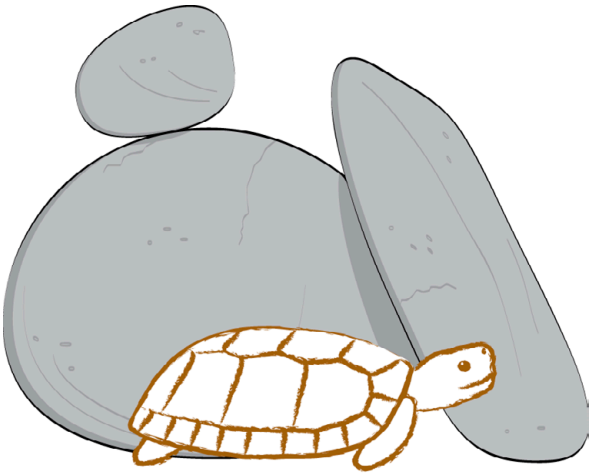
Dwarf Tortoise Conservation



Annual Report 2025
and
Action Plan 2026

Victor Loehr
January 2026

CONTENTS

Victor Loehr
Dwarf Tortoise Conservation
loehr@dwarftortoises.org

Dwarf Tortoise Conservation (previously Homopus Research Foundation) is a non-commercial organisation entirely run by volunteers. The aim of the foundation is to gather and distribute information on dwarf tortoises, to facilitate their survival in the wild. This aim is achieved through scientific field studies, and through the development and study of captive studbook populations. Our results are published in scientific and popular outlets.

1. INTRODUCTION AND ACHIEVEMENTS IN 2025

Dwarf Tortoise Conservation aims to facilitate the long-term survival of dwarf tortoises (*Chersobius* spp. and *Homopus* spp.) in the wild, by gathering and distributing information about their biologies and by the development of genetically healthy *ex situ* populations. Dwarf Tortoise Conservation is the successor of the Homopus Research Foundation, which was renamed in 2018, following the resurrection of the genus *Chersobius* (previously *Homopus*). In 2025, several activities contributed to the aim of Dwarf Tortoise Conservation. The current report presents an overview of achievements in 2025, as well as activities planned for 2026 and thereafter. Moreover, the actual studbook populations for *Chersobius boulengeri*, *Chersobius signatus*, *Homopus areolatus* and *Homopus femoralis* are described, focussing on changes that occurred in 2025. All previous annual reports since 1995 can be found on the website of Dwarf Tortoise Conservation.

1.1. Policies and permanent action points

From time to time, Dwarf Tortoise Conservation communicates policies and permanent action points to the participants in the *Chersobius* and *Homopus* studbooks and to other stakeholders. To avoid losing sight of actual issues, they are listed here.

- *Dwarf Tortoise Conservation and illegal activities (May 2011, updated December 2024)*
  Dwarf Tortoise Conservation strongly condemns illegal activities. All *Chersobius* and *Homopus* registered in the studbooks and at studbook participants have legal and traceable origins. Each participant is responsible for the paperwork for his or her tortoises and will not fraud. Dwarf Tortoise Conservation will fully collaborate with authorities in case of legal investigations, providing backgrounds of studbook tortoises, DNA samples, contact details from studbook participants, copies of loan agreements, etc. Moreover, illegal activities noted within the studbooks will be actively reported to the authorities, to facilitate prosecution. Obviously, participants involved in illegal activities will be unable to continue their participation.

- *Information exchange with the studbook coordinator (December 2017)*
  Changes (births, deaths, transfers, physical and e-mail addresses, etc.) should be sent to the studbook coordinator by e-mail, and not via social media. The e-mail address that should be used is studbookhomopus@gmail.com.

- *New registrations of* H. areolatus *(January 2018)*
  Because offspring *H. areolatus* produced in the studbook has been transferred outside the studbook (i.e., were lost to follow-up), there is a risk that genetically related tortoises will be registered in the studbook as unrelated founders. To avoid this, the studbook will not accept new founders with unknown or uncertain origin.

- *Outdoor husbandry of* C. signatus *(February 2019)*
  Outdoor husbandry of *C. signatus* in Europe has yielded unacceptable mortality rates, possibly due to climatic mismatches or due to stress involved with frequent transfers among indoor and outdoor enclosures. Since *C. signatus* does well in indoor enclosures, tortoises loaned from Dwarf Tortoise Conservation should be housed indoors year-round. Exceptions require written consent.

- *Information for novice keepers of* C. signatus *(December 2023)*
  Novice keepers of *C. signatus* turned out to needlessly repeat husbandry and breeding errors previous participants had already made. To counter this finding, novice keepers of *C. signatus* are provided with various documents and publications that summarise the species' requirements.

- *Mycoplasma and possible future diseases (studbooks* C. boulengeri *and* C. signatus*, August 2025)*
  - It is recommended to test tortoises for *Mycoplasma* and Herpesvirus prior to transferring them to a another participant. This test is straightforward. Vets are able to provide the required materials, after which participants can sample (swab) the tortoises. The vet will send the samples to a lab, after which results (positive or negative) will be available a few

days later. The test is affordable, but receiving participants might like to reimburse the expenses. In new loan agreements, Dwarf Tortoise Conservation will incorporate the test as a requirement. For all current studbook participants, it is a recommendation.
- To keep track of test results, results will be registered in the studbook registration.
- Positive and negative individuals will be separated at much as possible, unless the studbook management plan requires combining them.

1.2. Outstanding action points in the 2024 annual report

The following table summarises plans in the 2024 annual report, with results obtained in 2025.

Outstanding action points in 2024 annual report, and results in 2025	**Due**
Manuscript submitted on:	
• Body condition in wild *C. boulengeri*.	31-12-2025
2025: A manuscript on body condition was submitted in August, but a decision has not yet been received (chapter 6). In addition, a manuscript about captive *C. signatus* was submitted and published in 2025 (chapter 6).	
Presentation held on:	
• husbandry and breeding of *C. signatus* (Dutch-Belgian Turtle and Tortoise Society).	31-12-2025
2025: This presentation was held by Eric Wouwenberg on 29 November. Additional presentations were held on: o breeding station for the Karoo dwarf tortoise, *C.* (*Homopus*) *boulengeri*, at Basel Zoo (Fabian Schmidt, 34th Herpetological and Vivarium Conference, Plzen Zoo, Czech Republic, 23 February, American Zoo Association Herp TAGs Chelonian TAG, Denver, USA, 23 April, 2. Stammtisch Exotische Schildkröten 20 Jahre Schildkrotte Grubbe Regio Basel (SGRB), Pratteln, Switzerland, 22 June, and European Association of Zoos & Aquaria Annual Conference, Exhibit Design Plenary, Lodz, Poland, 13 September); o dwarf tortoises – giant challenges: the journey from South Africa to the European terrarium (Olda Mudra, Terrarium Society of Prague, Charles University, Prague, Czech Republic, 29 March, https://teraristika.cz/, and enviromental institute "Srdce Poohří", Osvinov, Czech Republic, 22 November, https://srdcepoohri.cz/); o a little-know tortoise of South Africa – *C. boulengeri* (Libor Kopecny, 23rd Annual Symposium on the Conservation and Biology of Tortoises and Freshwater turtles organized by TSA and IUCN TFTSG, Chattanooga, USA, 24 July);	

o construction of terrariums for small tortoise species (Lars-Gunnar Frahm, DGHT AG Schildkröten, Bonn, Germany, 6 September); o learning from failures: first gravidity from a F1-female of *C.* (*Homopus*) *boulengeri* at Basel Zoo (Fabian Schmidt, EAZA Annual Conference, Reptile TAG, Lodz, Poland, 13 September); o auf der Suche nach Schildkröten in Südafrika (Fabian Schmidt, Schildkröten Freunde SIGS Sektion Mittelland, Zofingen, Switzerland, 2 October); o natural ecology of *C. signatus* (Victor Loehr, private meeting, Amsterdam Zoo, Netherlands, 14 November).	

