

**Temporal Distribution, Abundance, Diversity, Guild Composition of Spiders
(Arachnida: Araneae) from Different Habitats, Upper Egypt.**

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Table S 1. The number of individuals within each collected species at the studied site during the study period: October, 2022 – May, 2023.

Family / Genus / Species		Arial habitat	Leaf litter habitat
Family 1: Araneidae Clerck, 1757		11	-
1	<i>Cyrtophora citricola</i> (Forskål, 1775) (Figure S1 A-D)	11	-
Family 2: Cheiracanthiidae Wagner, 1887		11	4
1	<i>Cheiracanthium isiacum</i> O. Pickard-Cambridge, 1874 (Figure S1 E-F)	11	4
Family 3: Dictynidae O. Pickard-Cambridge, 1871		102	5
1	<i>Nigma conducens</i> (O. Pickard-Cambridge, 1876) (Figure S2 A-D)	102	5
Family 4: Filistatidae Ausserer, 1867		2	-
1	<i>Filistata</i> sp. (juvenile) (Figure S2 E)	2	-
Family 5: Gnaphosidae Pocock, 1898		10	32
1	<i>Berlandina venatrix</i> (O. Pickard-Cambridge, 1874) (Figure S3 A-B)	-	1
2	<i>Heser nilicola</i> (O. Pickard-Cambridge, 1874) (Figure S3 C-D)	-	3
3	<i>Odontodrassus aravaensis</i> Levy, 1999 (Figure S3 E-F)	-	3
4	<i>Poecilochroa pugnax</i> (O. Pickard-Cambridge, 1874) (Figure S4 A-D)	4	-
5	<i>Synaphosus syntheticus</i> (Chamberlin, 1924) (Figure S4 E-F; Figure S5 A-B)	4	19
6	<i>Trachyzelotes lyonnети</i> (Audouin, 1826) (Figure S5 C-D)	2	6
Family 6: Linyphiidae Blackwall, 1859		12	-
1	<i>Sengletus extricatus</i> (O. Pickard-Cambridge, 1876) (Figure S5 E-F; Figure S6 A-B)	12	-
Family 7: Lycosidae Sundevall, 1833		-	11
1	<i>Trochosa urbana</i> O. Pickard-Cambridge, 1876 (Figure S6 C-D)	-	4
2	<i>Wadicosa fidelis</i> (O. Pickard-Cambridge, 1872) (Figure S6 E-F)	-	7
Family 8: Oecobiidae Blackwall, 1862		13	6
1	<i>Oecobius putus</i> O. Pickard-Cambridge, 1876 (Figure S7 A-B)	6	-
2	<i>Oecobius templi</i> O. Pickard-Cambridge, 1876 (Figure S7 C-D)	5	-
3	<i>Uroctea</i> sp. (juvenile) (Figure S7 E)	2	6
Family 9: Oonopidae Simon, 1890		24	33
1	<i>Dysderina scutata</i> (O. Pickard-Cambridge, 1876) (Figure S8 A-D)	13	13
2	<i>Opopaea santschii</i> Brignoli, 1974 (Figure S8 E-F; Figure S9 A-B)	9	11
3	<i>Orchestina pavesii</i> (Figure S9 C-F)	2	9
Family 10: Philodromidae Thorell, 1870		11	4
1	<i>Pulchellodromus glaucinus</i> (Simon, 1870) (Figure S10 A-B)	11	1
2	<i>Thanatus albin</i> (Audouin, 1825) (Figure S10 C-D)	-	3
Family 11: Pholcidae C.L. Koch, 1850		3	-
1	<i>Nita elsaft</i> Huber & El-Hennawy, 2007 (Figure S10 E-F)	3	-
Family 12: Salticidae Blackwall, 1841		27	28
1	<i>Afraflacilla spiniger</i> (O. Pickard-Cambridge, 1872) (Figure S11 A-B)	12	-
2	<i>Hasarius adansonii</i> (Audouin, 1826) (Figure S11 C-F)	15	-
3	<i>Heliophanillus fulgens</i> (O. Pickard-Cambridge, 1872) (Figure S12 A-B)	-	18
4	<i>Phlegma lineata</i> (C. L. Koch, 1846) (Figure S12 C-D)	-	4
5	<i>Plexippus paykulli</i> (Audouin, 1826) (Figure S12 E-F; Figure S13 A-B)	-	6
Family 13: Theridiidae Sundevall, 1833		22	20
1	<i>Euryopsis episinoides</i> (Walckenaer, 1847) (Figure S13 C-D)	16	5
2	<i>Dipoena braccata</i> (C. L. Koch, 1841) (Figure S13 E-F; Figure S14 A-B)	2	3
3	<i>Theridion melanostictum</i> O. Pickard-Cambridge 1876 (Figure S14 C-D)	3	4
4	<i>Theridion spinitarso</i> O. Pickard-Cambridge, 1876 (Figure S14 E-F)	1	8
Family 14: Thomisidae Sundevall, 1833		16	3
1	<i>Ozyptila</i> sp. (juvenile) (Figure S15 C)	-	3
2	<i>Thomisus spinifer</i> O. Pickard-Cambridge, 1872 (Figure S15 A-B)	16	-
Family 15: Uloboridae Thorell, 1869		13	-
1	<i>Uloborus walckenaerius</i> Latreille, 1806 (Figure S15 D-E)	13	-
Total		277	146

Table S 2. Spiders foraging groups and the numbers of individuals and their percentages in guilds, families and species at the studied site.

Group	Guild	Individuals		Family	Individuals		Species	Individuals	
		No.	%		No.	%		No.	%
Web-building spiders	Orb-weavers	24	11.48	Araneidae	11	5.26	<i>Cyrtophora citricola</i>	11	5.26
				Uloboridae	13	6.22	<i>Uloborus walckenaerius</i>	13	6.22
	Hackled-band	107	51.20	Dictynidae	107	51.20	<i>Nigma conducens</i>	107	51.20
	Sheet-web weavers	12	5.74	Linyphiidae	12	5.74	<i>Sengletus extricates</i>	12	5.74
	Cob-web weavers	42	20.10	Theridiidae	42	20.10	<i>Euryopsis episinoides</i>	21	10.05
							<i>Dipoena braccata</i>	5	2.39
							<i>Theridion melanostictum</i>	7	3.35
							<i>Theridion spinitarase</i>	9	4.31
	Sensing web weavers	21	10.05	Filistatidae	2	0.96	<i>Filistata sp.</i>	2	0.96
				Oecobiidae	19	9.09	<i>Oecobius putus</i>	6	2.87
							<i>Oecobius templi</i>	5	2.39
							<i>Uroctea sp.</i>	8	3.83
	Scattered line	3	1.44	Pholcidae	3	1.44	<i>Nita elsaiff</i>	3	1.44
Total-%	6-50%	209-49.4%	100%	8-53.3%	209	100%	13-38.3%	209	100%
Hunting spiders	Nocturnal around runners	42	19.63	Gnaphosidae	42	19.63	<i>Poecilochroa pugnax</i>	4	1.87
							<i>Berlandina venatrix</i>	1	0.47
							<i>Heser nilicola</i>	3	1.40
							<i>Odontodrassus aravaensis</i>	3	1.40
							<i>Synaphosus syntheticus</i>	23	10.75
							<i>Trachyzelotes lyonnети</i>	8	3.74
	Nocturnal hunters	11	5.14	Lycosidae	11	5.14	<i>Trochosa urbana</i>	4	1.87
							<i>Wadicosa fidelis</i>	7	3.27
							<i>Afraflacilla spiniger</i>	12	5.61
	Agile hunters	55	25.70	Salticidae	55	25.70	<i>Hasarius adansonii</i>	18	8.41
							<i>Phlegra lineata</i>	4	1.87
							<i>Plexippus paykulli</i>	6	2.80
							<i>Heliophanillus fulgens</i>	15	7.01
	Ambushers Hunters	34	15.89	Philodromidae	15	7.01	<i>Pulchellodromus glaucinus</i>	12	5.61
				Thomisidae	19	8.88	<i>Thanatus albin</i>	3	1.40
							<i>Thomisus spinifer</i>	16	7.48
	Swift Hunters	15	7.01	Cheiracanthiida	15	7.01	<i>Ozyptila sp.</i>	3	1.40
	litter stalkers	57	26.64	Oonopidae	57	26.64	<i>Cheiracanthium isiacum</i>	15	7.01
							<i>Dysderina scutata</i>	26	12.15
							<i>Opopaea santschii</i>	20	9.35
							<i>Orchestina pavesii</i>	11	5.14
Total-%	6-50%	214-50.6%	100%	7-46.7%	214	100%	21-61.8%	214	100%

Table S 3. Seasonal changes in number of species in each recorded family at the studied site.

