

Ultrastructure of Antennal Sensory Organs in Nine Flesh Flies (Diptera: Sarcophagidae): New Insight into the Definition of Family Sarcophagidae

Wentian Xu ¹, Genting Liu ^{1,2}, Qike Wang ², Liping Yan ¹, Xianhui Liu ³, Xinyu Li ¹, Thomas Pape ⁴, and Dong Zhang ^{1,*}

¹ School of Ecology and Nature Conservation, Beijing Forestry University, Qinghua East Road 35, Beijing 100083, China; xuwt720@bjfu.edu.cn (W.X.); gentingl@student.unimelb.edu.au (G.L.); yanlp@bjfu.edu.cn (L.Y.); lixinyu91@cau.edu.cn (X.L.)

² School of BioSciences, University of Melbourne, Melbourne, VIC 3010, Australia; wangqike123@gmail.com

³ Department of Entomology and Nematology, University of California Davis, Davis, CA 95616, USA; xhliu@ucdavis.edu

⁴ Natural History Museum of Denmark, Science Faculty, University of Copenhagen, Copenhagen, 2100, Denmark; tpape@snm.ku.dk

* Correspondence: zhangdong_bjfu@bjfu.edu.cn

Supplementary File S1

Comparison of antennal sensilla on the antennal postpedicel surface of sarcophagid flies and other Calyptrate flies.

BSS = bottle-shaped sensilla; SP = sensory pit; √ = identified; × = not identified; – = no data.

Super family	Family	Subfamily	Species	SP	BSS	Reference
Hippoboscoidea	Glossinidae		<i>Glossina palpalis</i>	√	×	64
			<i>Glossina tachinoides</i>	√	×	
	Hippoboscidae		<i>Lipoptena cervi</i>	×	×	52
			<i>Lipoptena fortisetosa</i>	×	×	
			<i>Melophagus ovinus</i>	√	×	65
			<i>Hippobosca longipennis</i>	√	×	
			<i>Hippobosca equina</i>	√	×	
Muscoide grade	Fanniidae		<i>Fannia hirticeps</i>	√	×	51
			<i>Fannia scalaris</i>	√	×	46
			<i>Fannia canicularis</i>	√	×	
	Muscidae		<i>Musca domestica</i>	√	×	45
			<i>Hydrotaea irritans</i>	√	×	66
			<i>Hydrotaea chalcogaster</i>	√	×	67
			<i>Hydrotaea armipes</i>	√	×	32
			<i>Ophyra capensis</i>	√	×	68
			<i>Lispe neimongola</i>	√	×	25
	Anthomyiidae		<i>Delia radicum</i>	√	×	69
			<i>Delia platura</i>	√	×	
			<i>Delia floralis</i>	√	×	29
			<i>Delia antiqua</i>	√	×	
	Scathophagidae		<i>Scathophaga stercoraria</i>	√	×	55
Oestriodea	Sarcophagidae	Sarcophaginae	<i>Sarcophaga albiceps</i>	√	√	Present study
			<i>Parasarcophaga dux</i>	√	—	30
			<i>Sarcophaga portschinskyi</i>	√	√	Present study
			<i>Sarcophaga africa</i>	√	√	Present study
			<i>Sarcophaga peregrina</i>	√	√	Present study
			<i>Sarcophaga carnaria</i>	√	√	36
			<i>Sarcophaga argyrostoma</i>	√	√	37
			<i>Sarcophaga tibialis</i>	√	√	39
		Paramacronychiinae	<i>Wohlfahrtia bella</i>	√	√	Present study
			<i>Wohlfahrtia magnifica</i>	√	√	Present study
			<i>Agria mihalyii</i>	√	√	Present study
	Calliphoridae	Miltogramminae	<i>Metopia campestris</i>	√	√	Present study
			<i>Mesomelena mesomelaena</i>	√	√	Present study
		Calliphorinae	<i>Lucilia sericata</i>	√	×	48
			<i>Lucilia cuprina</i>	√	×	70
			<i>Phormia regina</i>	√	×	71
			<i>Protophormia terraenovae</i>	√	×	72
			<i>Hemipyrellia ligurriens</i>	√	×	73

		<i>Chrysomya megacephala</i>	√	×	
		<i>Chrysomya rufifacies</i>	√	×	74
		<i>Chrysomya nigripes</i>	√	×	
		<i>Chrysomya pinguis</i>	√	×	74
		<i>Triceratopyga calliphoroides</i>	√	×	75
Mesembrinellidae		<i>Mesembrinella bellardiana</i>	√	—	
		<i>Mesembrinella bicolor</i>	√	—	76
		<i>Mesembrinella semihyalina</i>	√	—	
Tachinidae	Exoristinae	<i>Pales pavidus</i>	√	×	54
		<i>Pseudoperichaeta nigrolineata</i>	√	×	77
	Phasiinae	<i>Gymnosoma rotundatum</i>	√	×	78
		<i>Trichopoda pennipes</i> F.	√	×	79
Oestridae	Oestrinae	<i>Rhinoestrus purpureus</i>	√	×	53
		<i>Oestrus ovis</i>	√	×	80
	Hypodermatinae	<i>Hypoderma lineatum</i>	√	×	81
		<i>Hypoderma bovis</i>	√	×	50
		<i>Portschinskia magnifica</i>	×	×	24
	Gasterophilinae	<i>Gasterophilus nigricornis</i>	√	×	23
		<i>Gasterophilus pecorum</i>	√	×	49
		<i>Gasterophilus nasalis</i>	√	×	49
		<i>Gasterophilus intestinalis</i>	√	×	49
		<i>Gasterophilus haemorrhoidalis</i>	√	×	49