

Supplementary Materials

Review

Genus *Smenospongia*: Untapped Treasure of Biometabolites—Biosynthesis, Synthesis, and Bioactivities

Sabrin R. M. Ibrahim ^{1,2,*}, Sana A. Fadil ³, Haifa A. Fadil ⁴, Rawan H. Hareeri ⁵, Hossam M. Abdallah ^{3,6} and Gamal A. Mohamed ³

¹ Department of Chemistry, Preparatory Year Program, Batterjee Medical College, Jeddah 21442, Saudi Arabia

² Department of Pharmacognosy, Faculty of Pharmacy, Assiut University, Assiut 71526, Egypt

³ Department of Natural Products and Alternative Medicine, Faculty of Pharmacy, King Abdulaziz University, Jeddah 21589, Saudi Arabia

⁴ Department of Clinical and Hospital Pharmacy, Faculty of Pharmacy, Taibah University, Almadinah Almunawarah 30078, Saudi Arabia

⁵ Department of Pharmacology and Toxicology, Faculty of Pharmacy, King Abdulaziz University, Jeddah 21589, Saudi Arabia

⁶ Department of Pharmacognosy, Faculty of Pharmacy, Cairo University, Cairo 11562, Egypt

* Correspondence: sabrin.ibrahim@bmc.edu.sa; Tel.: +966-581183034

Table S1. Indole derivatives reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Indole-3-carbaldehyde (1)	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	145	C ₉ H ₇ NO	[20]
	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[63]
	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	-	-	[20]
	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[63]
3-Carboxylindole (2)	<i>S. aurea</i>	Discovery Bay, Jamaica	161	C ₉ H ₇ NO ₂	[20]
Indole-3-carboxylic methyl ester (3)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	175	C ₁₀ H ₉ NO ₂	[63]
5-Bromo-1 <i>H</i> -indole-3-carboxaldehyde (4)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	222	C ₉ H ₆ BrNO	[14]
5-Bromo-1 <i>H</i> -indole-3-carboxylic acid (5)	<i>Smenospongia</i> sp.	Batanes, Philippines	238	C ₉ H ₆ BrNO ₂	[19]
6-Bromo-1 <i>H</i> -indole-3-carboxaldehyde (6)	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	222	C ₉ H ₆ BrNO	[20]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	222	C ₉ H ₆ BrNO	[14]
5,6-Dibromo-1 <i>H</i> -indole-3-carboxaldehyde (7)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	300	C ₉ H ₅ Br ₂ NO	[14]
6-Bromo-1 <i>H</i> -indole-3-carboxylic acid methyl ester (8)	<i>S. aurea</i>	Milne Bay region, Papua New Guinea	252	C ₁₀ H ₈ BrNO ₂	[22]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	-	-	[14]
5-Bromo-1 <i>H</i> -indole-3-carboxylic acid methyl ester (9)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	252	C ₁₀ H ₈ BrNO ₂	[14]
5,6-Dibromo-1 <i>H</i> -indole-3-carboxylic acid methyl ester (10)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	330	C ₁₀ H ₇ Br ₂ NO ₂	[14]
6-Bromo-1 <i>H</i> -indol-3-yl)acetic acid methyl ester (11)	<i>S. aurea</i>	Milne Bay region, Papua New Guinea	266	C ₁₁ H ₁₀ BrNO ₂	[22]
Tryptamine (12)	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	160	C ₁₀ H ₇ N	[20]
<i>N,N</i> -Dimethyltryptamine (13)	<i>S. aurea</i>	Discovery Bay, Jamaica	188	C ₁₂ H ₁₂ N ₂	[18]
5-Bromo- <i>N,N</i> -dimethyltryptamine (14)	<i>S. echina</i>	-Puerto Morelos, Mexico -Glover and Lighthouse Reefs, Belize, Caribbean Sea	266	C ₁₂ H ₁₅ BrN ₂	[15]
	<i>S. aurea</i>	-Puerto Morelos, Mexico -Glover and Lighthouse Reefs, Belize, Caribbean Sea	-	-	[15,16]
	<i>S. aurea</i>	San Salvador Island coasts	-	-	[34]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
5,6-Dibromotryptamine (15)	<i>Smenospongia</i> sp.	Batanes, Philippines	315	C ₁₀ H ₁₀ Br ₂ N ₂	[19]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	315	C ₁₀ H ₁₀ Br ₂ N ₂	[14]
5,6-Dibromo- <i>N</i> -methyltryptamine (16)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	329	C ₁₁ H ₁₂ Br ₂ N ₂	[14]
5,6-Dibromo- <i>N,N</i> -dimethyltryptamine (17)	<i>S. echina</i>	-Puerto Morelos, Mexico -Glover and Lighthouse Reefs, Belize, Caribbean Sea	343	C ₁₂ H ₁₄ Br ₂ N ₂	[15,16]
	<i>S. echina</i>	-Puerto Morelos, Mexico -Glover and Lighthouse Reefs, Belize, Caribbean Sea	-	-	[15]