Group	Family/species		No. of species recorded			
			Seasons			
			Autumn	Winter	Spring	Summer
Web-building spiders	Araneidae/ <i>Cyrtophora citricola</i>		1	1	1	1
	Uloboridae/ <i>Uloborus walckenaerius</i>		1	1	1	1
	Dictynidae/ <i>Nigma conducens</i>		1	1	1	1
	Linyphiidae/ <i>Sengletus extricates</i>		1	1	1	1
	Theridiidae	<i>Euryopsis episinoides</i>	1	1	1	1
		<i>Dipoena braccata</i>	1	1	1	0
		<i>Theridion melanostictum</i>	1	0	1	1
		<i>Theridion spinirtase</i>	1	1	1	1
		Total	4	3	4	3
	Filistatidae/ <i>Filistata</i> sp.		0	0	0	1
	Oecobiidae	<i>Oecobius putus</i>	1	1	1	0
		<i>Oecobius templi</i>	1	1	1	0
		<i>Uroctea</i> sp.	1	1	1	1
		Total	3	3	3	1
	Pholcidae/ <i>Nita elsaft</i>		1	0	1	0
Hunting spiders	Gnaphosidae	<i>Berlandina venatrix</i>	0	0	0	1
		<i>Heser nilicola</i>	0	1	1	0
		<i>Odontodrassus aravaensis</i>	1	0	0	1
		<i>Poecilochroa pugnax</i>	1	0	1	1
		<i>Synaphosus syntheticus</i>	1	1	1	1
		<i>Trachyzelotes lyonneti</i>	1	1	1	1
		Total	4	3	4	5
	Lycosidae	<i>Trochosa urbana</i>	0	1	1	1
		<i>Wadicosa fidelis</i>	1	1	1	0
		Total	1	2	2	1
	Salticidae	<i>Afraflacilla spiniger</i>	1	1	0	1
		<i>Hasarius adansonii</i>	1	1	1	1
		<i>Heliophanillus fulgens</i>	1	1	1	1
		<i>Phlegra lineata</i>	1	0	1	1
		<i>Plexippus paykulli</i>	0	1	1	1
		Total	4	4	4	5
	Philodromidae	<i>Pulchellodromus glaucinus</i>	1	1	1	1
		<i>Thanatus albini</i>	1	0	0	1
		Total	2	1	1	2
	Thomisidae	<i>Thomisus spinifer</i>	1	1	1	1
		<i>Ozyptila</i> sp.	1	1	1	0
		Total	2	2	2	1
	Cheiracanthiidae/ <i>Cheiracanthium isiacum</i>		1	1	1	1
	Onopidae	<i>Dysderina scutata</i>	1	1	1	1
		<i>Opopaea santschii</i>	1	1	1	1
		<i>Orchestina pavesii</i>	1	1	1	1
		Total	3	3	3	3

Table S 4. Seasonal and monthly fluctuations in the number of individuals in each family at the studied site.

Group	Family	No. of individuals				
		Autumn	Winter	Spring	Summer	Total
Web-building spiders	Araneidae	5	1	3	2	11
	Uloboridae	3	2	3	5	13
	Dictynidae	19	34	44	10	107
	Linyphiidae	5	3	2	2	12
	Theridiidae	7	8	19	8	42
	Filistatidae	0	0	0	2	2
	Oecobiidae	4	5	7	3	19
	Pholcidae	1	0	2	0	3
	Sum	44	53	80	32	209
	%	21.05	25.36	38.28	15.31	100.00
Hunting spiders	Gnaphosidae	15	9	7	11	42
	Lycosidae	1	2	7	1	11
	Salticidae	15	12	7	21	55
	Philodromidae	3	4	1	7	15
	Thomisidae	2	3	2	12	19
	Cheiracanthiidae	7	2	4	2	15
	Oonopidae	18	10	18	11	57
	Sum	61	42	46	65	214
	%	28.50	19.63	21.50	30.37	100.00
Summation of the two group		105	95	126	97	423
%		24.82	22.46	29.79	22.93	100.00

Figure S1. Light photographs showing: A) an adult female of *Cyrtophora citricola*, B) The epigyne of *C. citricola*, C) an adult male of *C. citricola*, D) different views of the palpal organ of *C. citricola*, E) an adult female of *Cheiracanthium isiacum* and F) The epigyne of *C. isiacum*.

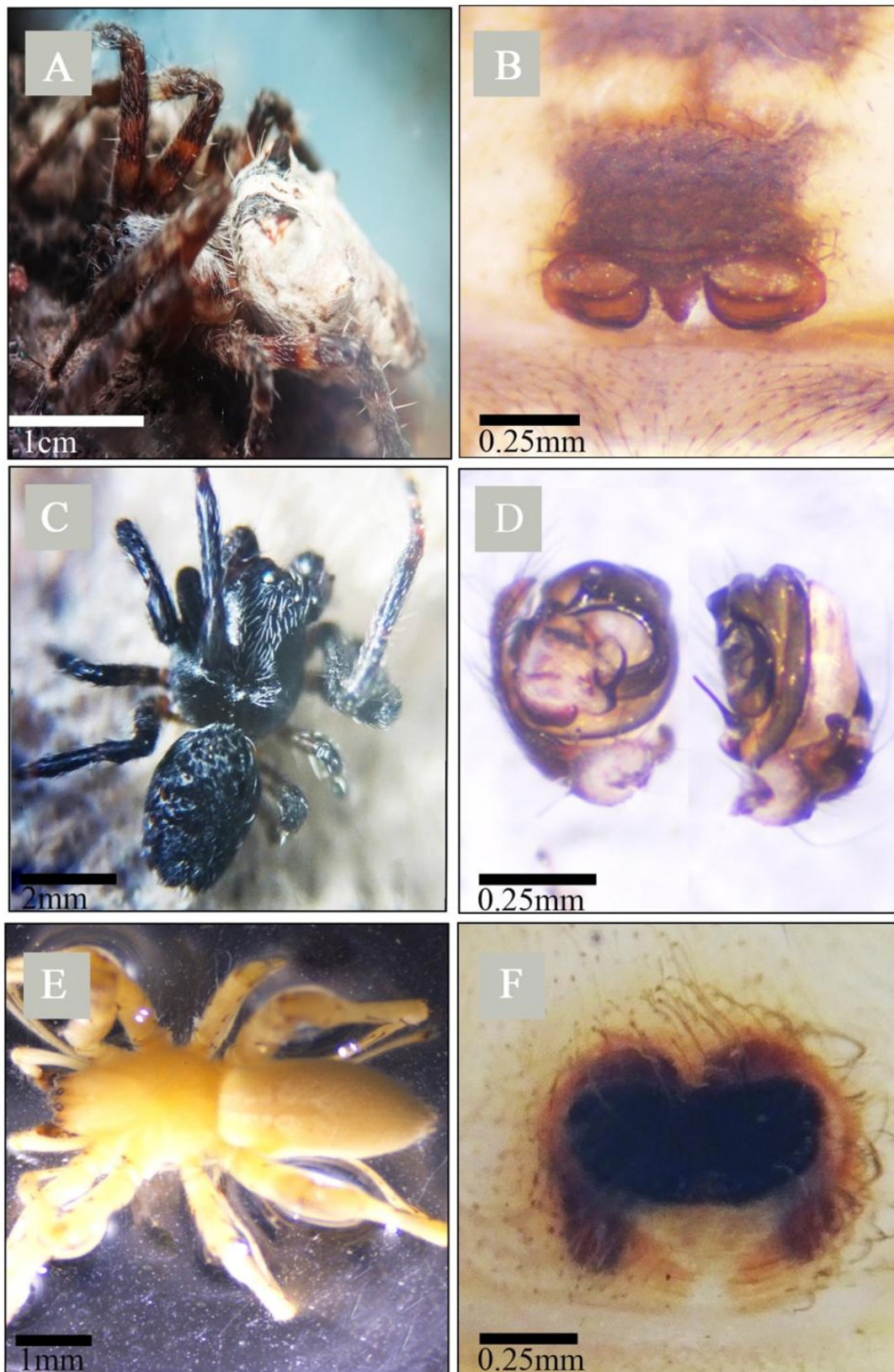


Figure S 2. Light photographs showing: A) an adult female of *Nigma conducens*; B) The epigyne of *N. conducens*; C) an adult male of *N. conducens*; D) palpal organ of *N. conducens* and E) an immature female of *Filistata* sp.

