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Zusammenfassungen der Tagungsbeiträge anlässlich der 58. Frühjahrstagung der DMG vom 7. bis 10. Juni 2019 in Hoppstädten-Weiersbach

zusammengestellt von CARSTEN RENKER

The genus *Geomitra* s. l. on the Madeiran Archipelago

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Geomitra was introduced as a genus-group taxon by SWAINSON in 1840 and became the name-giving taxon for a suprageneric group proposed by BOETTGER in 1909 that is currently accepted as the family Geomitridae. By the end of the 19th century eight species had been described (four known only from fossil shells) that were assigned to two different sections of the vast genus *Helix*, i. e. *Craspedaria* LOWE 1852 and *Coronaria* LOWE 1852. For most of the 20th century, no new data on the distribution and systematics of these endemic Madeiran land snails became available and only in the mid-1980s scientific interest in these taxa was renewed, resulting in the description of two new fossil species from Porto Santo and the definition of a new subgenus of *Geomitra*, *Serratorotula* GROH & HEMMEN 1986, for the two fossil taxa and one living species. The other species of *Geomitra* were assigned to *Geomitra* s. str. and *Geomitra* (*Craspedaria*), respectively.

We here present the results of intensive fieldwork on Madeira, Porto Santo and especially the Desertas Islands, conducted from the early 1980s until today, which will serve as a basis for the revision of this group. We also present first insights into the phylogenetic relationships of currently accepted genus-group taxa in *Geomitra* s. l. on the basis of mitochondrial and nuclear markers.

The results of these analyses suggest that *Geomitra* s. str. and *Serratorotula* should be recognized as distinct genera that belong to different lineages within Geomitriini. Furthermore, *Craspedaria* is here also considered to represent a separate genus on the basis of its distinct shell morphology, although we could not test this genetically.

The ranges of the different species assigned to *Geomitra* s. l. are (and were in the past) mostly very localized, the occupied area often not larger than a few square kilometres. The fieldwork on the Desertas Islands (GERBER, GROH & HEMMEN in 1985, CAMERON & COOK in 1997 and SILVA, TEIXEIRA & CAMERON in 2012-2017) resulted in the rediscovery of living *G. grabhami* (WOLLASTON 1878) after 130 years as well as the discovery of a new fossil species from these islands and of living *G. coronula* (LOWE 1852), a species that was described on the basis of fossils from Bugio (Desertas Islands). Fieldwork on the main island Madeira by several of the authors of this contribution and by HARALD PIEPER in 1983 resulted in additional living records of *Geomitra* s. l. species but also suggested the loss of several populations. For example, the FFH-annex-II-species *G. moniziana* (PAIVA 1867) has lost a large part of its formerly known range but several previously unknown, very localized populations that probably can be assigned to this species could be discovered in the southwest of Madeira. Moreover, a living population of an undescribed *Geomitra* species that was known since 1983 from empty shells was discovered in 2018. Populations in the north of Madeira thought to be living representatives of the fossil *G. tiarella* (WEBB & BERTHELOT 1833) turned out to be slightly to significantly different from that species and should be discriminated at least as subspecies.

All the previously known and newly discovered populations on Madeira are under significant threats that can mainly be attributed to habitat loss or alteration through urbanization, climate change and/or induced wild fires. The most recent victim of these threats is probably *C. delphinuloides* that has not been found alive since the 1860s. One of the few findings afterwards was made by SANTANA BENÍTEZ in 2008, with a fresh-looking shell discovered on south-facing, high mountains on Madeira. But since then several severe wildfires have occurred in that region of the island and many subsequent excursions ended without any result.

Serratorotula juliformis (LOWE 1852) is the only species which had a wider range, being historically known from different localities all over the island of Porto Santo and its larger satellite islets. Unfortunately, the area of occupancy of this species also became reduced to few, isolated localities in recent decades, suggesting an increased risk of extinction for this species.

However, the habitats in which *Geomitra* s. l. settle in are mostly very steep, nearly inaccessible rocky slopes with more or less dense vegetation, which not only limits opportunities for collecting but also gives some hope for the survival of as yet undiscovered populations. This hope is underpinned by the discovery of the second extant *Serratorotula* species that was detected by TEIXEIRA in 2016 on Ilhéu de Baixo, the westernmost satellite islet of Porto Santo.