

Niche conservatism and the invasive potential of the wild boar

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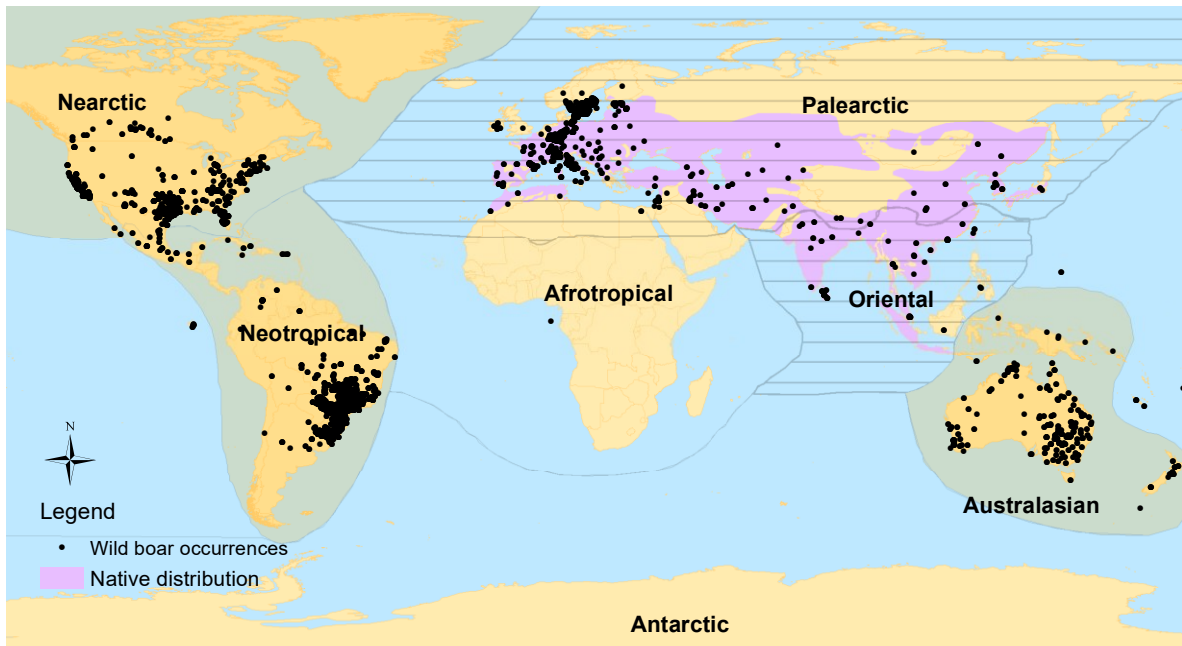
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1 Supporting Information