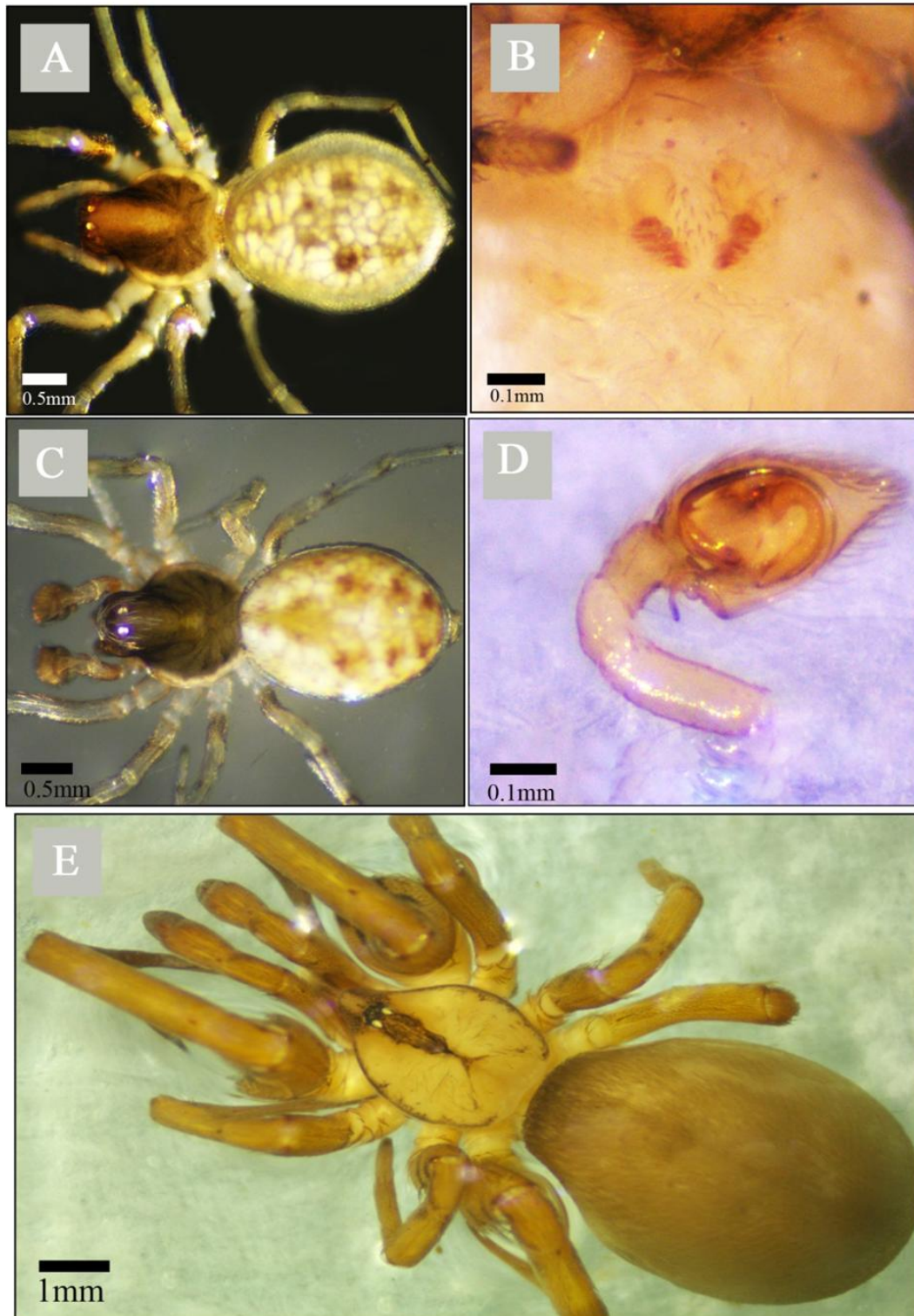


Figure S 3. Light photographs showing: A) an adult female of *Berlandina venatrix*; B) The vulva of *B. venatrix*; C) an adult male of *Heser nilicola*; D) different views of the palpal organ of *H. nilicola*; E) an adult male of *Odontodrassus aravaensis* and F) different views of the palpal organ of *O. aravaensis*.

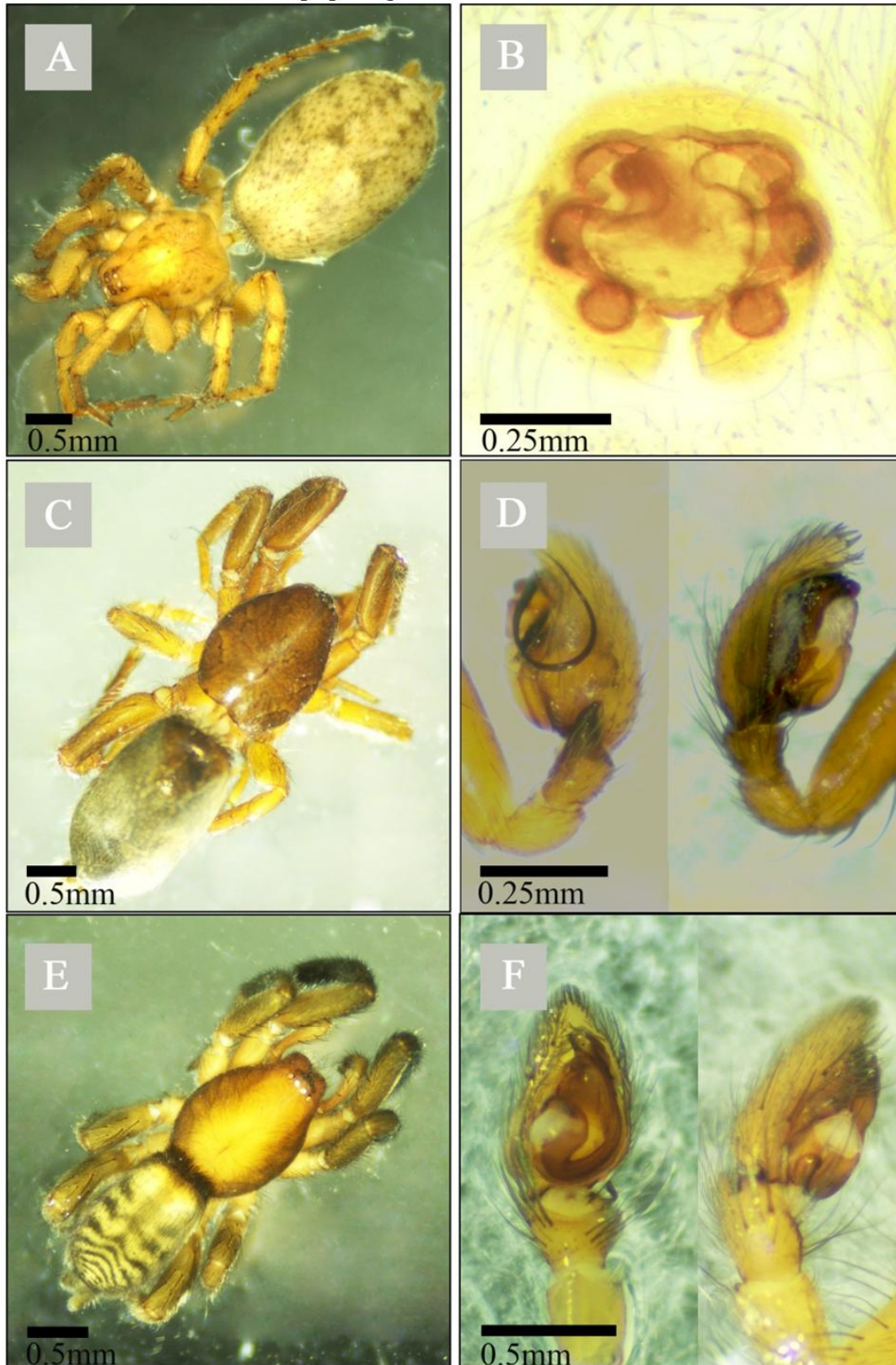


Figure S 4. Light photographs showing: A) an adult female of *Poecilochroa pugnax*; B) the epigyne of *P. pugnax*; C) an adult male of *P. pugnax*; D) palpal organ of *P. pugnax*; E) an adult female of *Synaphosus syntheticus* and F) the vulva of *S. syntheticus*.

