun Kim
- SG1-5

Discussion- current status of RNAi as a biopesticide and its potentials  
Mi Young Noh

> 3. Current Status of Pollinating Insect Research in Korea

4. 25. Thu	Jikji Hall A (3F) KSAE	Organizer : Il-Kwon Kim (Korea National Arboretum)
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- SG2-1

Climate change and insect pollination relative to ecosystem service  
Chuleui Jung, Ehsan Rahimi, Saeed Mahmadeze Namin, Sampat Ghosh,  
Gwonhee Lee and Minwoong Son
- SG2-2

Hymenoptera, especially Bees as Important Pollinators  
Heungsik Lee and Soo-Jung Cho



- SG2-3      Development of pollinator inventory: Dipteran pollinators  
Seung-Su Euo, Gyu Young Han, Il-Kwon Kim and A Young Kim
- SG2-4      Review of pollinating Nitidulidae (Coleoptera: Cucujoidea) in Korea  
Min Hyeuk Lee and Seunghwan Lee

**> 4. Editorial Board Meeting (ENR)**

4. 25. Thu	Uam Hall (3F)	Organizer : Ohseok Kwon (Kyungpook National University)
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**> 5. ICE2024 Meeting**

4. 25. Thu	Jikji Hall B (3F) ESK	Organizer : Yong Hun Jo (Soonchunhyang University)
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