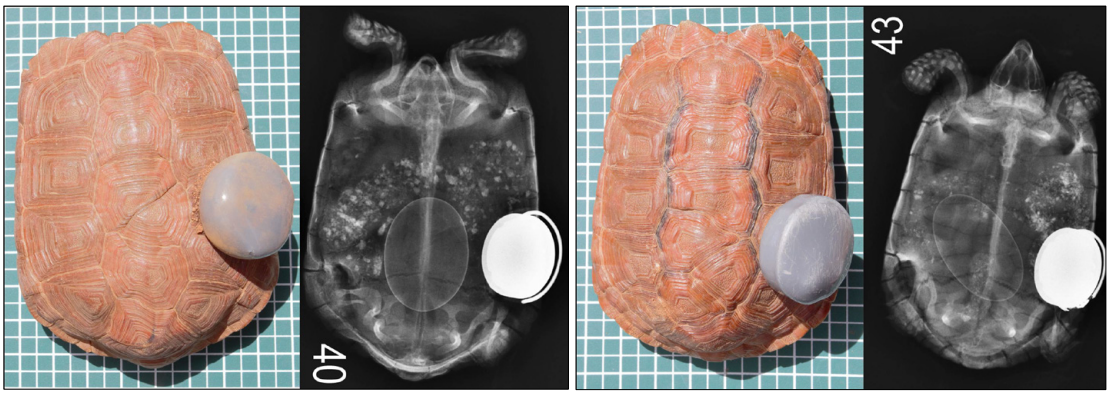
Outstanding action points in 2024 annual report, and results in 2025	**Due**
Launch of the new Dwarf Tortoise Conservation website and forum for studbook participants	01-06-2025
2025: The website and forum were launched in January.	
Studbook management plan *C. signatus* updated	31-12-2025
2025: The studbook management plan was updated and posted on the website.	
Studbook management plan *H. areolatus* updated	31-12-2025
2025: The studbook management plan was updated and posted on the website.	

Further achievements that are worth listing:

- Reprints of papers produced by Dwarf Tortoise Conservation were distributed through its website, ResearchGate, and directly to several researchers and private individuals.

- In a Czech radio show (~1 million listeners, 30-minutes duration), information about tortoises including *C. boulengeri* was shared by Libor Kopecny on 30 June.

- On the mailing list of the IUCN Tortoise and Freshwater Turtle Specialist Group, radiographs and photos of *C. boulengeri* were shared to help assessing if supernumeral vertebral scutes coincide with abnormalities in the vertebral column.



- Information about age at sexual maturity in *C. boulengeri* was shared with the University of Oxford, for a study on the patterns and drivers of reptile survival.

- The Endangered Wildlife Trust (South Africa) was advised regarding optimal timing of effective *C. signatus* surveys.

- One of the participants in the studbook on *H. areolatus* visited an *in situ* rehabilitation project for geometric tortoises (*Psammobates geometricus*), where also *H. areolatus* live.

- In response to a Dwarf Tortoise Conservation publication, a South African farmer near Williston offered accommodation and services for future research on *C. boulengeri*.

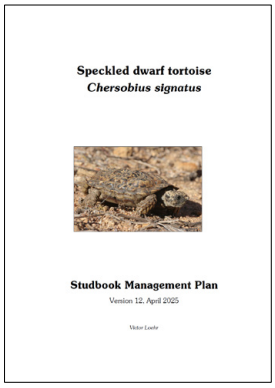
- With the help of Basel Zoo (Switzerland), East-London Zoo (South Africa) was contacted regarding a *C. signatus* kept at the zoo. Unfortunately, the tortoise turned out to be an incorrectly identified hinged tortoise (*Kinixys* sp.).

- Dwarf Tortoise Conservation attended a roundtable meeting of the European Union to discuss interim findings of an EU study on the need for, added value of, and feasibility of introducing a positive list of pets. After the meeting, Dwarf Tortoise Conservation submitted a formal statement for consideration in further decision-making.

- In response to multiple, credible alerts about recent illegal imports of *C. signatus* and *C. solus* into the European Union, an analysis was prepared and distributed among CITES and enforcement authorities, TRAFFIC, and CapeNature (South Africa). In addition, studbook participants were requested to forward any relevant information to enforcement authorities.

- TRAFFIC was assisted with the identification of seized wild-caught tortoises that had been declared as captive-bred.
- A Polish journalist contacted Dwarf Tortoise Conservation to verify information about keepers of *C. signatus* in Poland.
- Several European institutions requested to participate in the studbook on *C. signatus*.
- Turtle Conservancy (Ojai, USA) requested assistance in acquiring dwarf tortoises from Europe.
- Because of the occurrence of *Mycoplasma* sp. in two *C. signatus*, Dwarf Tortoise Conservation was advised by a specialist at Gent University (Belgium) and by two vets in the studbooks, after which a policy was developed and distributed among studbook participants (see paragraph 1.1).
- The Dwarf Tortoise Conservation website received minor updates after its launch in February. In addition, >50 posts were shared on the website's forum, for which 22 studbook participants registered.

1.3. Studbook management plan Chersobius signatus



The first version of the studbook management plan for *C. signatus* was finished in 2013. It has been updated several times, and the current version was published in January 2024. In 2025, the plan was updated, due to the addition of founders from the wild in October 2024. The plan provides directions for the development of the studbook in the next years and decades, and will be updated every five years. The plan will also be updated after every supplementation of the studbook with new founders, and after each change in the IUCN conservation status of the taxon. The annual reports of Dwarf Tortoise Conservation report annual progress of the realisation of the plan.

Two apparent males that had been collected and transferred to captivity in 2024 turned out to be females. Due to the genetic variation already present in the studbook, it will be possible to integrate the relatively large number of females added in 2024. One of the eggs laid by a gravidly imported female hatched in 2025, adding genes from a wild male to the population.

One surviving founder couple that had been collected in 2015 remained alive and resumed reproduction after transfer to another participant. Unfortunately, birth was compensated by the death of an earlier offspring from the same couple. Two male founders, collected in 2001 and 2015, also remained alive. A female founder from 2015 had to be euthanised (see chapter 5).

The table at the right shows how well the genes of each founder (i.e., bloodline) are represented in the studbook population. Most live F1 offspring from rare

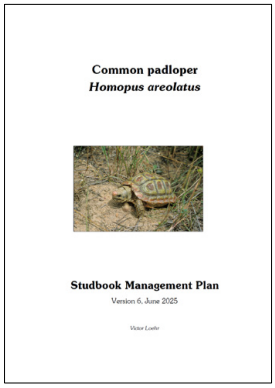
Founder	F1 offspring		F2 offspring		F3 offspring		Remark
	All	Available	All	Available	All	Available	
WILD4	1	1	0	0	0	0	Founder in the wild
1	34	4	78	32	20	17	
2	14	1	27	9	12	11	
3	21	3	57	23	9	7	
4	0	0	0	0	0	0	Bloodline extinct
35	30	12	54	33	7	6	
36	30	12	54	32	7	6	
37	23	9	25	19	2	2	
38	13	7	16	12	2	2	
60	13	1	2	1	0	0	
150	3	2	0	0	0	0	
151	5	1	0	0	0	0	
152	4	3	0	0	0	0	
153	8	5	2	2	0	0	
154	0	0	0	0	0	0	Bloodline extinct
155	0	0	0	0	0	0	Bloodline extinct
156	7	3	0	0	0	0	
157	4	3	0	0	0	0	
158	8	5	2	2	0	0	
159	2	0	1	0	0	0	Bloodline extinct
236	0	0	0	0	0	0	
237	0	0	0	0	0	0	
238	0	0	0	0	0	0	
239	0	0	0	0	0	0	
240	1	1	0	0	0	0	
241	0	0	0	0	0	0	

Grey numbers indicate unavailable founders. Red and green numbers indicate decreases and increases, respectively, compared to the previous annual report. Founders that were lost to follow-up and have no available offspring have been removed from the table. Unknown ancestors from offspring have been removed from the table. Note that each offspring has at least two founders, so numbers of offspring in a column should not be summed.

bloodlines (e.g., deceased founders 151, 153, 158) have been combined with genetically unrelated mates at experienced studbook participants, and F2 gene representation improved. Transfer of the offspring from founder 60 from the UK to the European Union has not yet succeeded. The distribution of genes from older bloodlines (e.g., founders 1, 3, 35, 36, 37, 38) into F2 decreased, which was not problematic due to slight overrepresentation of these bloodlines in F2.

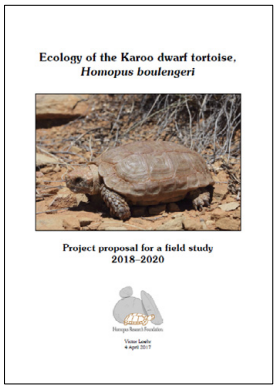
According to the studbook management plan, each founder couple should produce 12 (surviving, reproducing) offspring, and couples in subsequent generations should each produce two (surviving, reproducing) replacement offspring. Although virtually all currently available mature individuals have been combined towards obtaining the anticipated population composition, the composition is not fully achievable: Some deceased founders have produced too few offspring, as have some deceased captive-bred offspring (i.e., resulting in overrepresentation of other bloodlines). In addition, some couples have produced more offspring than needed, resulting in a larger total population size than needed. To avoid further overrepresentation and a too large population size, Table 3 in chapter 3 provides quota for each available and for each new breeding couple in the studbook population in 2026. Although quota imply that some eggs may need to be discarded, lack of egg production in many couples is currently a much bigger challenge. To improve reproductive success of rare bloodlines, and to minimise mortality, novice keepers of *C. signatus* are provided with a set of documents and publications illustrating suitable husbandry and breeding techniques (e.g., husbandry guidelines drawn up by the studbook). In addition, all studbook participants are invited to register at the Dwarf Tortoise Conservation forum to exchange ideas, experiences and results.