	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	-	-	[16]
	<i>S. aurea</i>	San Salvador Island coasts	-	-	[34]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
5,6-Dibromo- <i>N</i> -formyltryptamine (18)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	343	C ₁₁ H ₁₀ Br ₂ N ₂ O	[14]
5,6-Dibromo- <i>N</i> -acetyltryptamine (19)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	357	C ₁₂ H ₁₂ Br ₂ N ₂ O	[14]
5,6-Dibromo- <i>N</i> -acetyl- <i>N</i> -methyltryptamine (20)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	371	C ₁₃ H ₁₄ Br ₂ N ₂ O	[14]
5-Bromo-L-tryptophan (21)	<i>Smenospongia</i> sp.	Batanes, Philippines	282	C ₁₁ H ₁₁ BrN ₂ O ₂	[19]
5-Bromoabrine (22)	<i>Smenospongia</i> sp.	Batanes, Philippines	296	C ₁₂ H ₁₃ BrN ₂ O ₂	[19]
5,6-Bibromoabrine (23)	<i>Smenospongia</i> sp.	Batanes, Philippines	373	C ₁₂ H ₁₂ Br ₂ N ₂ O ₂	[19]
Makaluvamine O (24)	<i>S. aurea</i>	Discovery Bay, Jamaica	265	C ₁₀ H ₇ BrN ₂ O ₂	[18]
	<i>Smenospongia</i> sp.	Batanes, Philippines	-	-	[19]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
1,2-Bis(1 <i>H</i> -indol-3-yl)ethane-1,2-dione (25)	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	288	C ₁₈ H ₁₂ N ₂ O ₂	[20]

Table S2. Biological activity of reported metabolites from genus *Smenospongia*.

Compound Name	Biological Activity	Assay/Organism or Cell Line	Biological Results		Ref.
			Compound	Positive Control	
5,6-Dibromo-1 <i>H</i> -indole-3-carboxylic acid methyl ester (10)	Cytotoxicity	MTT/HepG2	36.1 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
5,6-Dibromotryptamine (15)	Cytotoxicity	MTT/HCT-116 (P ^{53+/+})	12.6 µM (IC ₅₀)	Etoposide 3.4 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{53-/-})	53.2 µM (IC ₅₀)	Etoposide 17 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{+/+})	85 µM (IC ₅₀)	Etoposide 3.4 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{-/-})	63 µM (IC ₅₀)	Etoposide 26 µM (IC ₅₀)	[19]
		MTT/MOLT-3	5.4 µM (IC ₅₀)	Etoposide 0.03 µM (IC ₅₀)	[14]
		MTT/HepG2	23.1 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/A549	78.6 µM (IC ₅₀)	Doxorubicin 0.43 µM (IC ₅₀)	[14]
		MTT/HuCCA-1	23.6 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/HeLa	9.4 µM (IC ₅₀)	Doxorubicin 0.38 µM (IC ₅₀)	[14]
		MTT/MDA-MB-231	34.1 µM (IC ₅₀)	Doxorubicin 0.62 µM (IC ₅₀)	[14]
5,6-Dibromo- <i>N</i> -methyltryptamine (16)	Cytotoxicity	MTT/MOLT-3	46.1 µM (IC ₅₀)	Etoposide 0.03 µM (IC ₅₀)	[14]
		MTT/HepG2	23.1 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/A549	78.3 µM (IC ₅₀)	Doxorubicin 0.43 µM (IC ₅₀)	[14]
		MTT/HuCCA-1	54.2 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/HeLa	52.7 µM (IC ₅₀)	Doxorubicin 0.38 µM (IC ₅₀)	[14]
		MTT/HL-60	14.6 µM (IC ₅₀)	Etoposide 1.18 µM (IC ₅₀)	[14]
		MTT/MDA-MB-231	35.8 µM (IC ₅₀)	Doxorubicin 0.62 µM (IC ₅₀)	[14]
Makaluvamine O (24)	Cytotoxicity	MTT/HCT-116 (P ^{53+/+})	71 µM (IC ₅₀)	Etoposide 3.4 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{53-/-})	79 µM (IC ₅₀)	Etoposide 17 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{+/+})	94 µM (IC ₅₀)	Etoposide 3.4 µM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{-/-})	8.6 µM (IC ₅₀)	Etoposide 26 µM (IC ₅₀)	[19]
(R and S) of 5'-[(5,6-Dibromo-1 <i>H</i> -indol-3-yl)methyl]-3'-methylimidazolidine-2',4'-dione (36)	Cytotoxicity	MTT/MOLT-3	47.3 µM (IC ₅₀)	Etoposide 0.03 µM (IC ₅₀)	[14]
		MTT/HepG2	31.2 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/A549	84.8 µM (IC ₅₀)	Doxorubicin 0.43 µM (IC ₅₀)	[14]
		MTT/HuCCA-1	87.3 µM (IC ₅₀)	Doxorubicin 0.69 µM (IC ₅₀)	[14]
		MTT/HeLa	59.9 µM (IC ₅₀)	Doxorubicin 0.38 µM (IC ₅₀)	[14]

