Program and Abstracts

16th INTERNATIONAL AUCHENORRHYNCHA CONGRESS

Cuc Phuong NP,
Vietnam
July 2nd - 8th
2019

16th INTERNATIONAL AUCHENORRHYNCHA CONGRESS

12th International Workshop on Leafhoppers and Planthoppers of Economic Significance

Program and Abstracts

Organized by:

Vietnam National Museum of Nature, VAST

National Foundation for Science & Technology Development

12th International Workshop on Leafhoppers and Planthoppers of Economic Significance

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16TH INTERNATIONAL AUCHENORRHYNCHA CONGRESS AND THE 12TH INTERNATIONAL WORKSHOP ON LEAFHOPPERS AND PLANTHOPPERS OF ECONOMIC SIGNIFICANCE (IAC 2019) IS BEING ORGANIZED BY THE FOLLOWING COMMITTEES:

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Vietnam National Museum of Nature, Vietnam Academy of Science and Technology

Vietnam National Foundation for Science and Technology Development (NAFOSTED)

16th International Auchenorrhyncha Congress
12th International Workshop on Leafhoppers and Planthoppers of Economic Significance
Cuc Phuong NP, Vietnam, July 2nd - 8th 2019

PROGRAM

02-08/7/2019, Cuc Phuong, Viet Nam

VNMN

TIME	2ND JULY	3RD JULY	4TH JULY	5TH JULY	6TH JULY	7TH JULY	8TH JULY
	VIETNAM ACADEMY OF SCIENCE AND TECHNOLOGY (VAST) ***18 Hoang Quoc Viet St, Cau Giay, Hanoi, Viet Nam***	**CUC PHUONG NATIONAL PARK** ***Ninh Binh, Viet Nam***					
7:30	**Congress participant arrivals: the registration**	***Breakfast***	***Breakfast***	***Breakfast***	***Breakfast***	***Breakfast***	***Breakfast***
9:00		Oral session: Taxonomy, phylogeny, and biogeography	Collecting in Cuc Phuong National park	Oral session: Taxonomy, phylogeny, and biogeography	Oral session: Ecology, Behavior and bioascoustics	**Morning -** *Tràng An Scenic Landscape Complex*	Congress participant departures
10:30		***Coffee break***		***Coffee break***	***Coffee break***	**Afternoon -** *Bái Đính Temple Spiritual and Cultural Complex*	
11:00		Oral session: Taxonomy, phylogeny, and biogeography	Collecting in Cuc Phuong National park	Oral session: Taxonomy, phylogeny, and biogeography	Oral session: Ecology, Behavior and bioascoustics		
12:30	***Lunch***	***Lunch***	***Lunch*** *(inside forest – Bong Center)*	***Lunch***	***Lunch***		

PROGRAM

02-08/7/2019, Cuc Phuong, Viet Nam

TIME	2ND JULY	3RD JULY	4TH JULY	5TH JULY	6TH JULY	7TH JULY	8TH JULY
	VIETNAM ACADEMY OF SCIENCE AND TECHNOLOGY (VAST) ***18 Hoang Quoc Viet St, Cau Giay, Hanoi, Viet Nam***	**CUC PHUONG NATIONAL PARK** ***Ninh Binh, Viet Nam***					
14:30	**IAC opening** Congress participant arrivals: the registration (continued) until 15:00	Oral session: Taxonomy, phylogeny, and biogeography	Collecting in Cuc Phuong National park	Oral session: Taxonomy, phylogeny, and biogeography	Visit to Cuc Phuong National park (*Turtle Conservation Center, Endangered Primate Rescue Center, Carnivore and Pangolin Conservation Program*)		
15:30	***Move to Cuc Phuong National Park***	***Coffee break***	***Coffee break***	***Coffee break***			
16:00-17:30			Collecting in Cuc Phuong National park	Poster presentation IAC board meeting	IAC closing remarks		
19:00	***Welcoming dinner***	***Dinner****	***Dinner****	***Dinner****	***Dinner****	***Farewell dinner***	
		Light trapping	*Light trapping*	*Light trapping*	*Light trapping*	*Dancing show*	