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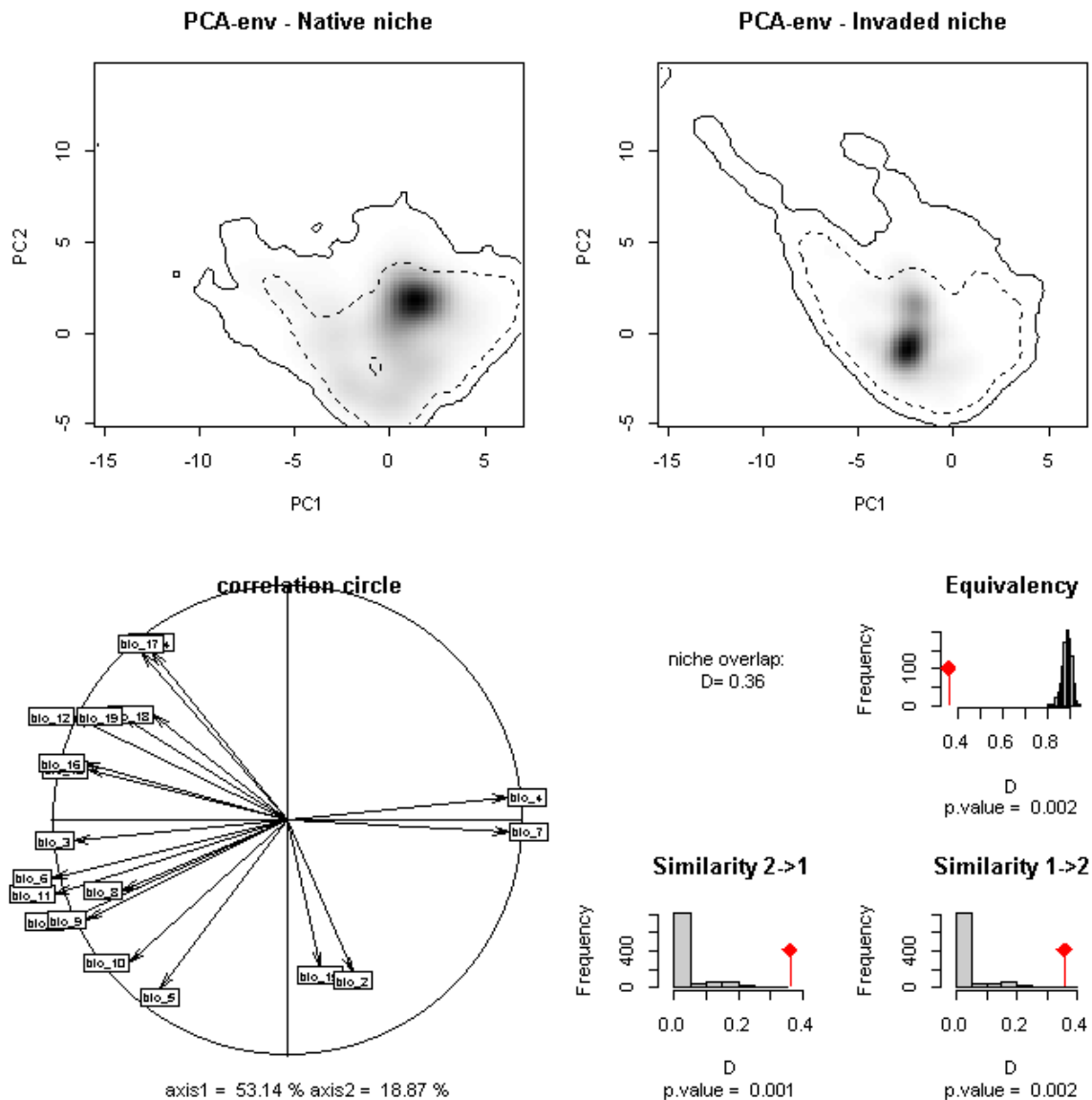
3 **Fig. S1.** Distribution of wild boar occurrences and calibration scenarios. Black dots indicate
4 occurrences of the wild boar, all occurrences collected in this work are shown.
5 Biogeographical regions (Nearctic, Neotropical, Antarctic, Afrotropical, Palearctic, Oriental
6 and Australasian) are also delimited. Hatched biogeographical regions represent the
7 background area of the native-based calibration scenario (please see text for details). The
8 pooled-range calibration scenario includes both the hatched regions and those surrounded by
9 a grey polygon.