5,6-Dibromo-2'-demethylaplysinopsin (37)	Cytotoxicity	MTT/HeLa	13.0 μM (IC ₅₀)	Doxorubicin 0.38 μM (IC ₅₀)	[14]
		MTT/MOLT-3	36.5 μM (IC ₅₀)	Etoposide 0.03 μM (IC ₅₀)	[14]
		MTT/HepG2	37.7 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/A549	96.7 μM (IC ₅₀)	Doxorubicin 0.43 μM (IC ₅₀)	[14]
		MTT/HuCCA-1	89.2 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/HeLa	75.4 μM (IC ₅₀)	Doxorubicin 0.38 μM (IC ₅₀)	[14]
		MTT/HL-60	27.0 μM (IC ₅₀)	Etoposide 1.18 μM (IC ₅₀)	[14]
Aureol (58)	Cytotoxicity	MTT/MDA-MB-231	42.7 μM (IC ₅₀)	Doxorubicin 0.62 μM (IC ₅₀)	[14]
		MTT/HCT-116 (P ^{53+/+})	15.9 μM (IC ₅₀)	Etoposide 3.4 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{53-/-})	41 μM (IC ₅₀)	Etoposide 17 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{+/+})	73 μM (IC ₅₀)	Etoposide 3.4 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P21 ^{-/-})	61 μM (IC ₅₀)	Etoposide 26 μM (IC ₅₀)	[19]
		MTT/Hepa59T/VGH	5.77 $\mu\text{g/mL}$ (IC ₅₀)	Mitomycin 0.1 $\mu\text{g/mL}$ (IC ₅₀)	[36]
		MTT/KB	4.94 $\mu\text{g/mL}$ (IC ₅₀)	Mitomycin 0.1 $\mu\text{g/mL}$ (IC ₅₀)	[36]
		MTT/Hela	7.65 $\mu\text{g/mL}$ (IC ₅₀)	Mitomycin 0.11 $\mu\text{g/mL}$ (IC ₅₀)	[36]
		MTT/MOLT-3	24.8 μM (IC ₅₀)	Etoposide 0.03 μM (IC ₅₀)	[14]
		MTT/HepG2	29.2 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/A549	76.4 μM (IC ₅₀)	Doxorubicin 0.43 μM (IC ₅₀)	[14]
		MTT/HuCCA-1	87.6 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/HeLa	62.1 μM (IC ₅₀)	Doxorubicin 0.38 μM (IC ₅₀)	[14]
		MTT/HL-60	14.6 μM (IC ₅₀)	Etoposide 1.18 μM (IC ₅₀)	[14]
		MTT/MDA-MB-231	29.7 μM (IC ₅₀)	Doxorubicin 0.62 μM (IC ₅₀)	[14]
6'-Iodoaureol (60)	Cytotoxicity	MTT/MOLT-3	39.8 μM (IC ₅₀)	Etoposide 0.03 μM (IC ₅₀)	[14]
		MTT/HepG2	44.7 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/A549	68.2 μM (IC ₅₀)	Doxorubicin 0.43 μM (IC ₅₀)	[14]
		MTT/HuCCA-1	63.6 μM (IC ₅₀)	Doxorubicin 0.69 μM (IC ₅₀)	[14]
		MTT/HeLa	61.4 μM (IC ₅₀)	Doxorubicin 0.38 μM (IC ₅₀)	[14]
		MTT/HL-60	43.2 μM (IC ₅₀)	Etoposide 1.18 μM (IC ₅₀)	[14]
		MTT/MDA-MB-231	44.7 μM (IC ₅₀)	Doxorubicin 0.62 μM (IC ₅₀)	[14]
Smenohaimien E (67)	Anti-inflammatory	NO inhibition/LPS	24.37 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]
Polyfibrospogol B (69)	Anti-inflammatory	NO inhibition/LPS	30.43 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]
19-Hydroxy-polyfibrospogol B (70)	Anti-inflammatory	NO inhibition/LPS	24.44 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]

Ilimaquinone (75)	Anti-inflammatory	NO inhibition/LPS	10.40 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]
Dactyloquinone C (79)	Cytotoxicity	MTT/LU-1	52.2 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HL-60	51.8 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.5 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/SK-Mel-2	41.2 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HepG-2	61.1 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/MCF-7	44.1 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
Dactyloquinone D (80)	Cytotoxicity	MTT/LU-1	1.1 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HL-60	0.7 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.5 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/SK-Mel-2	1.3 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HepG-2	0.7 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/MCF-7	1.6 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
Smenohaimien F (83)	Cytotoxicity	MTT/LU-1	10.0 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HL-60	13.7 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.5 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/SK-Mel-2	23.5 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.4 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/HepG-2	18.1 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
		MTT/MCF-7	27.9 $\mu\text{g/mL}$ (IC ₅₀)	Ellipticine 0.6 $\mu\text{g/mL}$ (IC ₅₀)	[48]
Smenohaimien A (100)	Anti-inflammatory	NO inhibition/LPS	30.13 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]
Smenohaimien B (101)	Anti-inflammatory	NO inhibition/LPS	28.33 μM (IC ₅₀)	L-NMMA 22.1 μM (IC ₅₀)	[47]
Furospinulosin 1 (107)	Cytotoxicity	MTT/HCT-116 (P ^{53+/+})	104 μM (IC ₅₀)	Etoposide 3.4 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{53-/-})	141 μM (IC ₅₀)	Etoposide 17 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{21+/+})	155 μM (IC ₅₀)	Etoposide 3.4 μM (IC ₅₀)	[19]
		MTT/HCT-116 (P ^{21-/-})	133 μM (IC ₅₀)	Etoposide 26 μM (IC ₅₀)	[19]
4-Hydroxy-9-deoxoidiadione (108)	Antibacterial	Microdilution/ <i>B. subtilis</i>	6.25 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
	Cytotoxicity	SRB/K562	5.7 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
7E,12E,18R,20Z-Variabilin (110)	Antibacterial	Microdilution/ <i>Staph. aureus</i>	12.5 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>B. subtilis</i>	6.25 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>M. luteus</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>P. vulgaris</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
	Isocitrate lyase inhibition	Colorimetric/Isocitrate lyase kit	27.0 μM (IC ₅₀)	3-Nitropropionate 6.05 μM (IC ₅₀)	[54]
	Cytotoxicity	SRB/K562	43.7 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]

