**Table 1S, List of all species of earthworms were identified in this study**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | location | Species | Longitude | latitude | Elevation (m) |
| jiroft | Jiroft | 5 *A. corticis* L## 3 juvenile *Amynthas* | 28°37'50.03"N | 57°43'36.71"E | 658 |
| Jiroft | 3 *A. gracilis* | 28°33'35.83"N | 57°50'48.35"E | 626 |
| Jiroft | 2 A. corticis L | 28°38'21.75"N | 57°46'16.84"E | 645 |
| Jiroft | 1 *A. trapezoides*, 1 juvlum\_pg\* | 28°38'28.78"N | 57°46'21.59"E | 646 |
| Jiroft | 3 *A. corticis* S#, 2 tail fragments *Amynthas*, 1 juvlum\_pg | 28°38'32.28"N | 57°46'10.07"E | 649 |
| jiroft | 4 *A. corticis* S, 1 *A. corticis* L, 1 juvlum\_pg, 1 juvlum\_unpg\*\*, 1 *P. kaznakovi* | 28°40'46.12"N | 57°44'41.91"E | 681 |
| jiroft | 1 *A. rosea*, 1 *A. trapezoides* | 28°38'55.01"N | 57°45'38.65"E | 659 |
| jiroft | 2 *A. rosea* , 1 juvlum\_pg | 28°38'42.94"N | 57°45'55.59"E | 651 |
| municipal garden | 2 juvlum\_pg, 1 unpigmented tail fragment with lumbricine setae | 28°40'09.57"N | 57°43'47.73"E | 701 |
| nahalestan | 2 *P. kaznakovi* | 28°40'39.10"N | 57°45'19.27"E | 678 |
| Jiroft 1 | 4 *A. gracilis* | 28°41'11.75"N | 57°42'41.75"E | 715 |
| jiroft | 1 *A. corticis* S | 28°40'09.57"N | 57°43'43.01"E | 695 |
| Hossin abad | 1 *Perelia sp.,* 1 *A. trapezoides* | 28°42'33.33"N | 57°42'50.92"E | 725 |
| Hossin abad | 1 *Perelia sp.*, 1 *A. trapezoides* | 28°42'33.33"N | 57°42'50.92"E | 725 |
| Hossin abad | 1 *Perelia sp.*   | 28°41'34.60"N  | 57°43'33.95"E | 699 |
|  |  |  |  |  |  |
| Kerman | baghmeli park | 1 juvlum\_unpg, 3 *A. corticis* S | 30°17'53.81"N | 57°04'17.65"E | 1763 |
| Khajo square  | 2 *A. corticis* S | 30°16'50.21"N | 57°05'09.76"E | 1764 |
| ghaem Forest | 1 juvlum\_unpg, 1 juvlum\_pg  | 30°16'58.66"N | 57°07'18.35"E | 1777 |
| ghaem Forest | 2 *A. corticis* L, 1 juvlum\_unpg, 8 *A. rosea* | 30°17'19.42"N | 57°07'17.95"E | 1776 |
| azadi square | 3 juvlum\_pg | 30°17'14.16"N | 57° 03'09.58"E | 1762 |
| mahyabad | 3 *A. corticis* L, 1 *A. rosea*, 1 *P. kaznakovi* | 30°05'11.39"N | 57°10'31.50"E | 1843 |
| Shahid Bahonar University campus | 1 *A. corticis* S#, 4 *A. trapezoides*, 1 *P. kaznakovi* | 30°14'43.77"N | 57°07'10.99"E | 1774 |
| riazi | 3 juvlum\_pg, 1 juvlum\_unpg | 30°17'37.74"N | 57°04'00.33"E | 1764 |
| Shahid Bahonar University campus | 1 *A. trapezoides*, 1 *A. rosea* | 30°15'22.81"N | 57°06'04.69"E | 1767 |
| Baghmeli park | 1 *A. trapezoides* | 30°17'25.67"N | 57°04'07.39"E | 1763 |
| Shahid Bahonar University campus | 4 *A. trapezoides*, 1 juvlum\_unpg | 30°14'44.84"N | 57°07'07.37"E | 1774 |
| Playground Kerman | 2 *A. chlorotica*, 1 juvlum\_pg | 30°15'41.34"N | 57°06'07.59"E | 1771 |
|  |  |  |  |  |  |
| Dalfard | sangbory | 3 *A. corticis* S 2 *A. rosea* , 1 juvenile Lumbricidae with pigment (juvlum\_pg) | 28°54'48.47"N | 57°41'00.29"E | 1319 |
| koli | 3 *A. corticis* S | 28°54'58.51"N | 57°40'42.44"E | 1342 |
| sefidbaz | 1 *Aporrectodea* sp not identified due to lack of genital markings | 28°54'39.93"N | 57°41'05.03"E | 1307 |
| raziabad | 10 *A. corticis* S, 1 juvlum\_unpg | 28°56'06.09"N | 57°40'06.45"E | 1461 |
| Sefid baz | 1 *A. corticis* S, 2 juvlum\_pg, 1 tail fragment with lumbricine setae | 28°54'41.87"N | 57°41'02.97"E | 1313 |
| Konarestan oleia | 3 juvlum\_pg, 9 juvlum\_unpg | 28°55'00.41"N | 57°40'46.80"E | 1346 |
| Konarestan sofla | 2 *A. corticis* L, 1 juvlum\_unpg | 28°54'51.72"N | 57°41'05.06"E | 1325 |