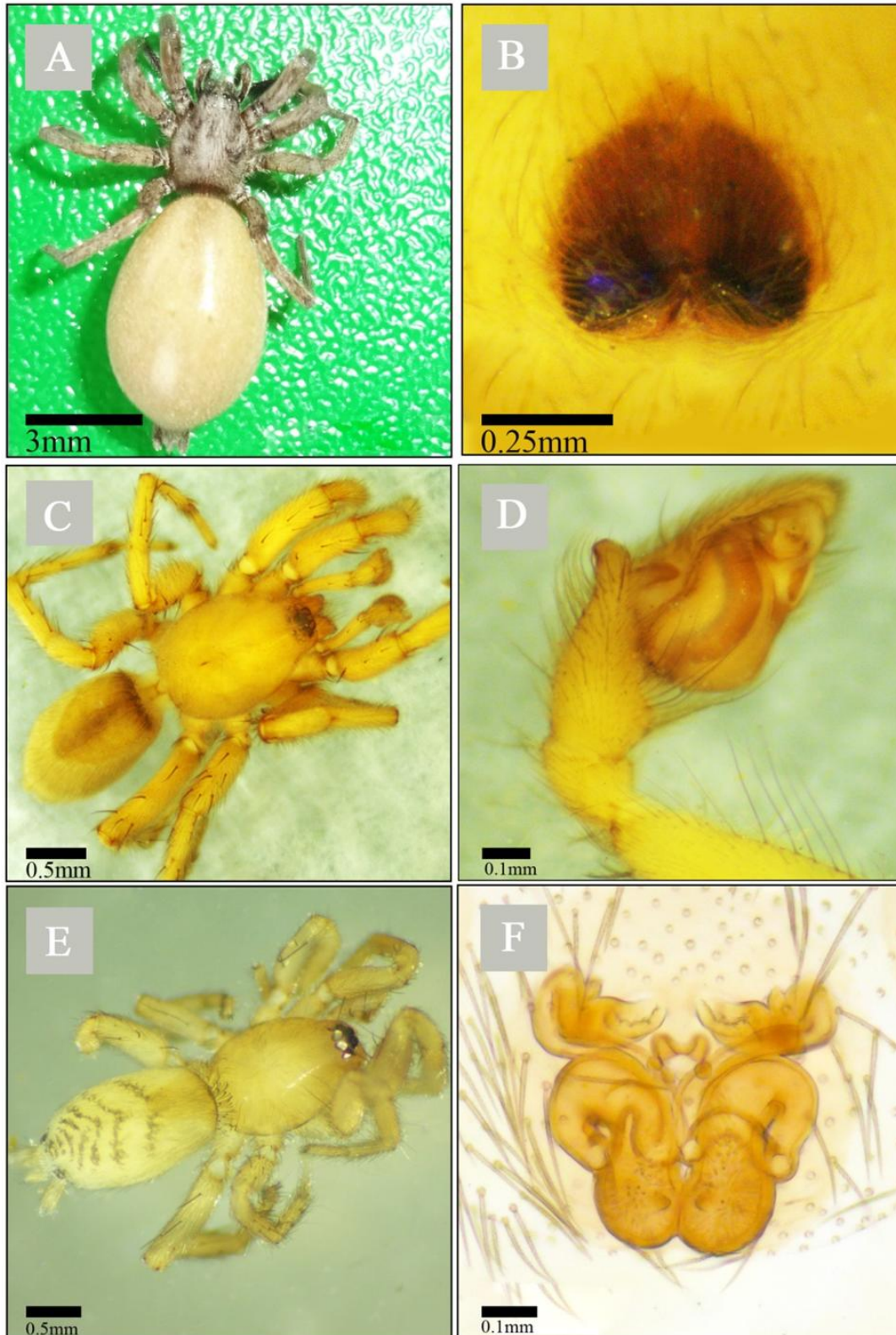


Figure S 5. Light photographs showing: A) an adult male of *S. syntheticus*, B) different views of the palpal organ of *S. syntheticus*, C) an adult female of *Trachyzelotes lyonneti*, D) the vulva of *T. lyonneti*, E) an adult female of *Sengletus extricatus* and F) the epigyne of *S. extricates*.

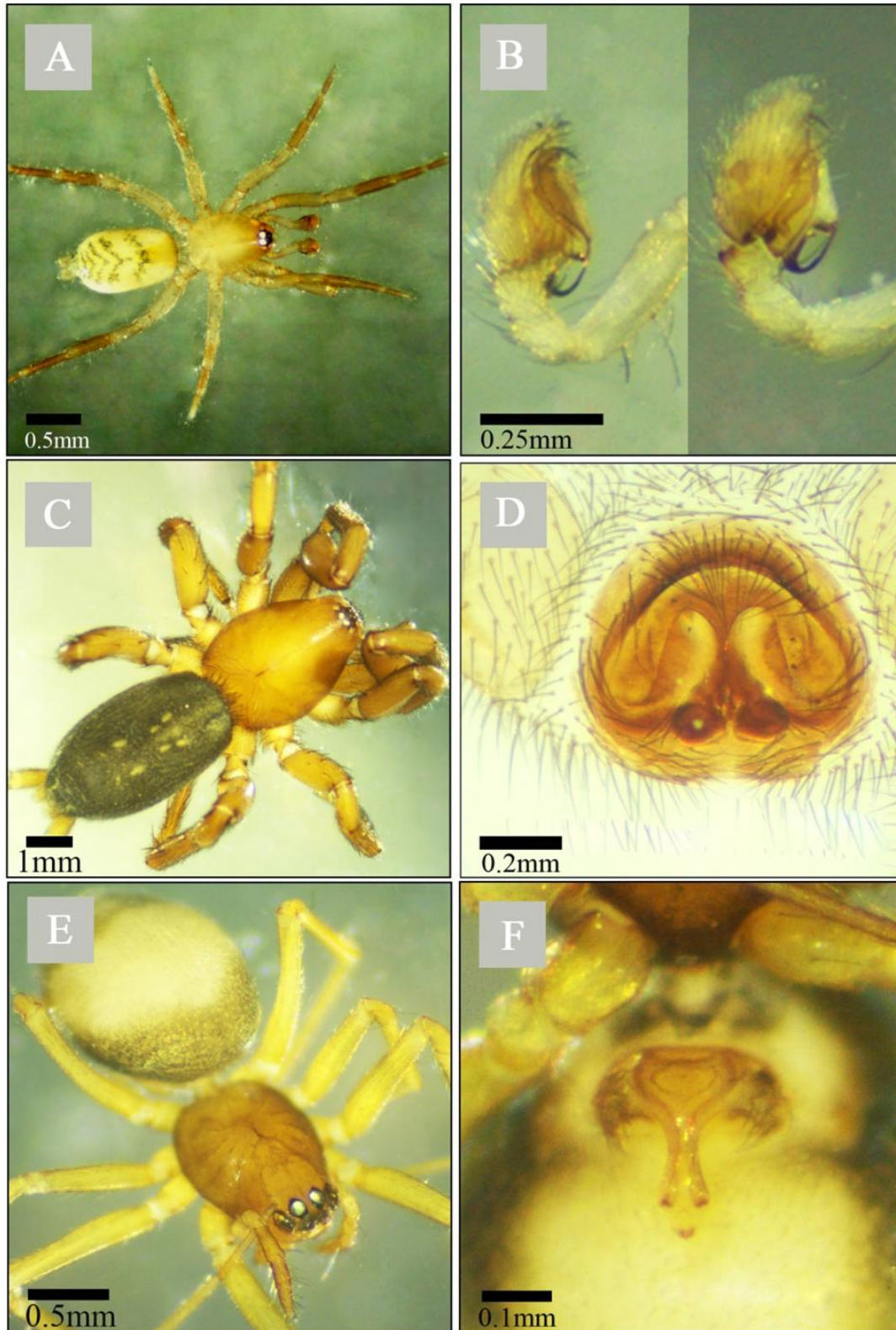


Figure S 6. Light photographs showing: A) an adult male of *S. extricatus*; B) palpal organ of *S. extricatus*; C) an adult female of *Trochosa urbana*; D) the epigyne of *T. urbana*; E) an adult female of *Wadicosa fidelis* and F) the vulva of *W. fidelis*.