1.4. Studbook management plan Homopus areolatus



The first version of the studbook management plan for *H. areolatus* was finished in 2015, and the plan was updated in 2020. In 2025, the plan was updated again – in consultation with the participants in the studbook, it was decided to downgrade the aim of the studbook. The captive population will no longer be actively managed to maintain genetic diversity, but will register genetic relationships to empower participants to decide which tortoises will be combined and bred. The reason for the change was the private ownership of most tortoises in the studbook, and reluctance of studbook participants to follow recommendations made by the studbook coordinator. Consequently, this paragraph will no longer report progress towards the aim of the studbook management plan.

1.5. Progress field study Chersobius boulengeri



All fieldwork for this study has been conducted between 2018 and 2022. In 2025, data were processed and a final manuscript on body condition was submitted. The following papers have been produced until now:

Loehr, V.J.T. 2018. *Chersobius boulengeri* (Duerden, 1906). Karoo padloper. Reproduction. African Herp News 68: 37–39.

Loehr, V.J.T. 2020. De Karoo dwergschildpad: een uitstervende soort. Veldrapport over *Chersobius boulengeri*. Trionyx 18: 4–15.

Loehr, V.J.T. 2021. The Karoo dwarf tortoise (*Chersobius boulengeri*): field report on a vanishing species. BCG Testudo 9: 20–36.

Loehr, V.J.T., Keswick, T, Reijnders, M.A.D.E. and Zweers, I.M.. 2021. High-level inactivity despite favorable environmental conditions in the rock-dwelling dwarf tortoise *Chersobius boulengeri*. Herpetologica 77: 232–238.

Loehr, V.J.T. 2022. Testudinidae, *Chersobius boulengeri* (Duerden, 1906). Karoo padloper. Severe population decline. African Herp News 81: 22–24.

Loehr, V.J.T. and Keswick, T. 2022. Structure and projected decline of a Karoo dwarf tortoise population. The Journal of Wildlife Management 86: e22159.

Loehr, V.J.T. and Keswick, T. 2022. Witnessing a population collapse: field research in South Africa reveals the perils closing in on the only documented population of endangered Karoo dwarf tortoises. The Tortoise 3: 118–123.

Loehr, V.J.T. 2023. Habitat use by the rock-dwelling Karoo dwarf tortoise, *Chersobius boulengeri*. Ichthyology & Herpetology 111: 360–367.
Loehr, V.J.T. and Keswick, T. 2023. Shell dimensions in a population of Karoo dwarf tortoises, *Chersobius boulengeri*. Chelonian Conservation and Biology 22: 119–122.
Loehr, V.J.T., Keswick, T. and Barten, N. 2023. Karoo dwarf tortoises (*Chersobius boulengeri*) prefer and disperse doll's roses (*Hermannia* spp.). Journal of Arid Environments 219: 105094.
Loehr, V.J.T. 2025. Bimodal nesting season in Karoo dwarf tortoises (*Chersobius boulengeri*). Wildlife Biology 2025: e01380.
Loehr, V.J.T. 2025. Karoo dwarf tortoise, *Chersobius boulengeri* (Duerden 1906), South Africa. In: Turtle Conservation Coalition. Turtles in trouble: the 25+ most endangered tortoises and freshwater turtles.

The *C. boulengeri* field study is a co-production of Dwarf Tortoise Conservation and an independent South African researcher (Toby Keswick). Moreover, the study collaborates with the University of the Western Cape (South Africa; Retha Hofmeyr), Utrecht University (Netherlands; Ineke Westerhof), Van Hall Larenstein University of Applied Sciences (Netherlands; Ralf Mullers and Marcella Dobbelaar) and the Northern Cape Department of Environment and Nature Conservation (South Africa). Several organisations and individuals have generously provided funds, discounted prices, or in-kind contributions to the project:

- Knoxville Zoo (Quarters for Conservation Program)
- Turtle Conservation Fund and Conservation International
- Holohil Systems Ltd.
- Dutch-Belgian Turtle and Tortoise Society
- British Chelonia Group
- Turtle Survival Alliance Europe
- Crocodile Zoo Prague
- Pedak

- Jan Barth
- Kurt Engl
- Sheryl Gibbons
- Silja Heller
- Brian Henen
- Retha Hofmeyr
- Courtney Hundermark
- Lutz Jakob
- Johann Klutz
- Martijn Kooijman
- Matthias Kupferschmid
- Koos and Coby Loehr
- Frank van Loon
- Marcel and Lydia Reck
- Peter Sandmeier
- Uwe Seidel
- Paul van Sloun

1.6. Progress captive study Chersobius boulengeri

During the field study on *C. boulengeri* (paragraph 1.5), it became clear that the composition of the population and secretive behaviour of the species hampered collection of data on reproduction and growth. Consequently, a small-scale captive study was initiated. Two males and two females were collected and transferred to captivity in February–March 2019, and acclimated in 2019–2020. Two additional males and two additional females were collected and transferred to captivity in 2024, to develop a small, yet genetically healthy, assurance colony. The following papers has been produced until now:

Loehr, V. J. T. 2023. Acclimation, husbandry and breeding of wild-caught Karoo Dwarf Tortoises, *Chersobius boulengeri* (Duerden, 1906). Radiata 32:4-19.

Loehr, V.J.T. 2024. Bimodal nesting season in Karoo dwarf tortoises (*Chersobius boulengeri*). Wildlife Biology: e01380.

Data on growth will be published when sufficient data will have accumulated. Currently, growth of 27 offspring is being monitored, and a first female reached maturity (i.e., produced an egg) in 2024. For the development of the studbook population, a studbook management plan will be drawn up (chapter 2).

2. ACTION PLAN 2026 AND THEREAFTER

The table below lists results anticipated for 2026 and thereafter, with progress indicated:

Result	Due	Current status
Manuscripts submitted on:		
• growth in captive *C. boulengeri*;	31-12-2027	Data partly available
• keeping and breeding of *C. signatus*.	31-12-2026	Data available
Presentations held on:		
• Studies in the wild and captive breeding of *C. boulengeri* (Herpetological and Vivarium Conference, Pilsen, Czechia).	20/22-02-2025	Presentation available
Studbook management plan *C. boulengeri* prepared	31-12-2026	Not yet started

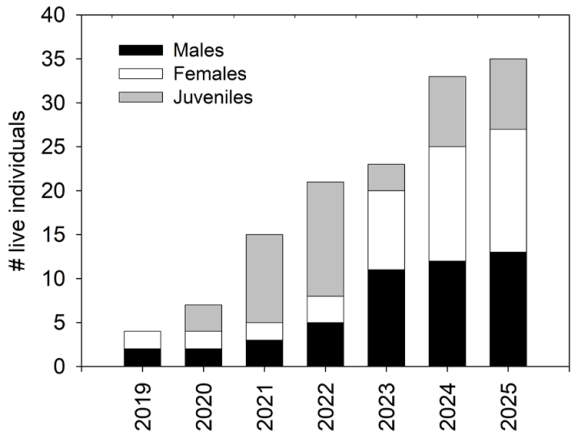
3. STUDBOOK SUMMARIES AND REPRODUCTION IN 2026

To keep the studbook registrations up to date, it is vital that all studbook participants keep the coordinators informed of any changes. In the studbooks on *C. boulengeri*, *C. signatus* and *H. femoralis*, each participant has accepted this obligation in a formal agreement between participant and Dwarf Tortoise Conservation. Regardless of the agreements, participants are generally motivated and inform the coordinator spontaneously when changes occur throughout the year. However, sometimes participants remain silent for an entire year or longer, despite repeated requests from the studbook coordinator. In order to keep track of where these communication flaws occur, the annual reports include a list of unresponsive participants. This will make it easier for the reader to assess the validity of studbook information per participant and will facilitate the coordinator when approaching a silent participant. In 2025, participant Turtle Conservancy (*H. areolatus*) did not respond. Participant 18431 (*H. areolatus*) was removed from the studbook due to prolonged silence (two years, despite countless reminders).