EGG LAYING STRATEGY AND EGG ULTRASTRUCTURE OF THE FULGOROMORPHA – A PROJECT

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The mode of egg laying varies in different groups of Fulgoromorpha. It is known that most of delphacids, ricaniids, tropiduchids, acanaloniids, some cixiids and issids insert their eggs into plant tissues, cutting them with their ovipositors (Guglielmino et al. 1997; O'Brien 2004; D'Urso 2008; Rossi et al. 2014). Some issids, achilids and others rake the soil substrate and attach the eggs to particles (D'Urso & Guglielmino 1995; O'Brien 2004; Asche 2014; Krstić *et al*. 2016). *Ibleocixius dunae* D'Urso & Grasso, 2009 (Cixiidae) lays eggs in the roots where it lives (D'Urso & Grasso 2009). Some fulgorids, tettigometrids and eurybrachids glue the eggs to the substrate (Hogue *et al*. 1990; O'Brien 2004). Many species cover their eggs with wax (O'Brien 2004). The detailed description of Fulgoromorpha egg ultrastructure requires high resolution images from a scanning electron microscope (SEM). Current knowledge about the ultrastructure of the eggshells, respiratory systems, micropyllar caps, opercula, and anchoring mechanisms is very scarce – in fact only three species of Tropiduchidae and one of Ricaniidae have been studied in detail (Guglielmino *et al*. 1997; Liang & Jiang 2003; Liang 2009; Rossi *et al*. 2014).

In this study we present new data on the diversity of egg laying strategies and ultrastructure of fulgoromorphan eggs. Four species from different families were studied –*Tettigometra sulphurea* Mulsant & Rey, 1855 (Tettigometridae), *Meenoplus albosignatus* Fieber, 1866 (Meenoplidae), *Ranissus edirneus* Dlabola, 1957 (Dictyopharidae) and *Scorlupella discolor* (Germar, 1821) (Issidae). Unlike tropiduchid eggs which, according to previous studies, have an operculum, none of

the studied here species have one. Only *Tettigometra sulphurea* glues the eggs on the plant stems. The rest of studied species just lay the eggs on the substrate.

References

Asche, M. (2014) The West Palaearctic Achilidae (Hemiptera, Fulgoromorpha: Fulgoroidea) - a review with description of five new species from the Mediterranean. *Nova Supplementa Entomologica*, 25, 1–135.

D'Urso, V. (2008) On the distribution in Italy of the Nearctic hopper *Acanalonia conica* , with ecological notes. *Bulletin of Insectology*, 61 (1), 153–54.

D'Urso, V. (2009) First Record of troglobitic Fulgoromorpha from Italy (Hemiptera, Auchenorrhyncha, Cixiidae). Deutsche Entomologische Zeitschrift, 56 (1): 7–14. https://doi.org/10.1002/mmnd.200900002.

D'Urso, V, and Guglielmino, A. (1995) Taxonomic remarks on Italian *Cixidia* with description of two new species (Insecta, Homoptera, Auchenorrhyncha, Achilidae). *Spixiana*, 18 (1), 49–64. http://biostor.org/reference/52766.

Guglielmino, A., Taddei, A.R. &, Carcupino, M. (1997) Fine structure of the eggshell of *Ommatissus binotatus* Fieber (Homoptera, Auchenorrhyncha, Tropiduchidae). *International Journal of Insect Morphology and Embryology*, 26 (2), 85–89.

Hogue, C.L., Taylo, T.W., Young, A.M. & , Plau, M.E. (1990) Egg masses and first instar nymphs of sorne giant Neotropical planthoppers (Homoptera: Fulgoridae). *Revista de Biologia Tropical*, 37 (2), 211–226.

Krstić, O., Cvrković, T., Mitrović, M., Toševski, I. & Jović, J. (2016) *Dictyophara europaea* (Hemiptera: Fulgoromorpha: Dictyopharidae): description of immatures, biology and host plant associations. *Bulletin of Entomological Research*, 106 (03), 395–405. https://doi.org/10.1017/S0007485316000067.

Liang, A.-P. (2009) A new genus of Tropiduchidae (Hemiptera: Fulgoroidea) from China and Vietnam, with description of eggs. *Florida Entomologist*, 86 (3): 361–369. https://doi.org/10.1653/0015-4040(2003)086.

Liang, A.-P. & Jiang, G.-M. (2003) Two new species of *Tambinia* Stål (Hemiptera: Tropiduchidae) from China, Laos and Vietnam, with description of eggs. *Journal of the Kansas Entomological Society*, 76 (3): 509–517.

O'Brien, L.B. (2002) The Wild Wonderful World of Fulgoromorpha. *Denisia* 04, 83–102.

Rossi, E., Stroiński, A. & Lucchi, A. (2014) Egg morphology, laying behavior and record of the host plants of *Ricania speculum* (Walker, 1851), a new alien species for Europe (Hemiptera: Ricaniidae). *Zootaxa*, 4044 (1), 93–104.