7E,13Z,18R,20Z-Felixinin (111)/8E,13Z,18R,20Z-Strobilin (112)	Antibacterial	Microdilution/ <i>Staph. aureus</i>	6.25 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>B. subtilis</i>	3.12 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>M. leuteus</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>P. vulgaris</i>	3.12 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	12.5 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
	Isocitrate lyase inhibition	Colorimetric/Isocitrate Lyase kit	24.1 μM (IC ₅₀)	3-Nitropropionate 6.05 μM (IC ₅₀)	[54]
8Z,13Z,18R,20Z-Strobilin (113)	Cytotoxicity	SRB/K562	16.9 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
	Antibacterial	Microdilution/ <i>Staph. aureus</i>	6.25 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>B. subtilis</i>	6.25 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>M. leuteus</i>	3.12 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>P. vulgaris</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	12.5 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
Isocitrate lyase inhibition	Colorimetric/Isocitrate Lyase kit	31.2 μM (IC ₅₀)	3-Nitropropionate 6.05 μM (IC ₅₀)	[54]	
12-Deacetoxy-23-acetoxyscalarin (114)	Cytotoxicity	SRB/K562	3.7 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
	Isocitrate lyase inhibition	Colorimetric/Isocitrate Lyase kit	67.2 μM (IC ₅₀)	3-Nitropropionate 6.05 μM (IC ₅₀)	[54]
2-Deacetoxy-23-acetoxy-19-O-acetylscalarin (115)	Cytotoxicity	SRB/K562	7.2 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
	Antibacterial	Microdilution/ <i>B. subtilis</i>	0.78 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
12-Deacetoxy-19-O-acetyl-23-hydroxyscalarin (116)	Cytotoxicity	SRB/K562	0.13 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
	Antibacterial	Microdilution/ <i>B. subtilis</i>	1.56 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>M. leuteus</i>	3.12 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
	Cytotoxicity	SRB/K562	22.5 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
12-Deacetoxy-23-hydroxy-19-O-methylscalarin (117)	Antibacterial	Microdilution/ <i>B. subtilis</i>	50.0 μM (MIC)	Ampicillin 1.56 μM (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	6.25 μM (MIC)	Ampicillin 3.12 μM (MIC)	[54]
	Isocitrate lyase inhibition	Colorimetric/Isocitrate Lyase kit	42.0 μM (IC ₅₀)	3-Nitropropionate 6.05 μM (IC ₅₀)	[54]
	Cytotoxicity	SRB/K562	0.11 μM (IC ₅₀)	Doxorubicin 4.9 μM (IC ₅₀)	[54]
	12-Deacetoxy-23-hydroxyheteronemin (118)	Antibacterial	Microdilution/ <i>B. subtilis</i>	3.12 μM (MIC)	Ampicillin 1.56 μM (MIC)

	Cytotoxicity	SRB/K562	4.9 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
12-deacetoxy-23-acetoxysteronemin (119)	Cytotoxicity	SRB/K562	6.8 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
12-Deacetoxy-19-O-acetyl-16-deacetoxyheteronemin (120)	Antibacterial	Microdilution/ <i>B. subtilis</i>	3.12 μ M (MIC)	Ampicillin 1.56 μ M (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	12.5 μ M (MIC)	Ampicillin 3.12 μ M (MIC)	[54]
	Cytotoxicity	SRB/K562	5.8 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
12-Deacetoxy-23-aldehydeheteronemin (121)	Cytotoxicity	SRB/K562	17.5 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
12-deacetoxy-23-acetoxyscalafuran (124)	Antibacterial	Microdilution/ <i>B. subtilis</i>	3.12 μ M (MIC)	Ampicillin 1.56 μ M (MIC)	[54]
		Microdilution/ <i>M. luteus</i>	25.0 μ M (MIC)	Ampicillin 3.12 μ M (MIC)	[54]
	Cytotoxicity	SRB/K562	2.3 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
18S-12-Deacetoxy-23-acetoxy-20-carboxyscaladial (125)	Cytotoxicity	SRB/K562	4.2 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
18S-12-Deacetoxy-23-acetoxy-20-methoxyscaladial (126)	Cytotoxicity	SRB/K562	3.7 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
18R-12-Deacetoxy-23-acetoxy-20-methoxyscaladial (127)	Antibacterial	Microdilution/ <i>Staph. aureus</i>	25.0 μ M (MIC)	Ampicillin 1.56 μ M (MIC)	[54]
		Microdilution/ <i>B. subtilis</i>	0.78 μ M (MIC)	Ampicillin 1.56 μ M (MIC)	[54]
		Microdilution/ <i>M. luteus</i>	12.5 μ M (MIC)	Ampicillin 3.12 μ M (MIC)	[54]
		Microdilution/ <i>P. vulgaris</i>	6.25 μ M (MIC)	Ampicillin 3.12 μ M (MIC)	[54]
		Microdilution/ <i>S. typhimurium</i>	12.5 μ M (MIC)	Ampicillin 3.12 μ M (MIC)	[54]
	Isocitrate lyase inhibition	Colorimetric/Isocitrate Lyase kit	55.0 μ M (IC ₅₀)	3-Nitropropionate 6.05 μ M (IC ₅₀)	[54]
	Cytotoxicity	SRB/K562	8.6 μ M (IC ₅₀)	Doxorubicin 4.9 μ M (IC ₅₀)	[54]
Smenocerone B (138)	Cytotoxicity	MTT/LU-1	5.5 μ g/mL (IC ₅₀)	Ellipticine 0.4 μ g/mL (IC ₅₀)	[48]
		MTT/HepG-2	3.2 μ g/mL (IC ₅₀)	Ellipticine 0.5 μ g/mL (IC ₅₀)	[48]
		MTT/HL-60	4.0 μ g/mL (IC ₅₀)	Ellipticine 0.4 μ g/mL (IC ₅₀)	[48]
		MTT/MCF-7	4.1 μ g/mL (IC ₅₀)	Ellipticine 0.6 μ g/mL (IC ₅₀)	[48]
		MTT/SK-Mel-2	5.7 μ g/mL (IC ₅₀)	Ellipticine 0.6 μ g/mL (IC ₅₀)	[48]