3.1. Chersobius boulengeri

Live specimens on 1 January 2025:
33 (no specimens lost to follow-up)
Number of participants on 1 January 2025:
5 (4 countries, including 2 zoos)
New registrations:
0
Births:
3, at 2 participants
Deaths:
2 (both captive-bred), at 1 participant

Live specimens on 31 December 2025:
35 (no specimens lost to follow-up)
Live inbred specimens on 31 December 2025:
0
Number of participants on 31 December 2025:
6 (5 countries, including 3 zoos)

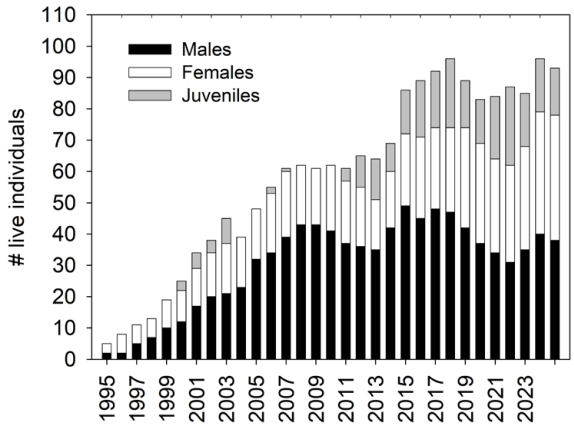


The studbook population continued to grow, despite the first deaths for the studbook. For the first time, a second participant produced offspring. Both deaths were captive-born animals. One was a year-old juvenile (cause of death unknown after post-mortem), the other was an five-years old adult male (cause of death, after post-mortem, was a bacterial infection).

A solitary male outside the studbook, which had been identified by Dwarf Tortoise Conservation in Germany more than 10 years ago, died. It has not produced offspring.

3.2. Chersobius signatus

Live specimens on 1 January 2025:
96 (excluding 21 specimens lost to follow-up)
Number of participants on 1 January 2025:
32 (10 countries, including 6 zoos)
New registrations:
0
Births:
4, at 4 participants
Deaths:
7 (1 wild-caught, 6 captive-bred), at 7 participants



Live specimens on 31 December 2025:
93 (excluding 21 specimens lost to follow-up)
Live inbred specimens on 31 December 2025:
2 (72 and 215; ancestry uncertain, possibly inbred)
Number of participants on 31 December 2025:
31 (10 countries, including 6 zoos)

The studbook population shrank, because mortality exceeded births. Although four participants produced offspring, two of which from genetically important parents, most participants with breeding couples and breeding quota did not produce offspring. One founder female collected in 2015 was euthanised, after lung capacity and body condition (see chapter 5) had gradually deteriorated over >5 years despite various veterinary treatments. Three 7–15 year-old captive bred (F1 and F2) females died due to egg-retention, kidney failure (both determined through post-mortem examinations) and symptomatic *Mycoplasma* infection. Two 13 and 14 year-old males (F1 and F2) died due to kidney failure (post-mortem) and unknown causes. A juvenile of less than one year old also died as a result of unknown causes.

Currently, 59% of all participants (19 of 31) are keeping genetically unrelated couples. Excluding a participant with (only) a couple with a zero breeding quota, 58% of all participants (18 participants) may breed. Two transfers of individuals planned for 2025, to form two additional breeding couples to breed, have not yet materialised. All offspring produced were within the 2025 breeding quota and thus contributed to the aims of the studbook management plan for *C. signatus*.

To avoid unbalanced representation of founder genes in the population and to limit population growth, breeding quota were updated for 2026. These quota are based on the following simple starting points, following the current studbook management plan:

- Each founder couple should produce 14.14 offspring, to ensure that 6.6 offspring will survive and reproduce. When 14.14 offspring, or 6.6 reproducing offspring, is available, founder reproduction ceases until offspring dies and requires replacement.
- Couples in subsequent generations should produce 4.4 offspring, to ensure that 1.1 offspring will survive and reproduce, starting when a couple in the previous generation becomes unavailable (i.e., an individual dies and cannot be replaced). When 4.4 offspring, or 1.1 reproducing offspring, is available, reproduction ceases until offspring dies and requires replacement.
- Offspring should have an equal sex ratio.
- Novice participants with breeding couples that would not need to reproduce may breed a small number of offspring to develop breeding experience.

These starting points, in combination with the population composition in December 2025, leads to the following reproduction quota for 2026. In subsequent annual reports, the table will be updated based on reproduction, mortality, and (re)combination of breeding couples.

Breeding couple		Maximum number of offspring couple		
Male	Female	Males	Females	Remark
11	79	4	3	
35	200	4	4	
41	166	4	4	
71	142	4	4	
74	96	0	0	
99	110	1	2	
106	191	4	4	
113	194	4	4	
123	179	4	4	
137	136	1	1	
145	190	3	3	
147	181	4	4	
148	171	4	4	
150	240	13	13	
152	157	12	12	
182	177	4	4	
188	169	2	2	
220	178	4	4	
222	170	4	4	
236	237	14	14	
88	107	3	3	Couple to be formed in 2025
100	168	4	3	Couple to be formed, pending negative Mycoplasma test
132	172	4	4	Couple to be formed in 2025
198	174	4	4	Couple to be formed in 2025
245	239	14	14	Couple to be formed with offspring from 152 x 157
201	241	14	14	Couple to be formed in 2025
xxx	238	14	14	Couple to be formed when 245 adult (~2027)

The following incubation instructions should be followed:

Incubation for females

- Day 1–29: diurnal temperature cycle of 33°C and 28°C
- Day 30–50: constant temperature of 33°C
- Day 51–hatching: diurnal temperature cycle of 33°C and 28°C

Incubation for males

- Day 1–29: diurnal temperature cycle of 33°C and 28°C
- Day 30–50: constant temperature of 30°C
- Day 51–hatching: diurnal temperature cycle of 33°C and 28°C

All temperatures should be measured with a calibrated thermometer at the incubation spot(s).

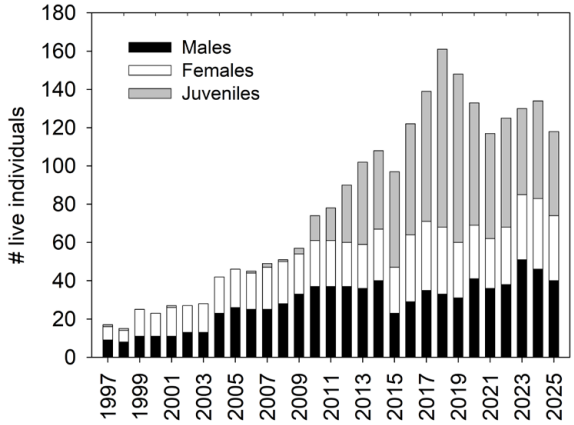
3.3. Homopus areolatus

Live specimens on 1 January 2025:
134 (excluding 135 specimens lost to follow-up)
Number of participants on 1 January 2025:
28 (11 countries, including 2 zoos)

New registrations:
0

Births:
3, at 1 participant
Deaths:
16 (all captive-bred), at 6 participants

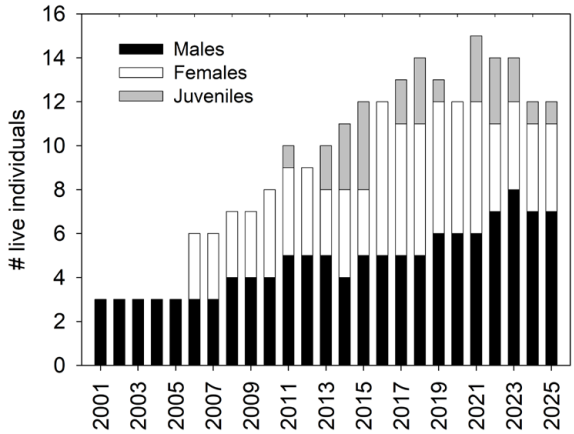
Live specimens on 31 December 2025:
117 (excluding 139 specimens lost to follow-up)
Live inbred specimens on 31 December 2025:
≥14 (studbook numbers 322, 323, 325, 336, 360, 361, 362, 363, 364, 328, 350, 351, 352, 380, 381, 382, 383 and possibly 346)
Number of participants on 31 December 2025:
27 (11 countries, including 2 zoos)



The studbook population shrank due to unusually high mortality, and four tortoises being lost for the studbook. One participant lost nine individuals. Post-mortem evaluations identified pneumonia due to a rare fungal infection as primary death cause. Another participant lost two individuals during veterinary treatment after their transfer. Death causes for the remaining tortoises included a rat attack and an individual that had got stuck under decoration. All three birds were inbred individuals.

3.4. Homopus femoralis

Live specimens on 1 January 2025:
12 (including 2 specimens lost to follow-up)
Number of participants on 1 January 2025:
6 (6 countries, including 1 zoo)
New registrations:
0
Births:
0
Deaths:
0



Live specimens on 31 December 2025:
12 (excluding 2 specimens lost to follow-up)
Live inbred specimens on 31 December 2025:
3 (studbook numbers 22, 23, and 24)
Number of participants on 31 December 2025:
6 (6 countries, including 1 zoo)

The studbook population remained unchanged. Currently, three mature breeding couples (and a fourth to be formed in 2026) may produce future offspring.