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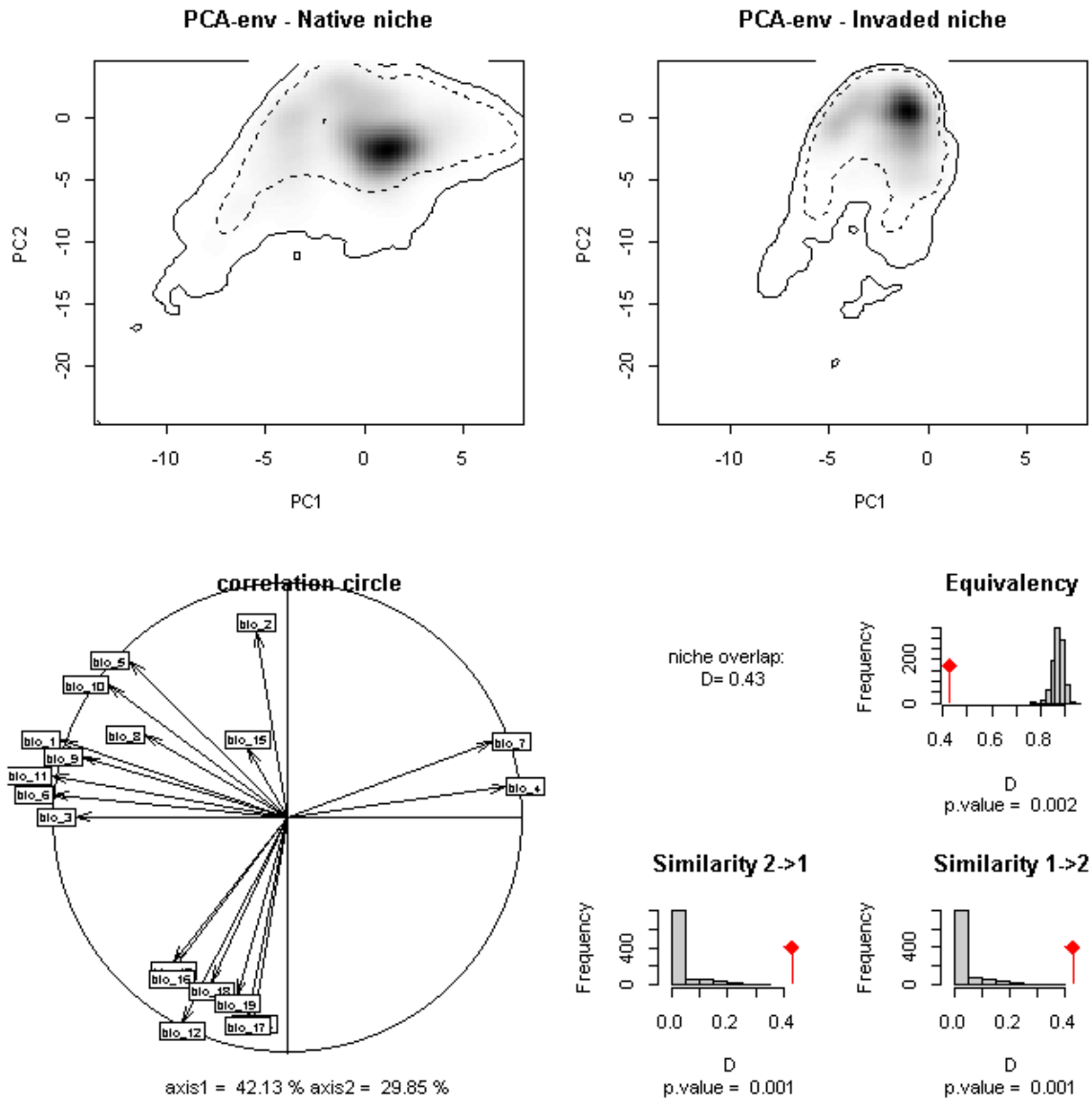
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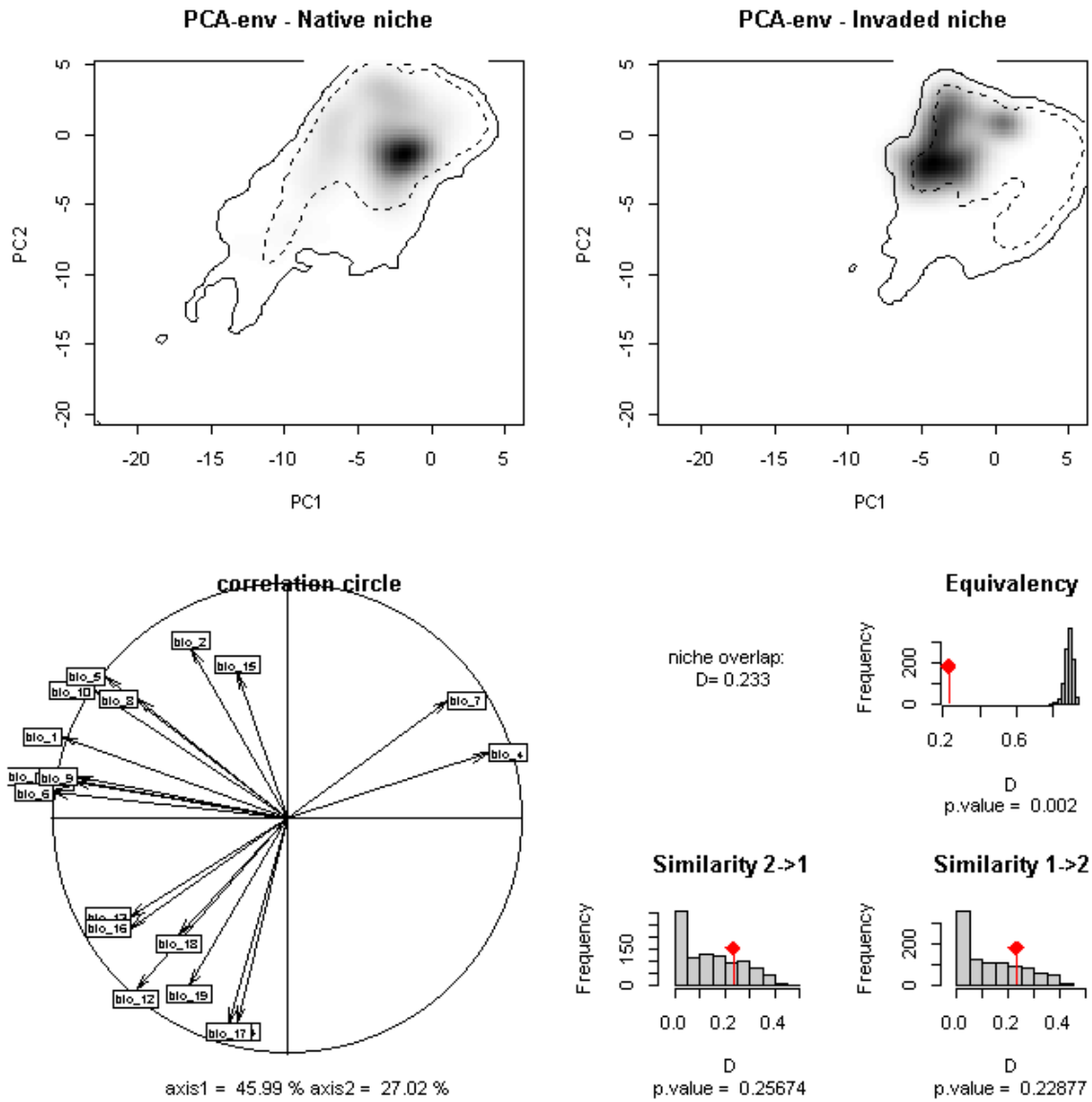
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15 **Fig. S2.** Summary of niche equivalence and similarity tests for comparisons between native
 16 and Neotropical populations. In clockwise direction, the upper left picture represents the
 17 niche space occupied in native range and at right the one in invaded range. Frequency
 18 distribution histograms are shown for niche equivalence and similarity tests. Ending the
 19 clock, the relative contribution of bioclimatic variables on the two main axes of the PCA-
 20 env.