Table S3. Aplysinopsin derivatives reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Aplysinopsin (26)	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	254	C ₁₄ H ₁₄ N ₄ O	[15,16]
	<i>S. aurea</i>	Milne Bay region, Papua New Guinea	-	-	[22]
6-Bromoaplysinopsin (27)	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	332	C ₁₄ H ₁₃ BrN ₄ O	[15,16]
	<i>S. aurea</i>	Discovery Bay, Jamaica	-	-	[18]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
6-Bromo-4'-N-demethylaplysinopsin (28)	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	318	C ₁₃ H ₁₁ BrN ₄ O	[16]
6-Bromo-3'-deimino-2',4'-bis(demethyl)-3'-oxoaplysinopsin (29)	<i>S. aurea</i>	San Salvador Island coasts	304	C ₁₂ H ₈ BrN ₃ O ₂	[15,34]
6-Bromo-1'-ethoxy-1',8-dihydroaplysinopsin (30)	<i>S. aurea</i>	Milne Bay region, Papua New Guinea	378	C ₁₆ H ₁₉ BrN ₄ O ₂	[22]
Isoplysin A (31)	<i>S. aurea</i>	Discovery Bay, Jamaica	254	C ₁₄ H ₁₄ N ₄ O	[18]
2'-de-N-Methylaplysinopsin (32)	<i>S. aurea</i>	Discovery Bay, Jamaica	240	C ₁₃ H ₁₂ N ₄ O	[18]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
6-Bromo-2'-de-N-methylaplysinopsin (33)	<i>S. aurea</i>	Discovery Bay, Jamaica	318	C ₁₃ H ₁₁ BrN ₄ O	[18]
	<i>Smenospongia</i> sp.	South side of Porpoise Cay, Queensland, Australia	-	-	[20]
N-3'-Methylaplysinopsin (34)	<i>S. aurea</i>	Discovery Bay, Jamaica	268	C ₁₅ H ₁₆ N ₄ O	[18]
N-3'-Ethylaplysinopsin (35)	<i>S. aurea</i>	Discovery Bay, Jamaica	282	C ₁₆ H ₁₈ N ₄ O	[18]
(R and S) of 5'-[(5,6-dibromo-1H-indol-3-yl)methyl]-3'-methylimidazolidine-2',4'-dione (36)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	398	C ₁₃ H ₁₁ Br ₂ N ₃ O ₂	[14]
5,6-Dibromo-2'-demethylaplysinopsin (37)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	395	C ₁₃ H ₁₀ Br ₂ N ₄ O	[14]

Table S4. Bisspiroimidazolidinone alkaloids reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Dictazoline A (38)	<i>S. cerebriformis</i>	Hospital Point on Solarte Isle, Boca del Toro, northwest coast of Panama	664	C ₂₈ H ₂₆ Br ₂ N ₈ O ₂	[25]
Dictazoline B (39)	<i>S. cerebriformis</i>	Hospital Point on Solarte Isle, Boca del Toro, northwest coast of Panama	636	C ₂₆ H ₂₂ Br ₂ N ₈ O ₂	[25]
Tubastrindole A (40)	<i>S. cerebriformis</i>	Hospital Point on Solarte Isle, Boca del Toro, northwest coast of Panama	586	C ₂₈ H ₂₇ BrN ₈ O ₂	[25]
Tubastrindole B (41)	<i>S. cerebriformis</i>	Hospital Point on Solarte Isle, Boca del Toro, northwest coast of Panama	508	C ₂₈ H ₂₈ N ₈ O ₂	[25]

Table S5. Polyketides reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Smenamide A (42)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	500	C ₂₇ H ₃₈ ClN ₂ O ₄	[26,30,31]
Smenamide B (43)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	500	C ₂₇ H ₃₈ ClN ₂ O ₄	[26,30,31]
Smenamide C (44)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	452	C ₂₄ H ₃₇ ClN ₂ O ₄	[30]
Smenamide D (45)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	452	C ₂₄ H ₃₇ ClN ₂ O ₄	[30]
Smenamide E (46)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	484	C ₂₅ H ₄₁ ClN ₂ O ₅	[30]
Smenamide F (47)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	518	C ₂₈ H ₃₉ ClN ₂ O ₅	[30]
Smenamide G (48)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	518	C ₂₈ H ₃₉ ClN ₂ O ₅	
Smenothiazole A (49)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	485	C ₂₆ H ₃₂ ClN ₃ O ₂ S	[31]
Smenothiazole B (50)	<i>S. aurea</i>	Coast of Little Inagua, Bahamas Islands	461	C ₂₄ H ₃₂ ClN ₃ O ₂ S	[31]
Smenolactone A (51)	<i>S. aurea</i>	Coast of Mayaguana Island, Bahamas	346	C ₂₀ H ₂₃ ClO ₃	[32]
Smenolactone B (52)	<i>S. aurea</i>	Coast of Mayaguana Island, Bahamas	420	C ₂₄ H ₃₃ ClO ₄	[32]
Smenolactone C (53)	<i>S. aurea</i>	Coast of Mayaguana Island, Bahamas	420	C ₂₄ H ₃₃ ClO ₄	[32]
Smenolactone D (54)	<i>S. aurea</i>	Coast of Mayaguana Island, Bahamas	418	C ₂₄ H ₃₁ ClO ₄	[32]
Trichophycin B (55)	<i>S. aurea</i>	Coast of Mayaguana Island, Bahamas	420	C ₂₄ H ₃₃ ClO ₄	[32]
Conulothiazole A (56)	<i>S. conulosa</i>	Coast of Little Inagua, Bahamas Islands	388	C ₂₁ H ₂₅ ClN ₂ OS	[33]
Conulothiazole B (57)	<i>S. conulosa</i>	Coast of Little Inagua, Bahamas Islands	402	C ₂₂ H ₂₇ ClN ₂ OS	[33]