4. ACTUAL STUDBOOK OVERVIEWS

The tables below give an overview of all live tortoises that are available in the studbooks on *C. boulengeri*, *C. signatus*, *H. areolatus* and *H. femoralis*. The tables do not include dead tortoises and tortoises lost for the studbook. Full overviews of all tortoises registered in the studbooks may be downloaded from the website.

Chersobius boulengeri: live and available studbook population.

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
Basel Zoo	10	Male	3	1	17-04-2023	Transfer	18225	Dwarf Tortoise Conservation
					15-04-2023	Transfer	1392	Dwarf Tortoise Conservation
					18-07-2022	Transfer	14121	Dwarf Tortoise Conservation
					09-01-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	13	Female	3	1	22-02-2022	Transfer	18225	Dwarf Tortoise Conservation
					25-05-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	14	Male	4	2	22-02-2022	Transfer	18225	Dwarf Tortoise Conservation
					20-06-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	15	Male	4	2	22-02-2022	Transfer	18225	Dwarf Tortoise Conservation
					14-08-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	18	Male	4	2	17-04-2023	Transfer	18225	Dwarf Tortoise Conservation
					08-02-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	19	Male	4	2	17-04-2023	Transfer	18225	Dwarf Tortoise Conservation
					15-04-2023	Transfer	1392	Dwarf Tortoise Conservation
					18-07-2022	Transfer	14121	Dwarf Tortoise Conservation
					30-04-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	20	Female	3	1	26-06-2024	Transfer	18225	Dwarf Tortoise Conservation
					22-07-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	21	Female	3	1	17-04-2023	Transfer	18225	Dwarf Tortoise Conservation
					19-08-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	22	Male	3	1	17-04-2023	Transfer	18225	Dwarf Tortoise Conservation
					31-12-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	23	Female	4	2	26-06-2024	Transfer	18225	Dwarf Tortoise Conservation
					03-07-2023	Hatch - birth	1392	Dwarf Tortoise Conservation
Munich Zoo	25	Unknown	4	2	07-07-2025	Transfer	18582	Dwarf Tortoise Conservation
					05-01-2024	Hatch - birth	1392	Dwarf Tortoise Conservation
	29	Unknown	4	2	07-07-2025	Transfer	18582	Dwarf Tortoise Conservation
					19-06-2024	Hatch - birth	1392	Dwarf Tortoise Conservation
	30	Unknown	4	2	07-07-2025	Transfer	18582	Dwarf Tortoise Conservation
					27-07-2024	Hatch - birth	1392	Dwarf Tortoise Conservation
	39	Unknown	33	35	07-07-2025	Transfer	18582	Dwarf Tortoise Conservation
					18-03-2025	Hatch - birth	1392	Dwarf Tortoise Conservation
Crocodile Zoo Prague	2	Male	Wild	Wild	09-09-2024	Transfer	17756	Dwarf Tortoise Conservation
					23-03-2019	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	4	Female	Wild	Wild	09-09-2024	Transfer	17756	Dwarf Tortoise Conservation
					23-03-2019	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	9	Female	4	2	05-09-2022	Transfer	17756	Dwarf Tortoise Conservation
					02-01-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	16	Female	3	1	05-09-2022	Transfer	17756	Dwarf Tortoise Conservation
					15-12-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	17	Male	3	1	05-09-2022	Transfer	17756	Dwarf Tortoise Conservation
					15-01-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	26	Female	3	1	09-09-2024	Transfer	17756	Dwarf Tortoise Conservation
					08-01-2024	Hatch - birth	1392	Dwarf Tortoise Conservation
14121	6	Female	4	2|Wild	17-07-2021	Transfer	14121	Dwarf Tortoise Conservation
					19-08-2020	Hatch - birth	1392	Dwarf Tortoise Conservation
	8	Male	3	1	17-07-2021	Transfer	14121	Dwarf Tortoise Conservation
					11-12-2020	Hatch - birth	1392	Dwarf Tortoise Conservation
	11	Female	4	2	17-07-2021	Transfer	14121	Dwarf Tortoise Conservation
					08-02-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	12	Female	3	1	17-07-2021	Transfer	14121	Dwarf Tortoise Conservation
					15-02-2021	Hatch - birth	1392	Dwarf Tortoise Conservation
	24	Unknown	4	2	27-05-2024	Transfer	14121	Dwarf Tortoise Conservation
					08-08-2023	Hatch - birth	1392	Dwarf Tortoise Conservation
	27	Unknown	3	1	27-05-2024	Transfer	14121	Dwarf Tortoise Conservation

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
					18-02-2024	Hatch - birth	1392	Dwarf Tortoise Conservation
14139	1	Male	Wild	Wild	09-09-2024	Transfer	14139	Dwarf Tortoise Conservation
					23-03-2019	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	3	Female	Wild	Wild	09-09-2024	Transfer	14139	Dwarf Tortoise Conservation
					23-03-2019	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	40	Male	3	1	06-12-2025	Hatch - birth	14139	Dwarf Tortoise Conservation
1392	31	Male	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	32	Male	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	33	Female	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	34	Female	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	36	Unknown	33	Wild	11-02-2025	Hatch - birth	1392	Dwarf Tortoise Conservation
	37	Unknown	34	Wild	25-02-2025	Hatch - birth	1392	Dwarf Tortoise Conservation

Chersobius signatus: live and available studbook population.

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
18267	123	Male	38	37	06-10-2023	Transfer	18267	Dwarf Tortoise Conservation
					13-12-2014	Transfer	14228	Dwarf Tortoise Conservation
					24-06-2012	Hatch - birth	1392	Dwarf Tortoise Conservation
	179	Female	107	14	06-10-2023	Transfer	18267	Dwarf Tortoise Conservation
					19-09-2021	Transfer	14228	Dwarf Tortoise Conservation
					15-12-2017	Hatch - birth	14133	Dwarf Tortoise Conservation
	210	Male	107	14	10-06-2022	Transfer	18267	Dwarf Tortoise Conservation
					06-06-2021	Hatch - birth	14133	Dwarf Tortoise Conservation
18169	196	Female	96	74	17-10-2021	Transfer	18169	Dwarf Tortoise Conservation
					24-04-2019	Hatch - birth	14222	Dwarf Tortoise Conservation
18476	41	Male	3	1	20-07-2025	Transfer	18476	Dwarf Tortoise Conservation
					22-01-2010	Transfer	14183	Dwarf Tortoise Conservation
					12-10-2009	Transfer	14198	Dwarf Tortoise Conservation
					19-04-2003	Transfer	1277	Dwarf Tortoise Conservation
					25-07-2002	Hatch - birth	1392	Dwarf Tortoise Conservation
	166	Female	36	35	20-07-2025	Transfer	18476	Dwarf Tortoise Conservation
					01-04-2018	Transfer	14183	Dwarf Tortoise Conservation
					07-06-2016	Hatch - birth	14121	Dwarf Tortoise Conservation
	213	Male	96	74	31-08-2023	Transfer	18476	Dwarf Tortoise Conservation
					23-06-2021	Hatch - birth	14222	Dwarf Tortoise Conservation
	221	Female	96	74	31-08-2023	Transfer	18476	Dwarf Tortoise Conservation
					02-06-2022	Hatch - birth	14222	Dwarf Tortoise Conservation
18167	145	Male	36	35	09-05-2022	Transfer	18167	Dwarf Tortoise Conservation
					10-09-2016	Transfer	14143	Dwarf Tortoise Conservation
					20-06-2015	Hatch - birth	14121	Dwarf Tortoise Conservation
	190	Female	158	153	09-09-2023	Transfer	18167	Dwarf Tortoise Conservation
					06-06-2018	Hatch - birth	14121	Dwarf Tortoise Conservation
	247	Unknown	190	145	01-07-2025	Hatch - birth	18167	Dwarf Tortoise Conservation
Munich Zoo	215	Female	118	72	~06-08-2024	Transfer	18582	Dwarf Tortoise Conservation
					10-08-2023	Transfer	18531	Dwarf Tortoise Conservation
					02-09-2021	Hatch - birth	14242	Dwarf Tortoise Conservation
18584	113	Male	38	37	12-09-2025	Transfer	18584	Dwarf Tortoise Conservation
					~01-07-2022	Transfer	14242	Dwarf Tortoise Conservation
					03-12-2011	Transfer	14197	Dwarf Tortoise Conservation
					16-06-2010	Hatch - birth	1392	Dwarf Tortoise Conservation
	194	Female	149	11	06-09-2025	Transfer	18584	Dwarf Tortoise Conservation
					25-02-2022	Transfer	14237	Dwarf Tortoise Conservation
					25-07-2019	Hatch - birth	14204	Dwarf Tortoise Conservation
	203	Female	96	74	14-09-2024	Transfer	18584	Dwarf Tortoise Conservation
					04-06-2022	Transfer	18121	Dwarf Tortoise Conservation
					16-09-2020	Hatch - birth	14222	Dwarf Tortoise Conservation
18294	106	Male	36	35	22-06-2022	Transfer	18294	Dwarf Tortoise Conservation
					09-10-2018	Transfer	14153	Dwarf Tortoise Conservation
					19-01-2016	Transfer	14218	Dwarf Tortoise Conservation
					13-03-2010	Transfer	14205	Dwarf Tortoise Conservation

