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Neobiota: non-indigenous species in aquatic systems – combining scientific interest and public awareness

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Neobiota are non-native organisms - animals, plants or other organisms - which are anthropogenicly introduced into places out of their natural distribution. If established in new habitats, they can have negative impacts on indigenous species, populations or even entire ecosystems. Thus, invasive non-native species are among the biggest threats to biodiversity worldwide. The first step for successful management of invasive species is a thorough understanding of their biology, behaviour, ecology as well as their effects on local species and communities. The European Environment Agency (EEA) published a list of the 100 worst alien species in Europe (www.europe-aliens.org) showing that almost 50 % are aquatic species.

With scientific diving, we are able to investigate aquatic systems and observe invasive species under water *in situ*. Additionally, diving is a smart method to perform a good scientific documentation for media and public events, also for *in situ* sampling or the installation of setups for hunting with low impact on natural aquatic systems. With scientific divers and sport divers as citizen scientists, we investigated the distribution of freshwater jellyfish (*Craspedacusta sowerbii*) in German lakes (Fritz et al. 2007). In 2001, the bullfrog (*Lithobates catesbeianus*) was discovered in a lake south of Germany. Action groups were grown with residents, politicians and conservationists organizing regular sampling-dives and eco-friendly, retaliatory actions. Informative meetings took place to sensitise occupants in correct behaviour. The zebra mussel (*Dreissena polymorpha*) forms large and dense populations in streams, lakes and estuaries across Europe due to its ability to attach to various hard substrates by byssus. Although, it competes for space and food with native mussels and other filter-feeding organisms, they have positive effects on water quality and also form new substrate for sessile invertebrates like freshwater sponges. In spring 2016, the invasive quagga mussel (*Dreissena bugensis*) was discovered in Lake Constance which probably came by shipping. With training courses and information leaflets on websites, people learn identifying characteristics and can report new findings online (www.neobiota.info).

Fritz *et al.* (2007): The freshwater jellyfish *Craspedacusta sowerbii* Lankester, 1880 (Limnomedusa: Olindiidae) in Germany, with a brief note on its nomenclature, J. Limnol., 66(1): 54-59