Table S6. Terpenoids reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Aureol (58)	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	314	C ₂₁ H ₃₀ O ₂	[15,16]
	<i>S. aurea</i>	San Salvador Island coasts	-	-	[34]
	<i>S. aurea</i>	Discovery Bay, Jamaica	-	-	[18]
	<i>Smenospongia</i> sp.	Batanes, Philippines	-	-	[19]
	<i>Smenospongia</i> sp.	Green Island, Taiwan	-	-	[52]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea (Krabi province, Thailand)	-	-	[14]
6'-Chloroaureol (59)	<i>S. aurea</i>	San Salvador Island coasts	348	C ₂₁ H ₂₉ ClO ₂	[34]
	<i>S. aurea</i>	Discovery Bay, Jamaica	-	-	[18]
	<i>S. aurea</i>	Florida Keys, USA	-	-	[17]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	-	-	[14]
6'-Iodoaureol (60)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	440	C ₂₁ H ₂₉ IO ₂	[14]
Aureol acetate (61)	<i>S. aurea</i>	San Salvador Island coasts	356	C ₂₃ H ₃₂ O ₃	[34]
	<i>S. aurea</i>	Discovery Bay, Jamaica	-	-	[18]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	-	-	[14]
Chromazonarol (62)	<i>S. aurea</i>	Glover and Lighthouse Reefs, Belize, Caribbean Sea	314	C ₂₁ H ₃₀ O ₂	[15]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	-	-	[14]
8-Epi-chromazonarol (63)	<i>S. aurea</i>	-Puerto Morelos, Mexico	314	C ₂₁ H ₃₀ O ₂	[15]
		-Glover and Lighthouse Reefs, Belize, Caribbean Sea			
	<i>S. aurea</i>	San Salvador Island coasts	-	-	[34]
Smenodiol (64)	<i>Smenospongia</i> sp.	Therese Island, Seychelles	372	C ₂₃ H ₃₂ O ₄	[55]
Smenospondiol (65)	<i>Smenospongia</i> sp.	Gulf of Aden, near Djibouti, Red Sea	372	C ₂₃ H ₃₂ O ₄	[38]
Smenohaimien D (66)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	416	C ₂₄ H ₃₂ O ₆	[47]
Smenohaimien E (67)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	402	C ₂₄ H ₃₄ O ₅	[47]
Polyfibrospongol A (68)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	386	C ₂₄ H ₃₄ O ₄	[47,64]
Polyfibrospongol B (69)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	402	C ₂₄ H ₃₄ O ₅	[47,64]
19-Hydroxy-polyfibrospongol B (70)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	418	C ₂₄ H ₃₄ O ₆	[47,64]
Dictyoceratin C (71)	<i>S. cerebriiformis</i>	Vinhmoc, Quangtri, Vietnam	356	C ₂₃ H ₃₂ O ₃	[47,64]
Smenorthoquinone (72)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	372	C ₂₃ H ₃₂ O ₄	[39]
Arenarone (73)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	312	C ₂₁ H ₂₈ O ₂	[39]
Avarone (74)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	312	C ₂₁ H ₂₈ O ₂	[39]
Ilimaquinone (75)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	358	C ₂₂ H ₃₀ O ₄	[39,28]
	<i>S. cerebriiformis</i>	-	-	-	[43]
Smenoquinone (76)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	344	C ₂₁ H ₂₈ O ₄	[39]
(+)-5-Epi-20-O-ethylsmenoquinone (77)	<i>S. aurea</i> <i>S. cerebriiformis</i>	Key Largo, FL, Florida key, USA	372	C ₂₃ H ₃₂ O ₄	[46]
Smenoqualone (78)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti	358	C ₂₂ H ₃₀ O ₄	[41]
Dactyloquinone C (79)	<i>S. cerebriiformis</i>	Quang Tri, Vietnam	356	C ₂₂ H ₂₈ O ₄	[48]