Figure S 7. Light photographs showing: A) an adult female of *Oecobius putus*; B) the epigyne of *O. putus*; C) an adult female of *Oecobius templi*; D) the epigyne of *O. templi* and E) an immature female of *Uroctea* sp.

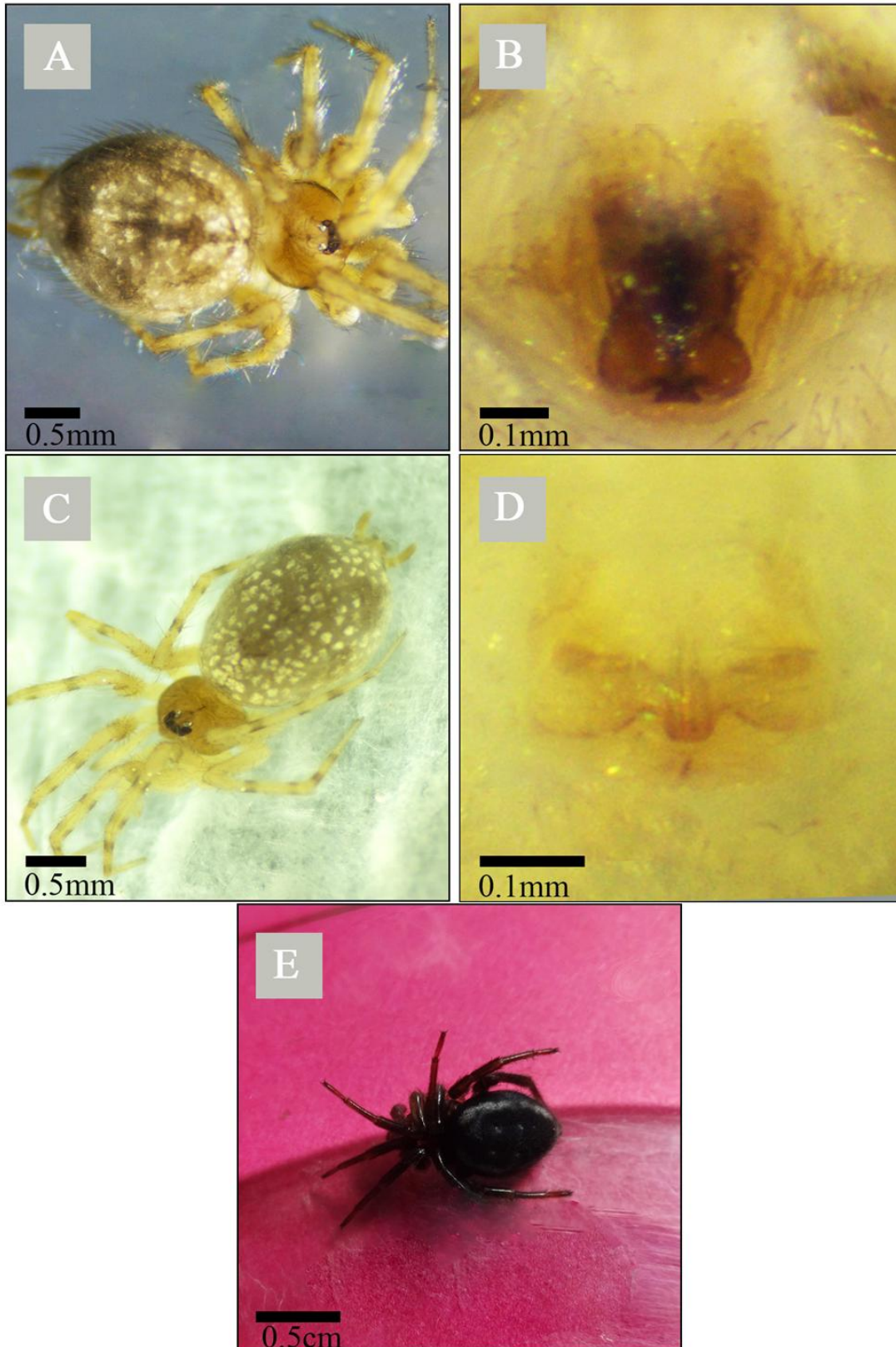


Figure S 8. Light photographs showing: A) an adult female of *Dysderina scutata*; B) the epigyne of *D. scutata*; C) an adult male of *D. scutata*; D) different views of the palpal organ of *D. scutata*; E) an adult female of *Opopaea santschii* and F) the epigyne of *O. santschii*.

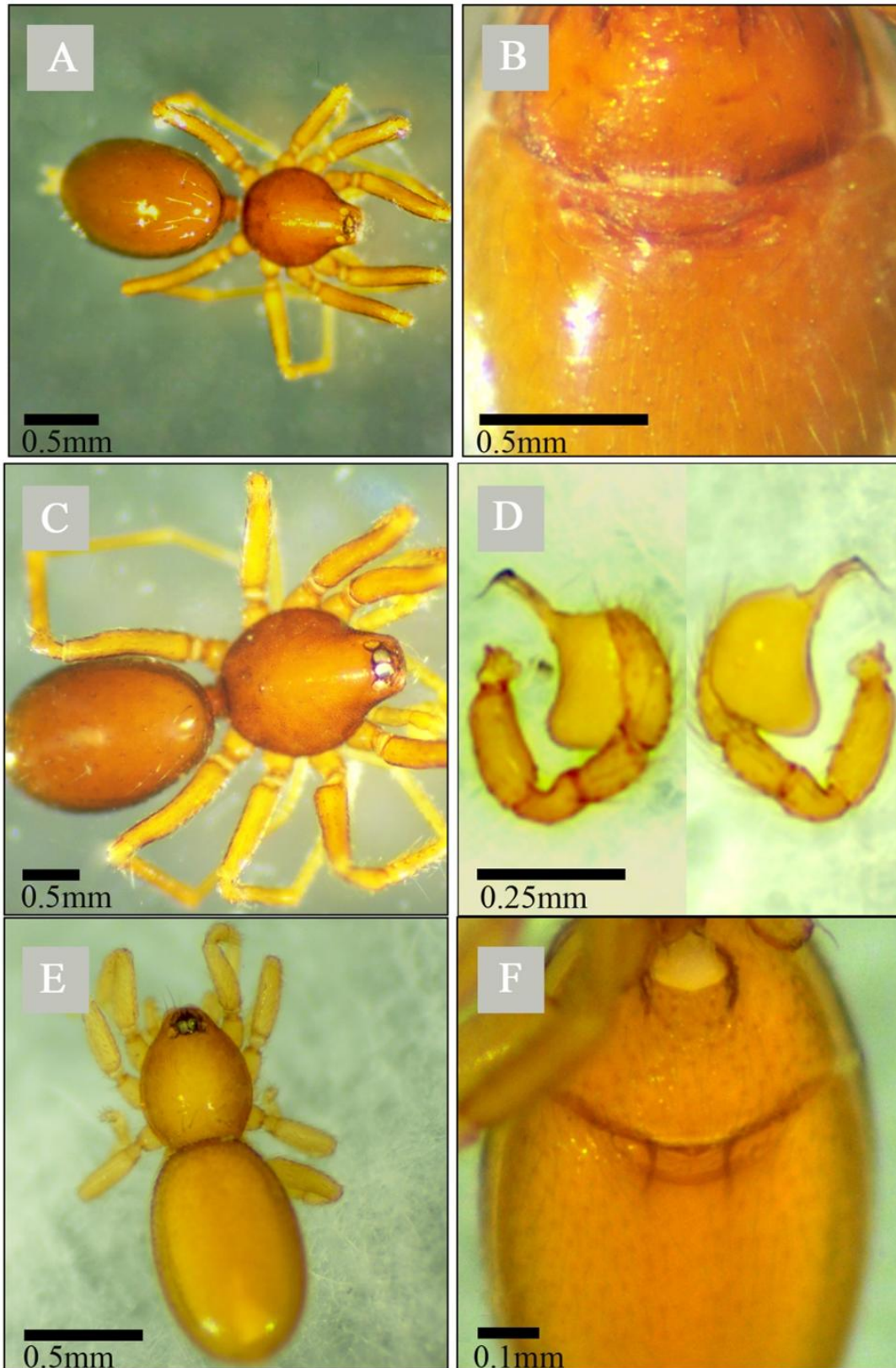


Figure S 9. Light photographs showing: A) an adult male of *O. santschii*; B) different views of the palpal organ of *O. santschii*; C) an adult female of *Orchestina pavesii*; D) the epigyne of *O. pavesii*; E) an adult male of *O. pavesii* and F) different views of the palpal organ of *O. pavesii*.

