**Supplementary Material**

A prior lack affecting appreciation of our incidence on insular territories may be the vast, albeit poorly inventoried number of existing islands, the fraction of human-occupied ones, and the synergies operating amongst continents and islands (Depraetere & Dahl 2007; Weigelt *et al.* 2013). Only in terms of the global area involved, numbers and geographical distribution, the role of islands at a planetary scale can be determinant from geological, biodiversity, evolutionary and biogeochemistry perspectives. Some relatively small islands have had a disproportionate bio- and geological impact from regional to a planetary scale (i.e. Krakatau). Here we synthesize basic island casuistic from diverse sources and abstract and reference major anthropogenic disturbance factors operating to change island biotas.

**1. Basic global island casuistic**

For the Pacific Ocean (162,250,000 km2, *c.* 31.8% of Earth’s surface), Garden (2005) reports a figure of >25,000 islands, most in the western half, and in a vast majority volcanic or atoll elements (i.e. oceanic islands). However, it is along the fragmented continental margins of the Northern hemisphere (Eurasia and North America), not in the tropics, where, probably, most islands actually exists (Baldacchino 2006).

Depending on the scale, and including non-oceanic islands (coastal islets, barrier islands, and others), the global count could reach several tens or even hundreds of thousands (United Nations Environment Programme, http://islands.unep.ch/). The Global Island Database reports the existence of *c.* 175,000 islands (>0.1 km2 surface area) (<http://www.globalislands.net/about/gid_functions.php>). In a still higher estimate, the Global Shoreline Database boasts a dataset of up to 180,500 islands ([www.ngdc.noaa.gov/mgg/shorelines/gshhs.html](http://www.ngdc.noaa.gov/mgg/shorelines/gshhs.html)) (Baldacchino 2006).

Total area of the Earth’s islands nears 10 million km2 (similar to Europe’s area) (Stive 2005). A majority of world islands are well below 1,000 km2 in area. From Dahl’s (1991) database, we took a sample of 1,184 islands with available data on elevation and area, and found that mean altitude was 725.5 ± 709.9 m (mean ± SD), ranging from 2 m in Ngcheangel (0.98 km2), Palau, to 5,030 m in New Guinea (786,000 km2). Pacific islands occupy as much as *c.* 1,300,000 km2, but only three elements form 84.6% of that total: New Guinea, New Zealand and the Hawai’i group (Garden 2005). The remainder of the Pacific islands is mainly small atolls and emerged *makatea* (Lal & Fortune 2000).

**2. Major anthropogenic disturbance factors on islands**

A large repertory of anthropogenic disturbances, working separately or synergistically, including activities and habitat occupation patterns, are responsible for local and global effects, frequently leading to irreversible change of island landscapes (Tabai 1994). A non-exhaustive list of such mechanistic causes of island geo-biotic transformation should include:

1. Island submersion, shoreline migration and areal changes due to interactions among infrastructure construction and sea-level rise due to global warming impact on atoll, volcanic and barrier islands (Kiribati, Marshall, Maldives, Diego Garcia atoll in the Chagos, Virginia barrier islands, etc.) (Oertel 1985; Tabai 1994; Yamamoto & Esteban 2010; Bellard *et al.* 2014; Donner & Webber 2014; Baldock *et al.* 2015; Brenner *et al.* 2015; Purkis *et al.* 2016).
2. Disruption of insularity and isolation through bridge and road constructions (Öland, Skye, Anglesey, Yangtze River Estuary, etc., Qiao *et al.* 2011).
3. Whole-island biotic sterilization (Mururoa, Bikini, Fangataufa, due to nuclear tests, etc.; Richards *et al.* 2006). The complete physical destruction of several coral islands was followed by severe ecological affection of many others, land and ocean biodiversity loss, soil pollution, and human population displacements, which indirectly caused serious impacts on the resources of refuge islands (Simon *et al.* 1999).
4. Artificial islands, built islands which are kept floating, rooted to or accreted from the bottom by adding earth materials; they are designed for the purpose of colonization or resource exploitation of oceans; examples include mobile or static off-shore or coastal structures with diverse purposes: abandoned or operative petroleum platforms; wrecked emerging ships; bridge rubble, rubbish and detritus rafts; anchored platforms; reclaimed land in shallow waters; offshore or coastal airports; offshore mining (e.g. coal, oil, gas); offshore harbours for tankers, etc (Kondo *et al.* 1995; Stive 2005; Lister & Muk-Pavic 2015). These artificial structures can also act as underwater reefs for biofouling rich in non-native taxa as well as for colonizing native species; this involves range expansion in many marine taxa (Sheehy & Vik 2010).
5. Introduction, naturalization and invasion of oceanic islands by alien species such as rats (Mooney & Drake 1986; Harper & Bunbury 2015).
6. Direct habitat destruction, ecosystem fragmentation, habitat transformation and pollution through activities such as dense and diffuse urbanization; tourism; marine, aerial and terrestrial transport (asphalt and unpaved roads and trails) and logistics infrastructure; extractive industries, mining, stone quarrying, water reservoir construction, residual disposal zones and agriculture activities are activities contributing significantly to “anthropogenic dismantling” of island geological and soil substrata; plastic coverings in extensive fruit –e.g. banana- greenhouses, thermosolar and eolic energy fields have also reduced substantial amount of island area available for native species in many archipelagoes (e.g. Canary Islands: Fernández-Palacios 2008; Galápagos: Benítez-Capistros *et al.* 2014).
7. Coastal integrity deterioration is a determinant factor in the continent-island interplay, at least in terms of propagule dispersal and establishment. Coastlines represent a narrow strip permanently exposed to oceanic waste of diverse origin, while at the same time are being transformed geomorphologically by humans. Continental coasts act as eminent global sources of marine waste reaching islands worldwide (Benton 1995). Marine debris as a factor of coastal degradation affecting islands, is formed by, among other sources, plastic rubbish, derelict fishing gear, vehicle and other industrial components, and in general diverse artifacts of common use, including varied artificial debris dragged unselectively by tsunamis or other extreme events from urbanized coasts, and transported by oceanic currents to remote insular deposit zones (NOAA Marine Debris Program 2016 and references therein). Materials discarded from coastal cities and transported by rivers may reach distant oceanic islands (Benton 1995). Given that it receives little alteration in their oceanic transport (mostly through UV radiation), marine rubbish disintegrates mainly under the continued mechanical fractioning occurring on the shoreline, ending by mixing up with the natural substrata of recipient areas (GESAMP, 2015). Reported damages to littoral ecosystems include direct mechanical disturbance of substrate and vegetation by large debris pieces, mortality of wildlife due to ingestion or entangling, contamination of sediments and the food web in sandy beaches and other coastal habitats (NOAA Marine Debris Program 2016).
8. Direct insular species extinction and extirpation by human predation or other indirect effects (Thibault *et al.* 2002).

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