	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[60]
Dactyloquinone D (80)	<i>S. cerebriformis</i>	Quang Tri, Vietnam	356	C ₂₂ H ₂₈ O ₄	[48]
	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[60]
Neodactyloquinone (81)	<i>S. cerebriformis</i>	Quang Tri, Vietnam	356	C ₂₂ H ₂₈ O ₄	[48]
	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[63]
Smenospongine (82)	<i>Smenospongia</i> sp.	Gulf of Aden, Red Sea, near Djibouti,	343	C ₂₁ H ₂₉ NO ₃	[38,39]
	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	-	-	[47]
Smenohaimien F (83)	<i>S. cerebriformis</i>	Quang Tri, Vietnam	341	C ₂₁ H ₂₇ NO ₃	[48]
Smenospongiorine (84)	<i>Smenospongia</i> sp.	Gulf of Aden, near Djibouti, Red Sea	399	C ₂₅ H ₃₇ NO ₃	[39]
Smenospongiarine (85)	<i>Smenospongia</i> sp.	Gulf of Aden, near Djibouti, Red Sea	413	C ₂₆ H ₃₉ NO ₃	[39]
Smenospongidine (86)	<i>Smenospongia</i> sp.	Gulf of Aden, near Djibouti, Red Sea	447	C ₂₉ H ₃₇ NO ₃	[39]
(-)-Nakijinol E (87)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	383	C ₂₄ H ₃₃ NO ₃	[46]
(+)-5-Epi-nakijinol E (88)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	383	C ₂₄ H ₃₃ NO ₃	[46]
Nakijinone A (89)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	397	C ₂₅ H ₃₅ NO ₃	[46]
5-Epi-nakijinone A (90)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	397	C ₂₅ H ₃₅ NO ₃	[46]
Smenohaimien C (91)	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	369	C ₂₃ H ₃₁ NO ₃	[47]
Smenotronic acid (92)	<i>Smenospongia</i> sp.	Gulf of Aden, near Djibouti, Red Sea	362	C ₂₁ H ₃₀ O ₅	[49]
Dactylospongenone A (93)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	390	C ₂₃ H ₃₄ O ₅	[35]
Dactylospongenone B (94)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	390	C ₂₃ H ₃₄ O ₅	[35]
Dactylospongenone C (95)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	390	C ₂₃ H ₃₄ O ₅	[35]
Dactylospongenone D (96)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	390	C ₂₃ H ₃₄ O ₅	[35]
(-)-Dactylospongenone E (97)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	404	C ₂₄ H ₃₆ O ₅	[46]
5-Epi-dactylospongenone E (98)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	404	C ₂₄ H ₃₆ O ₅	[46]
5-Epi-dactylospongenone F (99)	<i>S. aurea</i> <i>S. cerebriformis</i>	Key Largo, FL, Florida key, USA	404	C ₂₄ H ₃₆ O ₅	[46]
Smenohaimien A (100)	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	332	C ₂₁ H ₃₂ O ₃	[47]
Smenohaimien B (101)	<i>S. cerebriformis</i>	Vinhmoc, Quangtri, Vietnam	332	C ₂₁ H ₃₂ O ₃	[47]
6'-Aureoxaureol (102)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	626	C ₄₂ H ₅₈ O ₄	[14]
Diterpenoids					
Amijiol (103)	<i>S. cerebriformis</i>	Quang Tri, Vietnam	304	C ₂₀ H ₃₂ O ₂	[48]
Isoamijiol (104)	<i>S. cerebriformis</i>	Quang Tri, Vietnam	304	C ₂₀ H ₃₂ O ₂	[48]
Sesterterpenoids					
Manoalide (105)	<i>Smenospongia</i> sp.	Ninami-jima Island, Nichinan-oshima Island	416	C ₂₅ H ₃₆ O ₅	[53]
seco-Manoalide (106)	<i>Smenospongia</i> sp.	Ninami-jima Island, Nichinan-oshima Island	416	C ₂₅ H ₃₆ O ₅	[53]
Manoalide 25-acetate (107)	<i>Smenospongia</i> sp.	Ninami-jima Island, Nichinan-oshima Island	458	C ₂₇ H ₃₈ O ₆	[53]
(4E,6E)-Dehydromanoalide (108)	<i>Smenospongia</i> sp.	Ninami-jima Island, Nichinan-oshima Island	398	C ₂₅ H ₃₄ O ₄	[53]
Furospinulosin 1 (109)	<i>Smenospongia</i> sp.	Batanes, Philippines	354	C ₂₅ H ₃₈ O	[19]
	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	-	-	[14]

4-Hydroxy-9-deoxoidiadione (110)	<i>Smenospongia</i> sp.	Shore of Gagu-Do Island, southwestern Korea	386	C ₂₅ H ₃₈ O ₃	[35]
	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	-	-	[54]
4-Acetoxy-9-deoxoidiadione (111)	<i>Smenospongia</i> sp.	Shore of Gagu-Do Island, southwestern Korea	428	C ₂₇ H ₄₀ O ₄	[35]
7E,12E,18R,20Z-Variabilin (112)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	398	C ₂₅ H ₃₄ O ₄	[54]
7E,13Z,18R,20Z-Felixinin (113)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	398	C ₂₅ H ₃₄ O ₄	[54]
8E,13Z,18R,20Z-Strobilin (114)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	398	C ₂₅ H ₃₄ O ₄	[54]
8Z,13Z,18R,20Z-Strobilin (115)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	398	C ₂₅ H ₃₄ O ₄	[54]
12-Deacetoxy-23-acetoxyscalarin (116)	<i>Smenospongia</i> sp.	Shore of Gagu-Do Island, southwestern Korea	444	C ₂₇ H ₄₀ O ₅	[35]
	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	-	-	[54]
	<i>Smenospongia</i> sp.	Gageo Island, South Korea	-	-	[53]
12-Deacetoxy-23-acetoxy-19-O-acetylscalarin (117)	<i>Smenospongia</i> sp.	Shore of Gagu-Do Island, southwestern Korea	486	C ₂₉ H ₄₂ O ₆	[35]
	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	-	-	[54]
12-Deacetoxy-19-O-acetyl-23-hydroxyscalarin (118)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	444	C ₂₇ H ₄₀ O ₅	[54]
12-Deacetoxy-23-hydroxy-19-O-methylscalarin (119)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	402	C ₂₆ H ₄₂ O ₃	[54]
12-Deacetoxy-23-hydroxyheteronemin (120)	<i>Smenospongia</i> sp.	Shore of Gagu-Do Island, southwestern Korea	488	C ₂₉ H ₄₄ O ₆	[35]
	<i>Smenospongia</i> sp.	Gageo Island, South Korea	-	-	[53]
12-Deacetoxy-23-acetoxylheteronemin (121)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	530	C ₃₁ H ₄₆ O ₇	[54]
	<i>Smenospongia</i> sp.	Gageo Island, South Korea	-	-	[53]
12-Deacetoxy-19-O-acetyl-16-deacetoxyheteronemin (122)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	430	C ₂₇ H ₄₂ O ₄	[54]
12-Deacetoxy-23-aldehydeheteronemin (123)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	500	C ₃₀ H ₄₄ O ₆	[54]
12-Deacetoxy-23-deacetoxy-scalarin (124)	<i>Smenospongia</i> sp.	Gageo Island, South Korea	402	C ₂₅ H ₃₈ O ₄	[53]
12-Deacetoxy-23-hydroxyscalar-furan (125)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	370	C ₂₅ H ₃₈ O ₂	[54]
12-Deacetoxy-23-acetoxyscalar-furan (126)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	412	C ₂₇ H ₄₀ O ₃	[54]
18S-12-deacetoxy-23-acetoxy-20-carboxyscaladial (127)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	444	C ₂₇ H ₄₀ O ₅	[54]
18S-12-deacetoxy-23-acetoxy-20-methoxyscaladial (128)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	458	C ₂₈ H ₄₂ O ₅	[54]
18R-12-deacetoxy-23-acetoxy-20-methoxyscaladial (129)	<i>Smenospongia</i> sp.	Shore of Soheuksan Island, Korea	458	C ₂₈ H ₄₂ O ₅	[54]