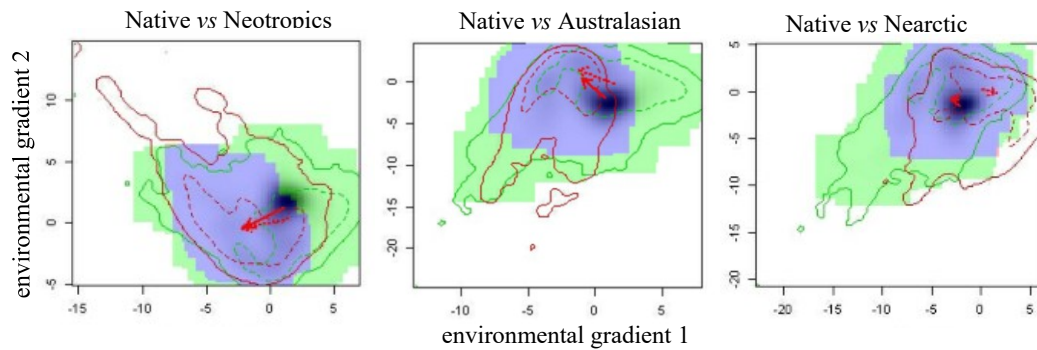
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22 **Fig. S3.** Idem Fig. S2, for comparisons between wild boar populations from native and
 23 Australasian region.