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
					20-05-2009	Hatch - birth	14120	Dwarf Tortoise Conservation
	191	Female	158	153	09-09-2023	Transfer	18294	Dwarf Tortoise Conservation
					21-08-2018	Hatch - birth	14121	Dwarf Tortoise Conservation
18270	216	Male	170	71	01-05-2024	Transfer	18270	Dwarf Tortoise Conservation
					10-09-2023	Transfer	14201	Dwarf Tortoise Conservation
					~21-06-2022	Hatch - birth	14216	Dwarf Tortoise Conservation
18245	74	Male	3	1	09-09-2023	Transfer	18245	Dwarf Tortoise Conservation
					12-03-2016	Transfer	14222	Dwarf Tortoise Conservation
					24-03-2007	Transfer	1276	Dwarf Tortoise Conservation
					31-07-2005	Hatch - birth	14170	Dwarf Tortoise Conservation
	96	Female	36	35	09-09-2023	Transfer	18245	Dwarf Tortoise Conservation
					12-03-2016	Transfer	14222	Dwarf Tortoise Conservation
					12-09-2009	Transfer	1276	Dwarf Tortoise Conservation
					10-05-2009	Transfer	14202	Dwarf Tortoise Conservation
					13-04-2008	Transfer	14190	Dwarf Tortoise Conservation
					30-07-2007	Hatch - birth	14120	Dwarf Tortoise Conservation
	207	Female	107	14	17-04-2022	Transfer	18245	Dwarf Tortoise Conservation
					13-05-2021	Hatch - birth	14133	Dwarf Tortoise Conservation
	231	Unknown	96	74	21-08-2024	Hatch - birth	18245	Dwarf Tortoise Conservation
	235	Unknown	96	74	18-09-2024	Hatch - birth	18245	Dwarf Tortoise Conservation
	243	Unknown	96	74	12-10-2024	Hatch - birth	18245	Dwarf Tortoise Conservation
Amsterdam Zoo	11	Male	3	1	25-02-2022	Transfer	14237	Dwarf Tortoise Conservation
					23-10-2016	Transfer	14204	Dwarf Tortoise Conservation
					14-03-2015	Transfer	14221	Dwarf Tortoise Conservation
					16-09-2000	Transfer	14161	Dwarf Tortoise Conservation
					05-07-2000	Transfer	14120	Dwarf Tortoise Conservation
					22-11-1998	Transfer	14119	Dwarf Tortoise Conservation
					10-11-1997	Hatch - birth	1392	Dwarf Tortoise Conservation
	79	Female	38	37	03-02-2022	Transfer	14237	Dwarf Tortoise Conservation
					17-05-2016	Transfer	14217	Dwarf Tortoise Conservation
					05-11-2009	Transfer	14195	Dwarf Tortoise Conservation
					09-08-2006	Hatch - birth	1392	Dwarf Tortoise Conservation
14159	71	Male	7	44	14-09-2024	Transfer	14159	Dwarf Tortoise Conservation
					09-09-2023	Transfer	18121	Dwarf Tortoise Conservation
					10-03-2012	Transfer	14216	Dwarf Tortoise Conservation
					22-01-2012	Transfer	14121	Dwarf Tortoise Conservation
					06-05-2008	Transfer	14196	Dwarf Tortoise Conservation
					25-06-2005	Hatch - birth	14121	Dwarf Tortoise Conservation
	142	Female	38	37	14-09-2024	Transfer	14159	Dwarf Tortoise Conservation
					09-09-2023	Transfer	18121	Dwarf Tortoise Conservation
					19-01-2018	Transfer	14203	Dwarf Tortoise Conservation
					15-05-2015	Hatch - birth	1392	Dwarf Tortoise Conservation
	212	Female	107	14	10-06-2022	Transfer	14159	Dwarf Tortoise Conservation
					17-07-2021	Hatch - birth	14133	Dwarf Tortoise Conservation
Crocodile Zoo Prague	132	Male	36	35	13-03-2023	Transfer	17756	Dwarf Tortoise Conservation
					11-04-2015	Transfer	1103	Dwarf Tortoise Conservation
					~23-10-2013	Hatch - birth	14121	Dwarf Tortoise Conservation
14116	168	Female	36	35	20-04-2018	Transfer	14116	Dwarf Tortoise Conservation
					18-09-2016	Hatch - birth	14121	Dwarf Tortoise Conservation
	186	Female	107	14	14-09-2024	Transfer	14116	Dwarf Tortoise Conservation
					12-08-2018	Hatch - birth	14133	Dwarf Tortoise Conservation
	209	Male	107	14	14-09-2024	Transfer	14116	Dwarf Tortoise Conservation
					02-07-2021	Hatch - birth	14133	Dwarf Tortoise Conservation
	217	Unknown	168	115	16-05-2022	Hatch - birth	14116	Dwarf Tortoise Conservation
	227	Unknown	168	115	07-08-2023	Hatch - birth	14116	Dwarf Tortoise Conservation
	230	Unknown	168	115	26-06-2024	Hatch - birth	14116	Dwarf Tortoise Conservation
14219	218	Male	110	99	09-03-2025	Transfer	14219	Dwarf Tortoise Conservation
					22-05-2022	Hatch - birth	14134	Dwarf Tortoise Conservation
	224	Male	110	99	09-03-2025	Transfer	14219	Dwarf Tortoise Conservation
					07-11-2022	Hatch - birth	14134	Dwarf Tortoise Conservation
14214	9	Female	2	1	06-09-2020	Transfer	14214	Dwarf Tortoise Conservation
					15-05-2014	Transfer	14206	Dwarf Tortoise Conservation
					30-11-1996	Hatch - birth	1392	Dwarf Tortoise Conservation
	100	Male	38	37	06-09-2020	Transfer	14214	Dwarf Tortoise Conservation
					05-06-2010	Transfer	14206	Dwarf Tortoise Conservation
					24-06-2008	Hatch - birth	1392	Dwarf Tortoise Conservation
14121	178	Female	158	153	11-11-2017	Hatch - birth	14121	Dwarf Tortoise Conservation
	220	Male	156	150	11-06-2023	Transfer	14121	Dwarf Tortoise Conservation