Table S7. Chromene derivatives reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Smenochromene A (130)	<i>Smenospongia</i> sp.	Therese Island, Seychelles	338	C ₂₂ H ₂₆ O ₃	[55]
Smenochromene B (131)	<i>Smenospongia</i> sp.	Therese Island, Seychelles	338	C ₂₂ H ₂₆ O ₃	[55]
Smenochromene C (132)	<i>Smenospongia</i> sp.	Therese Island, Seychelles	340	C ₂₂ H ₂₈ O ₃	[55]
Smenochromene D (133)	<i>Smenospongia</i> sp.	Therese Island, Seychelles	340	C ₂₂ H ₂₈ O ₃	[55]

Table S8. γ -Pyrone, phenyl alkenes, and naphthoquinones derivatives reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
γ -Pyrone derivatives					
Smenopyrone (134)	<i>S. aurea</i>	coast of Great Inagua, Bahamas Islands	418	C ₂₅ H ₃₈ O ₅	[57]
Phenyl alkene derivatives					
(<i>E</i>)-10-benzyl-5,7-dimethylundeca-1,5,10-trien-4-ol (135)	<i>S. aurea</i> <i>S. cerebriformis</i>	Florida Keys, USA	284	C ₂₀ H ₂₈ O	[60]
Phenolics					
(<i>E</i>)-2,4-Dimethoxy-6-(3-methyl-5-(1,2,6-trimethylcyclohex-2-en-1-yl)pent-2-en-1-yl)phenol (136)	<i>S. echina</i>	Puerto Morelos, Mexico	358	C ₂₃ H ₃₄ O ₃	[15]
Naphthoquinones					
Smenocerone A (137)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	278	C ₁₄ H ₁₄ O ₆	[51]
Smenocerone B (138)	<i>S. cerebriformis</i>	Sea of Quangtri, Vietnam	308	C ₁₅ H ₁₆ O ₇	[51]

Table S9. Fatty acids, sterols, and phthalates reported from genus *Smenospongia*.

Compound Name	Source	Place	Mol. Wt.	Mol. Formula	Ref.
Fatty Acids					
2-Hydroxy-17-methyloctadecanoic acid (139)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	314	C ₁₉ H ₃₈ O ₃	[61]
2-Hydroxy-21-methyldocosanoic acid (140)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	370	C ₂₃ H ₄₆ O ₃	[61]
2-Hydroxy-22-methyltricosanoic acid (141)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	384	C ₂₄ H ₄₈ O ₃	[61]
2-Hydroxy-22-methyltetracosanoic acid (142)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	398	C ₂₅ H ₅₀ O ₃	[61]
2-Hydroxy-24-methylpentacosanoic acid (143)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	412	C ₂₆ H ₅₂ O ₃	[61]
2-Hydroxy-23-methylpentacosanoic acid (144)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rico	412	C ₂₆ H ₅₂ O ₃	[61]
Linoleic acid (145)	<i>Smenospongia</i> sp.	El-Gouna, Hurghada-coasts, Red Sea, Egypt	280	C ₁₈ H ₃₂ O ₂	[62]
Sterols					
β -Sitosterol (146)	<i>Smenospongia</i> sp.	El-Gouna, Hurghada-coasts, Red Sea, Egypt	414	C ₂₉ H ₅₀ O	[62]
Cholesterol (147)	<i>Smenospongia</i> sp.	El-Gouna, Hurghada-coasts, Red Sea, Egypt	416	C ₂₉ H ₅₂ O	[62]
Ergosterol (148)	<i>Smenospongia</i> sp.	PP Island, Andaman Sea, Krabi province, Thailand	396	C ₂₈ H ₄₄ O	[14]

24-Methylcholesta-5,22-dien-3 β -ol (149)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rica	398	C ₂₈ H ₄₆ O	[61]
24-Methyl-cholest-5-en-3 β -ol (150)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rica	400	C ₂₈ H ₄₈ O	[61]
24-Ethylcholesta-5,22-dien-3 β -ol (151)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rica	412	C ₂₉ H ₄₈ O	[61]
24-Ethylcholest-5-en-3 β -ol (152)	<i>S. aurea</i>	Shelf edge of La Parguera, Puerto Rica	414	C ₂₉ H ₅₀ O	[61]
Phthalates					
Di-isobutyl phthalate (153)	<i>Smenospongia</i> sp.	El-Gouna, Hurghada-coasts, Red Sea, Egypt	278	C ₁₆ H ₂₂ O ₄	[62]
Di- <i>n</i> -butyl phthalate (154)	<i>Smenospongia</i> sp.	El-Gouna, Hurghada-coasts, Red Sea, Egypt	278	C ₁₆ H ₂₂ O ₄	[62]

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