

# Land-Use Types Influence the Community Composition of Soil Mesofauna in the Coastal Zones of Bohai Bay, China

Xiaoxue Zheng <sup>1</sup>, Yan Tao <sup>1,2,\*</sup>, Zhongqiang Wang <sup>1</sup>, Xinchang Kou <sup>1</sup>, Haixia Wang <sup>1</sup>,  
Shengzhong Wang <sup>1</sup> and Donghui Wu <sup>3</sup>

<sup>1</sup>Key Laboratory of Geographical Processes and Ecological Security in Changbai Mountains,  
Ministry of Education, School of Geographical Sciences, Northeast Normal University,  
Changchun 130024, China

<sup>2</sup>Jilin Provincial Key Laboratory of Animal Resource Conservation and Utilization, Northeast  
Normal University, Changchun 130117, China

<sup>3</sup>Key Laboratory of Wetland Ecology and Environment, Northeast Institute of Geography  
and Agroecology, Chinese Academy of Sciences, Changchun 130102, China

\* Correspondence: taoy431@nenu.edu.cn (Y.T.)

**Supporting Information containing 2 Tables (Table S1, S2).**

## **Table S1**

Habitat characteristics of the five land-use types..... 2

## **Table S2**

The amounts and abundance ratios of soil mesofauna in the five land-use types..... 3

**Table S1**

Habitat characteristics of the five land-use types.

		Land-use types				
		Cotton fields	Jujube trees	Ash trees	Saline meadow	Wetlands
Habitat properties		Croplands	Artificial trees	Artificial trees	Unused lands	Unused lands
Human disturbance	Fertilizers (n/a)	> 4	> 2	-	-	-
	Herbicides (n/a)	> 4	2	-	-	-
	Ploughs (n/a)	> 2	1	-	-	-
	Irrigation (n/a)	> 6	> 3	2~3	-	-
	Intensities	+++	++	+	-	-
Vegetation characteristics	Dominant species	<i>Gossypium hirsutum</i>	<i>Ziziphus jujuba</i>	<i>Fraxinus chinensis</i>	<i>Imperata cylindrica</i>	<i>Phragmites australis</i>
	Average heights (m)	0.40	2.50	10.00	0.40~0.80	2.00
	Coverage (%)	85	35	6	65	90

+++; severe human disturbance; ++, moderate human disturbance; +, slight human disturbance; -, without human disturbance.

**Table S2**

The amounts and abundance ratios of soil mesofauna in the five land-use types.

Taxa of soil mesofauna	Cotton fields		Jujube trees		Ash trees		Saline meadow		Wetlands		Total	
	Amount	Abundance ratio	Amount	Abundance ratio	Amount	Abundance ratio	Amount	Abundance ratio	Amount	Abundance ratio	Amount	Abundance ratio
Actinedida	857	+++	529	+++	151	+++	268	+++	292	+++	2097	+++
Oribatida	170	+++	251	+++	112	+++	234	+++	54	++	821	+++
Gamasida	28	++	108	+++	87	++	89	++	22	++	334	++
Isotomidae	153	+++	3		22	++	81	++	7	+	266	++
Onychiuridae	167	+++	21	++	10	++	315	+++	18	++	531	++
Neanuridae	0		1		2		0		0		3	+
Pseudachorutidae	4	+	8	+	0		1	+	1	+	14	+
Hypogastruridae	2	+	11	++	1	+	9	+	2	+	25	+
Sminthuridae	15	++	0		26	++	48	++	49	++	138	++
Entomobryidae	4	+	33	++	398	+++	56	++	33	++	524	++
Cyphoderidae	1	+	1	+	0		1	+	0		3	+
Formicidae	0		5	+	13	++	4	+	23	++	45	+
Staphylinidae	3	+	6	+	26	++	1	+	29	++	65	++
Carabidae	2	+	1	+	0		2	+	0		5	+
Scaphidiidae	0		0		0		0		1	+	1	+
Scarabaeidae	4	+	0		0		0		0		4	+
Aphodiidae	1	+	2	+	0		5	+	1	+	9	+
Coccinellidae	0		1	+	0		0		2	+	3	+

Elateridae	0	0	1	+	0	0	1	+
Cantharidae	0	0	1	+	0	+	3	+
Cicindelidae	0	0	0		1	+	0	+
Chrysomelidae	0	0	0		1	+	1	+
Aphidoidea	2	+	0	++	1	+	14	++
Cicadidae	0	2	+	0	1	+	1	+
Linyphiidae	11	+	0	+	0		5	+
Scolopendrellidae	5	+	21	++	0	2	+	28
Geophilidae	5	+	4	+	0	0	2	+
Japygidae	16	++	49	++	7	+	20	++
Enchytraeidae	0	0	3	+	0		0	+
Trachelipidae	0	0	0		1	+	0	+
Armadillidiidae	0	0	0		0		19	++
Gammaridae	0	0	0		0		107	++
Aristocera	2	+	0	+	8	+	26	++
Brachycera	0	0	0		0		481	+++
Total	1452	1057	884		1149		1193	5735

+++, dominant taxa (relative abundance > 10%); ++, common taxa (1% ≤ relative abundance ≤ 10%); +, rare taxa (relative abundance < 1%).