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
					05-06-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
14134	99	Male	38	37	14-09-2019	Transfer	14134	Dwarf Tortoise Conservation
					05-06-2010	Transfer	14206	Dwarf Tortoise Conservation
					21-05-2008	Hatch - birth	1392	Dwarf Tortoise Conservation
	110	Female	7	44	03-05-2015	Transfer	14134	Dwarf Tortoise Conservation
					22-02-2012	Transfer	14219	Dwarf Tortoise Conservation
					22-01-2012	Transfer	14121	Dwarf Tortoise Conservation
					10-11-2011	Transfer	14196	Dwarf Tortoise Conservation
					23-03-2010	Hatch - birth	14121	Dwarf Tortoise Conservation
	214	Female	110	99	01-09-2021	Hatch - birth	14134	Dwarf Tortoise Conservation
	228	Unknown	110	99	20-07-2023	Hatch - birth	14134	Dwarf Tortoise Conservation
14217	198	Male	79	10	21-04-2019	Hatch - birth	14217	Dwarf Tortoise Conservation
	202	Male	79	10	13-06-2020	Hatch - birth	14217	Dwarf Tortoise Conservation
14125	94	Male	7	44	08-03-2014	Transfer	14125	Dwarf Tortoise Conservation
					18-03-2013	Transfer	14229	Dwarf Tortoise Conservation
					10-03-2012	Transfer	14220	Dwarf Tortoise Conservation
					27-08-2007	Hatch - birth	14121	Dwarf Tortoise Conservation
	177	Female	158	153	14-12-2019	Transfer	14125	Dwarf Tortoise Conservation
					18-08-2017	Hatch - birth	14121	Dwarf Tortoise Conservation
	182	Male	156	151	14-12-2019	Transfer	14125	Dwarf Tortoise Conservation
					12-04-2018	Hatch - birth	1276	Dwarf Tortoise Conservation
14201	77	Female	7	44	08-03-2022	Transfer	14201	Dwarf Tortoise Conservation
					02-05-2014	Transfer	14237	Dwarf Tortoise Conservation
					14-08-2010	Transfer	14201	Dwarf Tortoise Conservation
					13-07-2006	Hatch - birth	14121	Dwarf Tortoise Conservation
14231	88	Male	60	25	11-03-2017	Transfer	14231	Dwarf Tortoise Conservation
					17-03-2014	Transfer	14201	Dwarf Tortoise Conservation
					24-11-2011	Transfer	14180	Dwarf Tortoise Conservation
					30-08-2010	Transfer	14207	Dwarf Tortoise Conservation
					~15-11-2005	Hatch - birth	14178	Dwarf Tortoise Conservation
	226	Unknown	139	88	22-03-2022	Hatch - birth	14231	Dwarf Tortoise Conservation
14154	148	Male	36	35	03-04-2018	Transfer	14154	Dwarf Tortoise Conservation
					16-09-2015	Hatch - birth	14121	Dwarf Tortoise Conservation
	171	Female	42	73	14-09-2019	Transfer	14154	Dwarf Tortoise Conservation
					01-08-2017	Hatch - birth	14139	Dwarf Tortoise Conservation
14222	150	Male	Wild	Wild	14-12-2024	Transfer	14222	Dwarf Tortoise Conservation
					30-03-2018	Transfer	1392	Dwarf Tortoise Conservation
					23-09-2015	Transfer	14195	Dwarf Tortoise Conservation
					22-09-2015	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	170	Female	158	153	09-09-2023	Transfer	14222	Dwarf Tortoise Conservation
					08-09-2019	Transfer	14216	Dwarf Tortoise Conservation
					21-09-2016	Hatch - birth	14121	Dwarf Tortoise Conservation
	222	Male	156	150	09-09-2023	Transfer	14222	Dwarf Tortoise Conservation
					17-07-2022	Hatch - birth	1392	Dwarf Tortoise Conservation
	223	Unknown	96	74	03-11-2022	Hatch - birth	14222	Dwarf Tortoise Conservation
	240	Female	Wild	Wild	14-12-2024	Transfer	14222	Dwarf Tortoise Conservation
					22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
14139	125	Male	96	74	31-01-2016	Transfer	14139	Dwarf Tortoise Conservation
					25-08-2015	Transfer	1276	Dwarf Tortoise Conservation
					01-03-2013	Transfer	1199	Dwarf Tortoise Conservation
					07-07-2012	Hatch - birth	1276	Dwarf Tortoise Conservation
	169	Female	36	35	30-10-2021	Transfer	14139	Dwarf Tortoise Conservation
					~27-04-2018	Transfer	14121	Dwarf Tortoise Conservation
					20-04-2018	Transfer	14152	Dwarf Tortoise Conservation
					07-09-2016	Hatch - birth	14121	Dwarf Tortoise Conservation
	188	Male	42	73	16-10-2018	Hatch - birth	14139	Dwarf Tortoise Conservation
	234	Unknown	169	188	10-09-2024	Hatch - birth	14139	Dwarf Tortoise Conservation
	238	Female	Wild	Wild	22-10-2024	Transfer	14139	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	241	Female	Wild	Wild	22-10-2024	Transfer	14139	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	248	Unknown	169	188	04-07-2025	Hatch - birth	14139	Dwarf Tortoise Conservation
Plzen Zoo	136	Female	9	37	27-09-2016	Transfer	14238	Dwarf Tortoise Conservation
					02-09-2014	Hatch - birth	1392	Dwarf Tortoise Conservation
	137	Male	36	35	25-12-2020	Transfer	14238	Dwarf Tortoise Conservation
					08-04-2016	Transfer	1268	Dwarf Tortoise Conservation

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
					21-06-2014	Hatch - birth	14121	Dwarf Tortoise Conservation
	219	Female	136	137	03-05-2022	Hatch - birth	14238	Dwarf Tortoise Conservation
	225	Male	136	137	02-06-2022	Hatch - birth	14238	Dwarf Tortoise Conservation
	229	Male	136	137	14-09-2023	Hatch - birth	14238	Dwarf Tortoise Conservation
	232	Unknown	136	137	06-07-2024	Hatch - birth	14238	Dwarf Tortoise Conservation
	242	Female	136	137	23-08-2024	Hatch - birth	14238	Dwarf Tortoise Conservation
14133	107	Female	36	35	11-03-2017	Transfer	14133	Dwarf Tortoise Conservation
					12-03-2016	Transfer	14231	Dwarf Tortoise Conservation
					08-03-2014	Transfer	14197	Dwarf Tortoise Conservation
					13-03-2010	Transfer	14205	Dwarf Tortoise Conservation
					21-07-2009	Hatch - birth	14120	Dwarf Tortoise Conservation
	152	Male	Wild	Wild	14-09-2024	Transfer	14133	Dwarf Tortoise Conservation
					23-09-2015	Transfer	14197	Dwarf Tortoise Conservation
					22-09-2015	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	157	Female	Wild	Wild	14-09-2024	Transfer	14133	Dwarf Tortoise Conservation
					23-09-2015	Transfer	14197	Dwarf Tortoise Conservation
					22-09-2015	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	246	Unknown	157	152	19-07-2025	Hatch - birth	14133	Dwarf Tortoise Conservation
1776	35	Male	Wild	Wild	28-03-2025	Transfer	1776	Dwarf Tortoise Conservation
					25-07-2021	Transfer	14217	Dwarf Tortoise Conservation
					16-07-2016	Transfer	14191	Dwarf Tortoise Conservation
					26-10-2012	Transfer	14121	Dwarf Tortoise Conservation
					16-12-2001	Transfer	14120	Dwarf Tortoise Conservation
					06-10-2001	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	147	Male	36	35	10-09-2016	Transfer	1776	Dwarf Tortoise Conservation
					28-08-2015	Hatch - birth	14121	Dwarf Tortoise Conservation
	181	Female	79	10	28-03-2025	Transfer	1776	Dwarf Tortoise Conservation
					01-05-2018	Hatch - birth	14217	Dwarf Tortoise Conservation
	189	Male	79	10	28-03-2025	Transfer	1776	Dwarf Tortoise Conservation
					28-10-2018	Hatch - birth	14217	Dwarf Tortoise Conservation
	200	Female	9	100	12-09-2020	Transfer	1776	Dwarf Tortoise Conservation
					01-08-2020	Hatch - birth	14206	Dwarf Tortoise Conservation
14197	172	Female	157	152	01-08-2017	Hatch - birth	14197	Dwarf Tortoise Conservation
	201	Male	157	152	31-08-2020	Hatch - birth	14197	Dwarf Tortoise Conservation
1392	236	Male	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	237	Female	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	239	Female	Wild	Wild	22-10-2024	Transfer	1392	Dwarf Tortoise Conservation
					~01-01-1900	Hatch - birth	1417	Wild
	245	Unknown	240	Wild	03-03-2025	Hatch - birth	1392	Dwarf Tortoise Conservation
Wroclaw Zoo	163	Female	96	74	30-06-2022	Transfer	14241	Dwarf Tortoise Conservation
					10-08-2016	Hatch - birth	14222	Dwarf Tortoise Conservation
	174	Female	36	35	14-07-2022	Transfer	14241	Dwarf Tortoise Conservation
					31-08-2017	Hatch - birth	14191	Dwarf Tortoise Conservation
Wuppertal Zoo	72	Male	9|38	13|37	03-09-2018	Transfer	14242	Dwarf Tortoise Conservation
					17-10-2009	Transfer	14203	Dwarf Tortoise Conservation
					24-07-2005	Hatch - birth	1392	Dwarf Tortoise Conservation

Homopus areolatus: live and available studbook population.