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25 **Fig. S4.** Idem Figs. S1 and S2, for comparisons between wild boar populations from native
 26 and Nearctic region.



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28 **Fig. S5.** Observed shifts on occupied niche space during wild boar invasion into the
 29 Neotropical, Australasian and Nearctic biogeographical regions. Environmental gradient 1
 30 and 2 are the main axes of a PCA-env performed on bioclimatic variables. Green color
 31 indicates niche unfilling areas, blue color indicates niche stability areas and red colors, niche
 32 expansion. Shaded areas represent species occurrence density in the exotic range. The solid
 33 red arrow shows the change in centroid between the native and exotic niche, and the dashed
 34 red line is the centroid shift between the native and exotic ranges.

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41 **Table S1.** Supplementary literature. Regions within wild boar's native distribution with
 42 markedly low occurrence numbers were sampled in a literature survey, to complement
 43 characterization of native population's niche space. In the table below, some relevant
 44 information about the surveyed papers is presented. The column Journal/Book/Department
 45 indicates whether the study is a journal article, a book/book section or a thesis, respectively.

Authors	Year	Title	Journal/Book/Department
Acharya, B.B. & Johnsingh, A.J.T.	2007	The Ecology of the Dhole or Asiatic Wild Dog (<i>Cuon alpinus</i>) in Pench Tiger Reserve, Madhya Pradesh	Wildlife Institute of India Dehradun
Andheria, A.P., Karanth, K.U. & Kumar, N.S.	2007	Diet and prey profiles of three sympatric large carnivores in Bandipur Tiger Reserve, India.	Journal of Zoology
Aryal, A.	2009	Demography and Causes of Mortality of Blue Sheep (<i>Pseudois Nayaur</i>) in Dhorpatan Hunting Reserve in Nepal.	The Biodiversity Research and Training Forum (BRTF) Nepal
Borah, J., Deka, K., Dookia, S. & Prasad Gupta, R.	2009	Food habits of dholes (<i>Cuon alpinus</i>) in Satpura Tiger Reserve, Madhya Pradesh, India.	Mammalia
Cohen, J.A., Fox, M.W., Johnsingh, A.J.T. & Barnett, B.D.	1978	Food habits of the dhole in south India	The Journal of Wildlife Management
Dinerstein, E.	1980	Part III: ungulate populations. An ecological survey of the Royal Rarnalibardia Wildlife reserve, Nepal	Conservation Biology
Eisenberg, J.F. & Lockhart, M	1972	An ecological reconnaissance of Wilpattu National Park, Ceylon	Smithsonian Contributions to Zoology
Filonov, K.P.	1989	Ungulates and large predators in wildlife reserves	Izdatelstvo Nauka, Moskva
Grassman, L.I., Tewes, M.E., Silvy, N.J. & Kreetiyutanont, K.	2005	Ecology of Three Sympatric Felids in a Mixed Evergreen Forest in North-Central Thailand	Journal of Mammalogy
Harihar, A., Pandav, B. & Goyal, S.P.	2006	Monitoring Tiger and Its Prey in Chilla Range, Rajaji National Park, Uttaranchal.	
Jędrzejewski, W., Schmidt, K., Miłkowski, L., Jędrzejewska, B. & Okarma, H.	1993	Foraging by lynx and its role in ungulate mortality: the local (Białowieża Forest) and the Palaeartic viewpoints	Acta Theriologica
Johnsingh, A.J.T.	1983	Large mammalian prey-predators in Bandipur	Journal of the Bombay Natural History Society
Johnsingh, A.J.T.	1992	Prey selection in three large sympatric carnivores in Bandipur	Mammalia