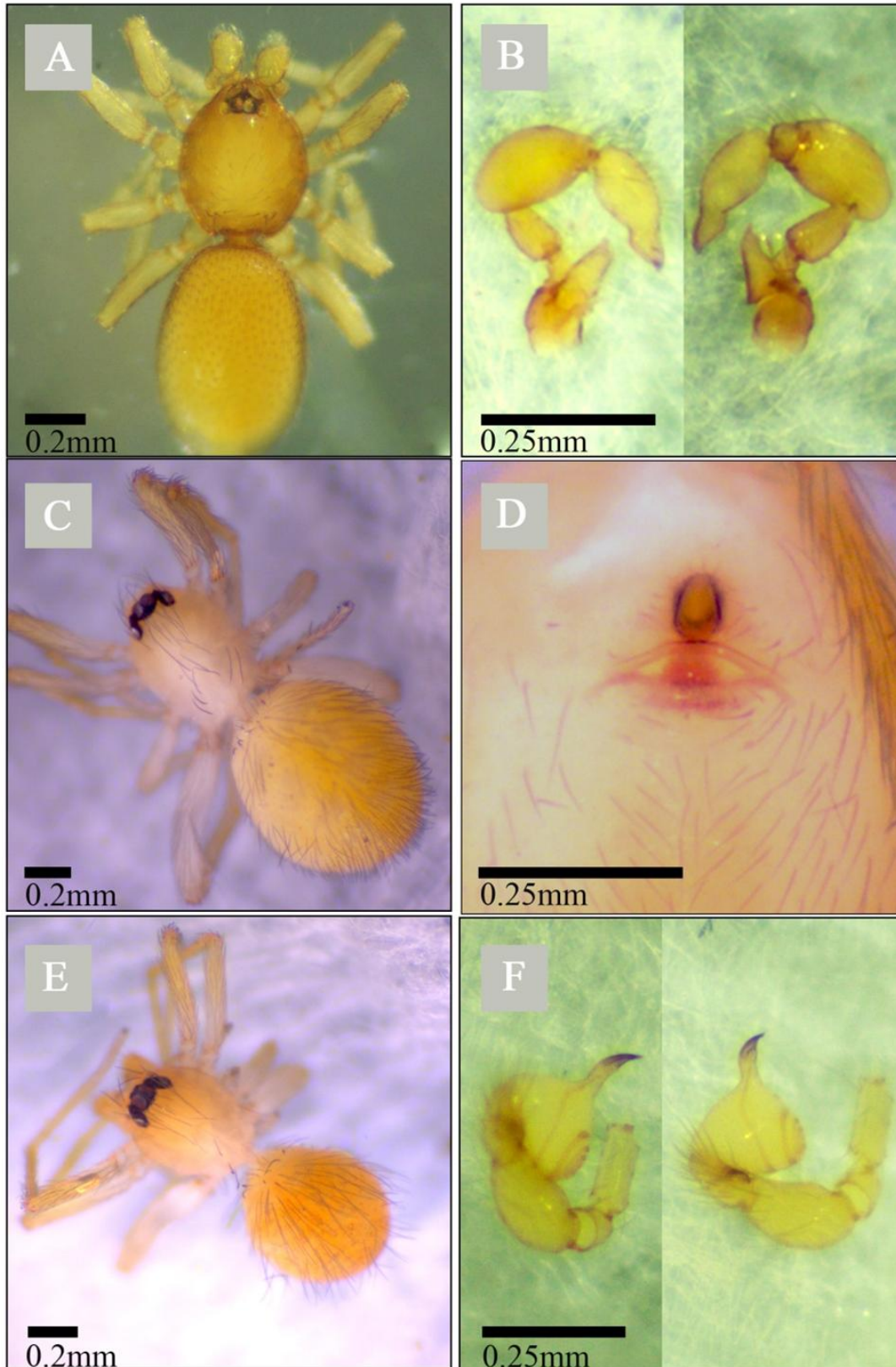


Figure S 10. Light photographs showing: A) an adult male of *Pulchellodromus glaucinus*, B) different views of the palpal organ of *P. glaucinus*, C) an adult female of *Thanatus albini*, D) the epigyne of *T. albini*, E) an adult female of *Nita elsaff* and F) the epigyne of *N. elsaff*.

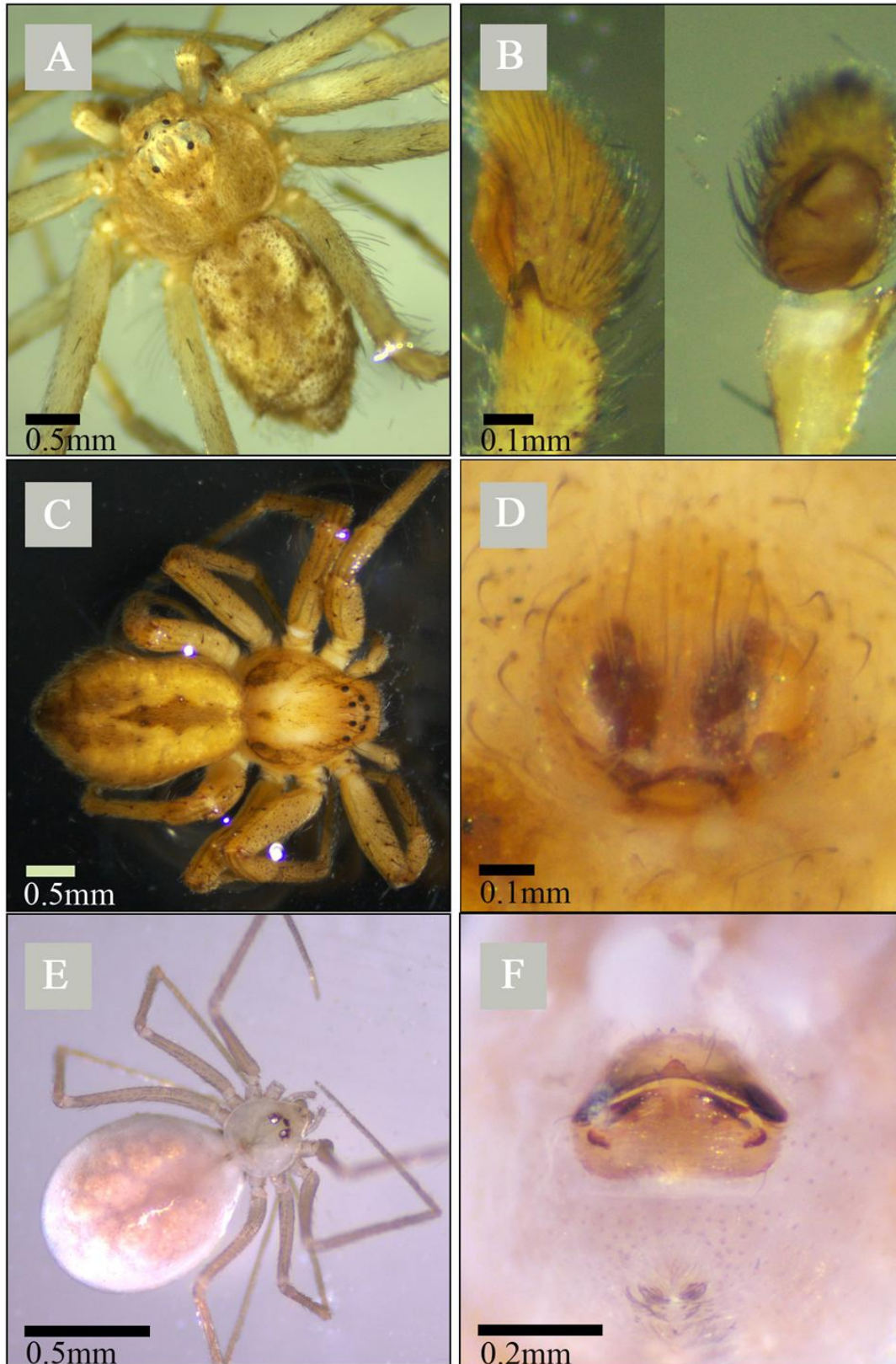


Figure S 11. Light photographs showing: A) an adult female of *Afraflacilla spiniger*, B) the epigyne of *A. spiniger*, C) an adult female of *Hasarius adansonii*, D) the vulva of *H. adansonii*, E) an adult male of *H. adansonii* and F) different views of the palpal organ of *H. adansonii*.