| baghalishier | 1 juvlum\_pg, 1 juvlum\_unpg | 28°52'40.02"N | 57°42'28.67"E | 1165 |
| baghalishier | 1 *A. corticis* S, 1 juvlum\_unpg | 28°52'40.95"N | 57°42'24.62"E | 1168 |
| Eslam abad | 1 *A. trapezoides*, 1 juvlum\_unpg | 28°55'56.35"N | 57°40'14.94"E | 1446 |
|  |  |  |  |  |
| dalfard | 1 juvlum\_pg, 1 *A. corticis* S 1 juvlum\_unpg | 28°55'42.28"N | 57°40'18.91"E | 1418 |
| Konarestan | 4 *A. corticis* L | 28°55'04.51"N | 57°41'57.52"E | 1360 |
| koldan | 1 *A. corticis* L, 1 *A. corticis* S, 1 juvlum\_unpg | 28°55'20.75"N | 57°40'30.44"E | 1387 |
| Konarestan sofla | 4 *A. corticis* L | 28°54'48.05"N | 57°41'03.83"E | 1315 |
| dareh | 4 *A. corticis* S | 28°54'49.40"N | 57°40'58.42"E | 1323 |
| koli | 2 *A. corticis* S | 28°54'58.41"N | 57°40'44.74"E  | 1339 |
| sangbory | 2 *A. corticis* S, 1 Amynthas fragment, 1 juvlum\_pg | 28°54'45.77"N | 57°41'08.85"E | 1318 |
| Eslam abad | 1 *A. corticis* L 3 juvlum\_pg | 28°55'50.81"N | 57°40'13.57"E | 1427 |
| Eslam abad | 4 *A. corticis* L, 3 *A. trapezoides* 1 tail section of Amynthas | 28°56'09.25"N | 57°39'50.13"E | 1469 |
| baghalishier | 2 *A. trapezoides* | 28°52'32.02"N | 57° 42'44.94"E | 1151 |
| dareh | 1 *A. rosea*, 1 juvlum\_pg | 28°55'00.44"N | 57°40'46.01"E | 1346 |
| Dareh | 2 *A. corticis* L, 1 juvlum\_pg, 1 juvenile of *P. kaznakovi* , 2 *P. kaznakovi* | 28°55'17.24"N | 57°41'02.46"E | 1357 |
| dreeh | 4 *A. corticis* L, 1 *Amynthas* tail fragment | 28°54'55.12"N | 57°41'06.70"E | 1331 |
| poshtval | 1 *A. trapezoides*, 1 juvlum\_pg, 1 A. corticis S | 28°55'00.29"N | 57°40'51.33"E | 1350 |
| Sefid baz | 1 *A. trapezoides*, 4 juvlum\_pg, 2 A. rosea | 28°53'15.42"N | 57°41'23.72"E | 1265 |
| Konarestan sofla | 2 *A. corticis* S 2 *A. corticis* L, 1 *A. trapezoides* | 28°55'02.33"N | 57°40'54.71"E | 1362 |
| dalfard | 4 *A. corticis* L  | 28°54'53.07"N | 57° 41'01.94"E | 1331 |
|  |  |  |  |  |  |
| bardsier | Bardsir zyart | 5 juvlum\_unpg maybe these are *Allolobophora chlorotica* | 29°56'03.37"N | 56°34'38.91"E | 2043 |
| bardshier | 6 *Al. chlorotica*, 1 juvlum\_pg | 29°56'21.76"N | 56°35'43.82"E | 20 43 |
| bardsier | 3 *Al. chlorotica* | 29°53'00.83"N | 56°32'48.51"E | 2078 |
| bardsier | 3 *Al. chlorotica* | 29°56'10.19"N | 56°35'20.94"E | 20 45 |
|  |  |  |  |  |  |
| Baft | khabr | 4 *Eisenia andrei* (maybe *Eisenia fetida*) | 28°49'15.24"N | 56°19'07.43"E | 2022 |
| Ghaleh askar | 1 *Al. chlorotica*, 1 juvlum\_unpg | 28°31'55.87"N | 56°40'03.68"E | 2608 |
| khabr | 3 *A. trapezoides*, 1 juvlum\_pg, 1 A. rosea, 1 *P. kaznakovi* | 28°49'02.11"N | 56° 19'05.86"E | 2024 |
| khabr | 8 juvlum\_pg, 1 juvlum\_unpg | 28°49'20.54"N | 56° 18'44.10"E | 1984 |
| khabr | 1 *A. rosea* , 1 *P. kaznakovi* | 29°49'21.04"N | 56° 84'42.01"E | 1993 |
|  |  |  |  |  |  |
| Mahan | mahan | 2 *A. rosea*, 1 *A, trapezoides*  |  |  |  |
| Mahan  | 3 *A. corticis* L, 1 *A. rosea*, 1 *P. kaznakovi* | 30°05'26.53"N | 57° 11'41.03"E | 1828 |
| Mahan | 4 juvlum\_unpg | 30°03'37.93"N | 57° 17'25.71"E | 1905 |
| ghanaghstan | 2 *A. trapezoides*  | 30°04'23.30"N | 57° 13'49.61"E | 1864 |
| mahan | 1 *A. trapezoides*, 1 juvlum\_pg, 3 juvlum\_unpg | 30°04'27.44"N | 57° 13'51.45"E | 1860 |

\* this code indicates a juvenile Lumbricidae with dark pigmentation

\*\* this code indicates a juvenile Lumbricidae lacking pigmentation.

*#* this code indicates a *A. corticis* S in smaller morph

## this code indicates a *A. corticis* L in larger morph