Kaleckaja, L.	1973	On the ecology of the brown bear in the Darwin Nature Reserve	Contribution to the Darwin Natural Reserve
Kamler, J.F., Johnson, A., Vongkhamheng, C. & Bousa, A.	2012	The diet, prey selection, and activity of dholes (<i>Cuon alpinus</i>) in northern Laos	Journal of Mammalogy
Karanth, K.U. & Nichols, J.D.	1998	Estimation of tiger densities in India using photographic captures and recaptures	Ecology
Karanth, K.U. & Sunquist, M.E.	1995	Prey Selection by Tiger, Leopard and Dhole in Tropical Forests	The Journal of Animal Ecology
Kawanishi, K. & Sunquist, M.E.	2008	Food habits and activity patterns of the Asiatic golden cat (<i>Catopuma temminckii</i>) and dhole (<i>Cuon alpinus</i>) in a primary rainforest of Peninsular Malaysia	Mammal Study
Kerechun, S.F.	1979	Impact of predators on ungulate numbers in the Carpathian zone	Ecological Fundamentals of Protection and Rational Utilisation of Predatory Mammals
Kumaraguru, A., Saravanamuthu, R., Brinda, K. & Asokan, S.	2011	Prey preference of large carnivores in Anamalai Tiger Reserve, India	European Journal of Wildlife Research
Majumder, A., Basu, S., Sankar, K., Qureshi, Q., Jhala, Y. V., Nigam, P. & Nigam, P.	2012	Home ranges of Bengal tiger (<i>Panthera tigris tigris</i> L.) in Pench Tiger Reserve, Madhya Pradesh, Central India	Wildlife Biology in Practice
Martin, C.	1977	Status and Ecology of the Barasingha <i>Cervus duvauceli-Branderi</i> in Kanha National Park India	Journal of The Bombay Natural History Society
Ramesh, T., Kalle, R., Sankar, K. & Qureshi, Q.	2012	Spatio-temporal partitioning among large carnivores in relation to major prey species in Western Ghats	Journal of Zoology
Reddy, H.S., Srinivasulu, C. & Rao, K.T.	2004	Prey selection by the Indian tiger (<i>Panthera tigris tigris</i>) in Nagarjunasagar Srisaillam tiger reserve, India	Mammalian Biology-Zeitschrift für Säugetierkunde
Sankar, K., Qureshi, Q., Nigam, P., Malik, P.K., Sinha, P.R., Mehrotra, R.N., Gopal, R., Bhattacharjee, S., Mondal, K. & Gupta, S.	2010	Monitoring of reintroduced tigers in Sariska Tiger Reserve, Western India: preliminary findings on home range, prey selection and food habits	Tropical Conservation Science
Selvan, K.M., Lyngdoh, S., Veeraswami, G.G. & Habib, B.	2013	An assessment of abundance, habitat use and activity patterns of three sympatric pheasants in an Eastern Himalayan Lowland tropical Forest of Arunachal Pradesh, India	Asian Journal of Conservation Biology

48 **Table S2.** Summary of loadings from factorial analysis. Predictors are WorldClim
 49 bioclimatic variables. MR indicates the minimum residual solutions of standardized loadings
 50 from factorial analysis and represent how much a factor is correlated with a variable. SS
 51 indicates the sum of squares. Proportion var and Cumulative var indicate, respectively, the
 52 proportional variance and the cumulative variance explained by each loading in the factorial
 53 analysis.

Predictor	Loadings				
	MR1	MR5	MR3	MR4	MR2
bio.1	0.793	0.569	0.206		
bio.2	0.468	-0.224	-0.138	-0.28	0.739
bio.3	0.418	0.692	0.413	0.18	
bio.4	-0.284	-0.882	-0.362		
bio.5	0.964	0.139	-0.101	0.181	
bio.6	0.629	0.728	0.258		
bio.7	-0.166	-0.891	-0.328	-0.121	0.23
bio.8	0.747	0.221	0.208	-0.113	0.124
bio.9	0.665	0.65	0.147		
bio.10	0.962	0.247			
bio.11	0.657	0.705	0.266		
bio.12	0.112	0.292	0.847	0.399	
bio.13	0.17	0.286	0.929		
bio.14	0.211	0.954			
bio.15	0.327	0.251	0.234	-0.666	
bio.16	0.154	0.276	0.937		
bio.17	0.124	0.288	0.937		
bio.18	0.164	0.771	0.224		
SS loadings	4.997	4.383	4.049	2.957	0.738
Proportion var	0.263	0.231	0.213	0.156	0.039
Cumulative var	0.263	0.494	0.707	0.862	0.901

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