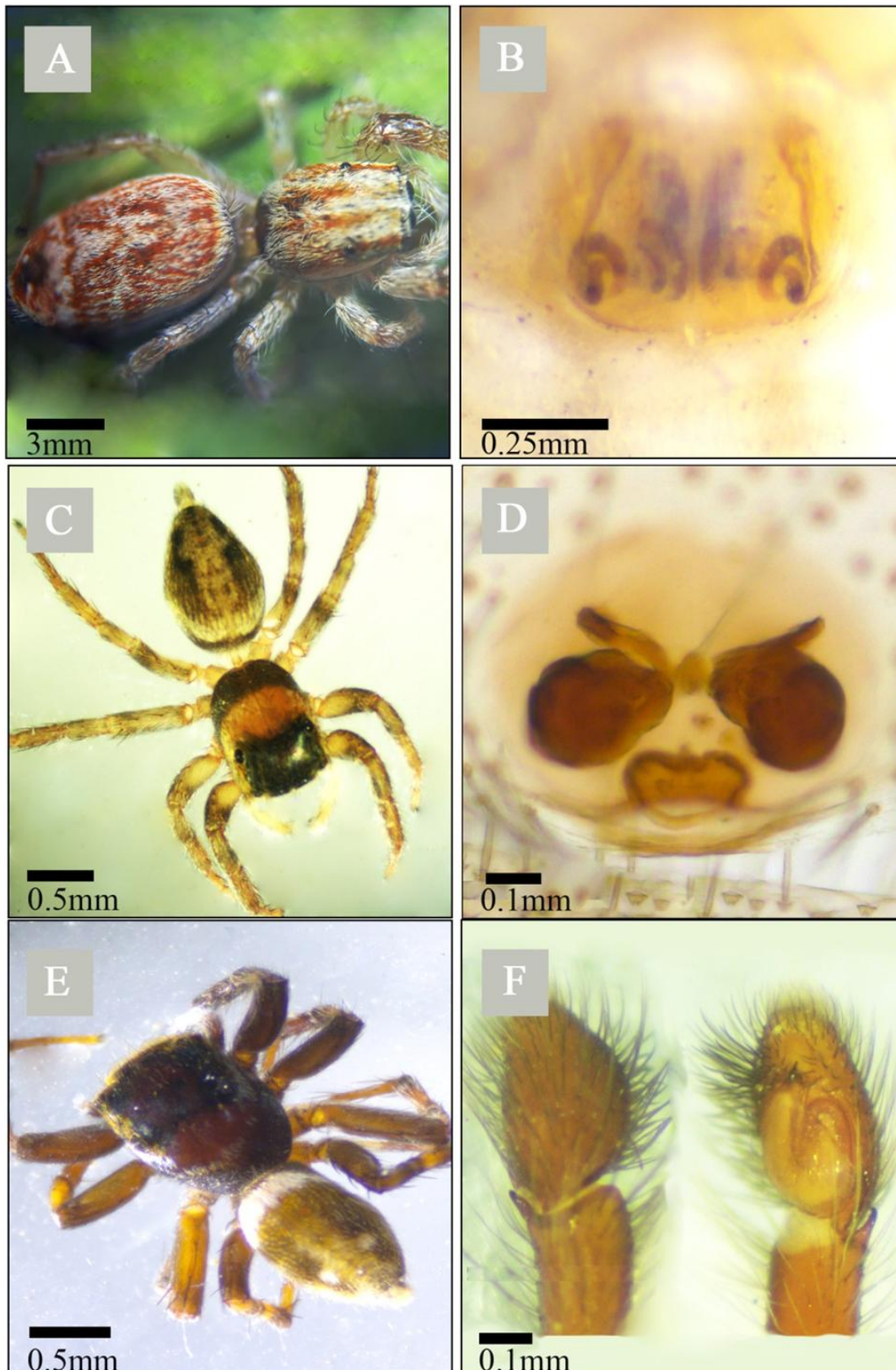


Figure S 12. Light photographs showing: A) an adult female of *Heliophanillus fulgens*, B) the vulva of *H. fulgens*, C) an adult female of *Phlegma lineata*, D) the epigyne of *P. lineata*, E) an adult female of *Plexippus paykulli* and F) the epigyne of *P. paykulli*.

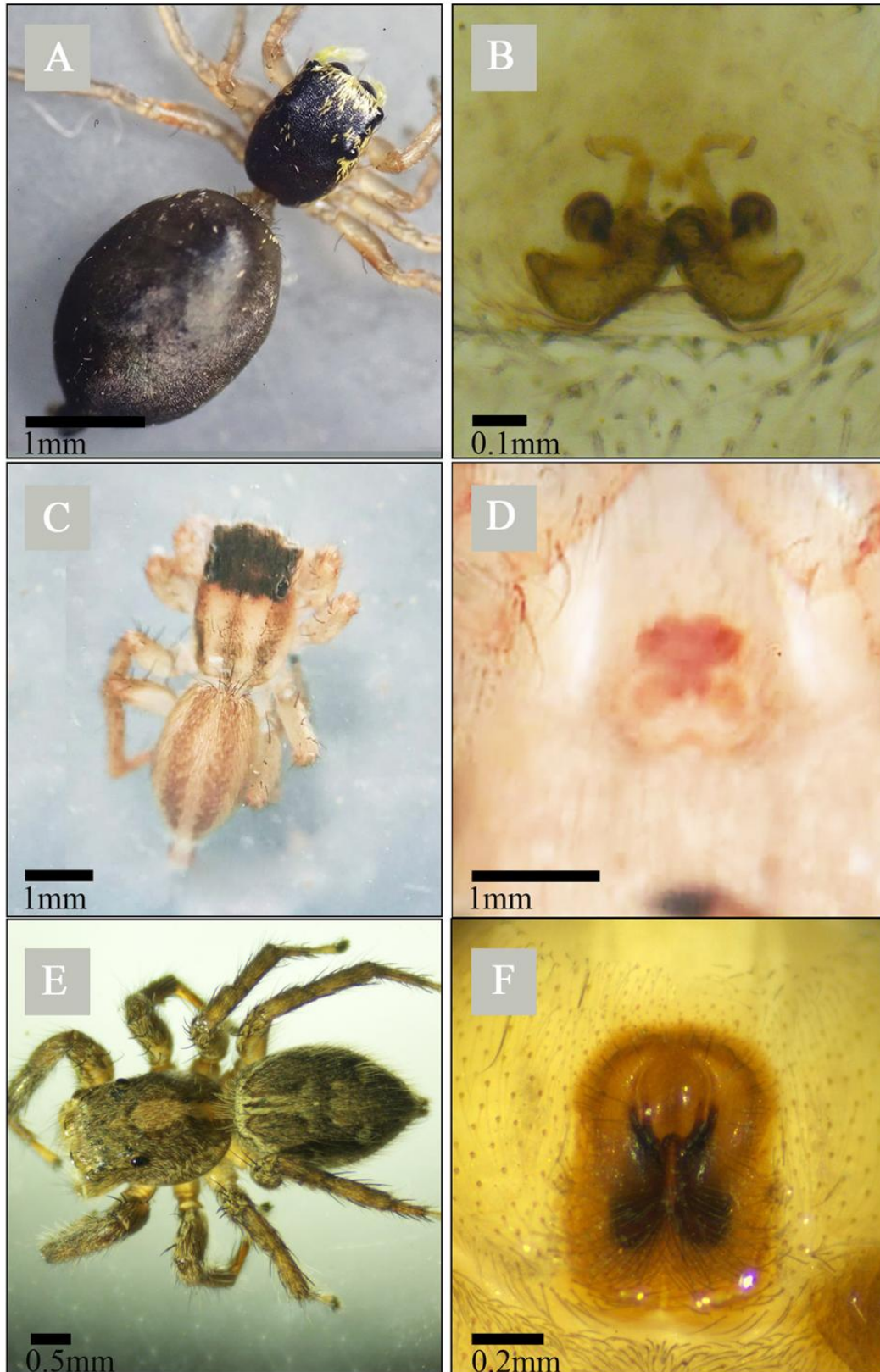


Figure S 13. Light photographs showing: A) an adult male of *P. paykulli*; B) different views of the palpal organ of *P. paykulli*; C) an adult male of *Euryopis episinoides*; D) the palpal organ of *E. episinoides*; E) an adult female of *Dipoena braccata* and F) the vulva of *D. braccata*.

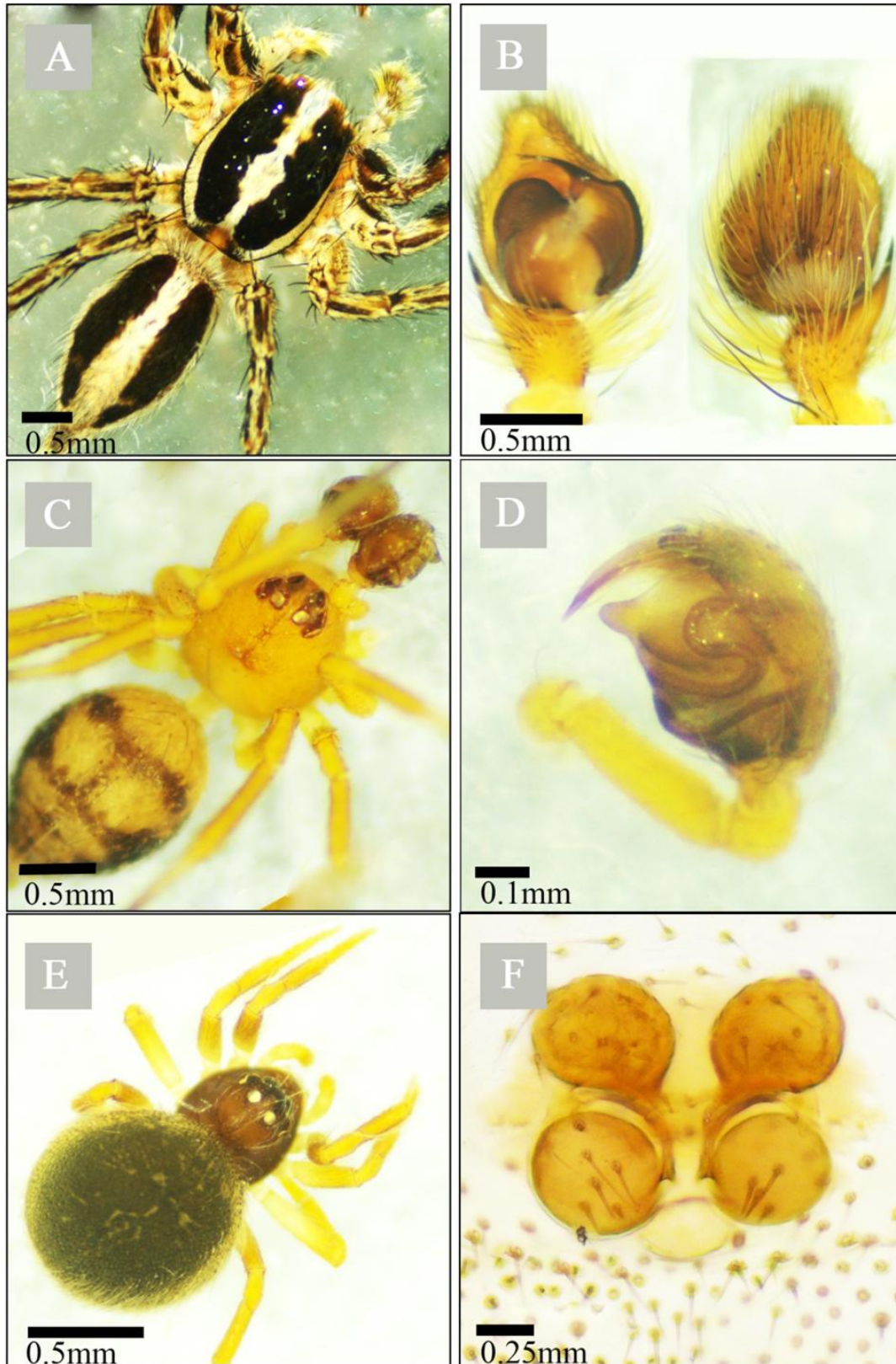


Figure S 14. Light photographs showing: A) an adult male of *D. braccata*; B) different views of the palpal organ of *D. braccata*; C) an adult female of *Theridion melanostictum*; D) the epigyne of *T. melanostictum*; E) an adult female of *Theridion spinitarse* and F) the epigyne of *T. spinitarse*.

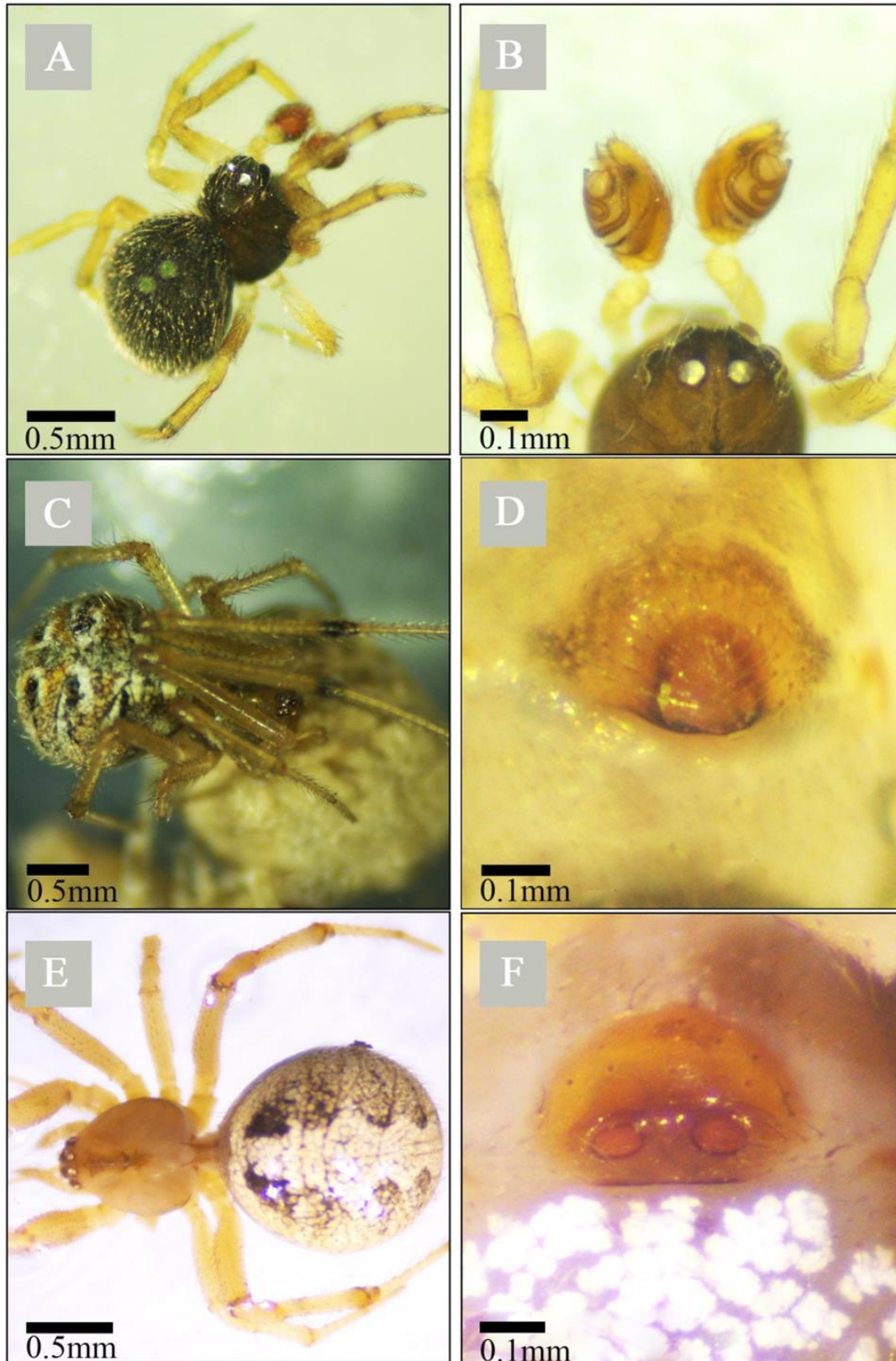


Figure S 15. Light photographs showing: A) an adult female of *Thomisus spinifer*, B) the epigyne of *T. spinifer*, C) an immature female of *Ozyptila* sp.; D) an adult female of *Uloborus walckenaerius* and E) the epigyne of *U. walckenaerius*.