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
18267	239	Male	128	234	10-06-2023	Transfer	18267	18267
					09-06-2023	Transfer	1368	1368
					24-06-2018	Transfer	14145	14145
					16-03-2018	Hatch - birth	14236	14236
17255	242	Male	59|60	58	14-12-2019	Transfer	17255	17255
					12-12-2019	Transfer	14236	14236
					27-01-2018	Hatch - birth	14187	14187
	243	Male	59|60	58	14-12-2019	Transfer	17255	17255
					12-12-2019	Transfer	14236	14236
					28-01-2018	Hatch - birth	14187	14187
18550	277	Male	59|60	58	06-03-2024	Transfer	18550	18550
					01-02-2019	Hatch - birth	14187	14187

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
	279	Male	59|60	58	06-03-2024	Transfer	18550	18550
					01-02-2019	Hatch - birth	14187	14187
	280	Female	59|60	58	06-03-2024	Transfer	18550	18550
					01-02-2019	Hatch - birth	14187	14187
	302	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					14-01-2021	Hatch - birth	14187	14187
	303	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					20-01-2021	Hatch - birth	14187	14187
	304	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					22-01-2021	Hatch - birth	14187	14187
	305	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					25-01-2021	Hatch - birth	14187	14187
	306	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					25-01-2021	Hatch - birth	14187	14187
	307	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					13-02-2021	Hatch - birth	14187	14187
	331	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					09-02-2022	Hatch - birth	14187	14187
	333	Unknown	59|60	58	06-03-2024	Transfer	18550	18550
					21-02-2022	Hatch - birth	14187	14187
	361	Unknown	130	132	~01-07-2025	Transfer	18550	18550
					27-03-2023	Hatch - birth	14211	14211
	362	Unknown	130	132	~01-07-2025	Transfer	18550	18550
					27-03-2023	Hatch - birth	14211	14211
18015	253	Female	129	234	07-08-2024	Transfer	18015	18015
					21-10-2018	Transfer	14155	14155
					21-08-2018	Hatch - birth	14236	14236
	254	Female	129	234	07-08-2024	Transfer	18015	18015
					21-10-2018	Transfer	14155	14155
					22-08-2018	Hatch - birth	14236	14236
	309	Male	145	174	12-06-2021	Transfer	18015	18015
					24-02-2021	Hatch - birth	14122	14122
18159	96	Male	59|60	58	12-06-2021	Transfer	18159	18159
					~13-07-2013	Transfer	14122	14122
					~01-06-2012	Transfer	14194	14187
					~18-01-2010	Hatch - birth	14187	14187
18619	371	Unknown	128	228	22-09-2024	Transfer	18619	18619
					25-05-2024	Hatch - birth	14159	14159
	373	Unknown	175	228	22-09-2024	Transfer	18619	18619
					15-06-2024	Hatch - birth	14159	14159
18167	138	Male	59|60	58	31-05-2021	Transfer	18167	18167
					19-03-2017	Transfer	14122	14122
					~01-09-2016	Transfer	14236	14187
					~27-01-2013	Hatch - birth	14187	14187
	187	Female	62	94	13-07-2025	Transfer	18167	Dwarf Tortoise Conservation
					12-09-2016	Transfer	14197	Dwarf Tortoise Conservation
					17-09-2015	Hatch - birth	14121	Dwarf Tortoise Conservation
18527	241	Male	128	234	10-06-2023	Transfer	18527	18527
					09-06-2023	Transfer	1368	1368
					09-09-2018	Transfer	14145	14145
					26-04-2018	Hatch - birth	14236	14236
18270	162	Male	59|60	58	04-10-2023	Transfer	18270	18270
					09-06-2023	Transfer	1368	1368
					09-09-2018	Transfer	14145	14145
					11-06-2018	Transfer	14236	14187
					29-01-2014	Hatch - birth	14187	14187
	322	Unknown	186|201	126	~01-07-2025	Transfer	18270	18270
					~04-06-2025	Transfer	18790	18270
					03-06-2025	Transfer	18270	18270
					29-05-2021	Hatch - birth	14121	14121
	330	Female	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
	340	Male	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
	341	Male	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
	342	Female	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
	343	Female	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
	344	Female	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
	345	Female	349	348	17-12-2022	Transfer	18270	18270
					~01-01-2017	Hatch - birth	1343	1343
18548	206	Male	59|60	58	04-03-2024	Transfer	18548	18548
					09-09-2018	Transfer	14145	14145
					11-06-2018	Transfer	14236	14187
					04-03-2016	Hatch - birth	14187	14187
14187	58	Male			09-09-1997	Transfer	14187	14187
					~01-01-1900	Hatch - birth	1417	Wild
	59	Female			09-09-1997	Transfer	14187	14187
					~01-01-1900	Hatch - birth	1417	Wild
	60	Female			25-03-1999	Transfer	14187	14187
					~01-01-1900	Hatch - birth	1417	Wild
	332	Unknown	59|60	58	21-02-2022	Hatch - birth	14187	14187
	334	Unknown	59|60	58	22-02-2022	Hatch - birth	14187	14187
	353	Unknown	59|60	58	04-02-2023	Hatch - birth	14187	14187
	354	Unknown	59|60	58	04-02-2023	Hatch - birth	14187	14187
	355	Unknown	59|60	58	05-02-2023	Hatch - birth	14187	14187
	356	Unknown	59|60	58	05-02-2023	Hatch - birth	14187	14187
	357	Unknown	59|60	58	05-02-2023	Hatch - birth	14187	14187
	358	Unknown	59|60	58	06-02-2023	Hatch - birth	14187	14187
	359	Unknown	59|60	58	28-02-2023	Hatch - birth	14187	14187
	379	Unknown	59|60	58	30-01-2024	Hatch - birth	14187	14187
1268	317	Male	62	94	06-12-2020	Transfer	1268	1268
					30-07-2020	Hatch - birth	14121	14121
14159	175	Female	24	22	03-10-2020	Transfer	14159	14159
					24-09-2016	Transfer	14225	14225
					15-01-2015	Hatch - birth	14178	14178
	228	Male	62	94	13-06-2021	Transfer	14159	14159
					08-09-2018	Transfer	14122	14122
					13-07-2017	Hatch - birth	14121	14121
	269	Male	17	16	23-01-2019	Transfer	14159	14159
					~01-01-1900	Hatch - birth	14161	14161
	301	Female	300	299	03-10-2020	Transfer	14159	14159
					~16-03-2014	Transfer	14225	14225
					15-03-2014	Hatch - birth	14224	14224
	337	Female	128	228	26-02-2022	Hatch - birth	14159	14159
	365	Unknown	175	228	26-08-2023	Hatch - birth	14159	14159
	368	Unknown	175	228	02-04-2024	Hatch - birth	14159	14159
	375	Unknown	175	228	02-04-2024	Hatch - birth	14159	14159
Crocodile Zoo Prague	273	Male	128	234	11-08-2020	Transfer	17756	Crocodile Zoo Prague
					20-06-2020	Transfer	17691	17691
					31-08-2019	Transfer	14145	14145
					02-06-2019	Hatch - birth	14236	14236
	274	Male	129	234	20-08-2020	Transfer	17756	Crocodile Zoo Prague
					20-06-2020	Transfer	17691	17691
					31-08-2019	Transfer	14145	14145
					05-06-2019	Hatch - birth	14236	14236
14121	40	Male			25-02-2022	Transfer	14121	Dwarf Tortoise Conservation
					06-02-2018	Transfer	14204	Dwarf Tortoise Conservation
					18-01-2018	Transfer	14242	Dwarf Tortoise Conservation
					28-03-1991	Transfer	14242	Wuppertal Zoo
					~01-01-1900	Hatch - birth	1417	Wild
	62	Female	4	5	25-07-2014	Transfer	14121	Dwarf Tortoise Conservation
					27-03-2011	Transfer	14185	Dwarf Tortoise Conservation
					~25-11-2007	Hatch - birth	14121	Dwarf Tortoise Conservation
	186	Female	62	94	15-09-2015	Hatch - birth	14121	14121
	229	Female	62	94	15-07-2017	Hatch - birth	14121	14121
	256	Male	62	94	11-06-2018	Hatch - birth	14121	14121
	259	Male	62	94	17-08-2018	Hatch - birth	14121	Dwarf Tortoise Conservation
	262	Male	62	94	28-08-2018	Hatch - birth	14121	14121
	290	Male	62	94	06-06-2019	Hatch - birth	14121	Dwarf Tortoise Conservation
	291	Male	62	94	06-06-2019	Hatch - birth	14121	14121
	321	Unknown	62	94	14-06-2021	Hatch - birth	14121	Dwarf Tortoise Conservation
14145	171	Female	59|60	58	09-09-2018	Transfer	14145	14145

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
					11-06-2018	Transfer	14236	14187
					20-03-2015	Hatch - birth	14187	14187
	199	Female	59|60	58	09-09-2018	Transfer	14145	14145
					11-06-2018	Transfer	14236	14187
					04-02-2016	Hatch - birth	14187	14187
	202	Female	59|60	58	09-09-2018	Transfer	14145	14145
					11-06-2018	Transfer	14236	14187
					20-02-2016	Hatch - birth	14187	14187
	205	Male	59|60	58	09-09-2018	Transfer	14145	14145
					11-06-2018	Transfer	14236	14187
					03-03-2016	Hatch - birth	14187	14187
	235	Female	129	234	09-09-2017	Transfer	14145	14145
					05-09-2017	Hatch - birth	14236	14236
	248	Female	129	234	09-09-2018	Transfer	14145	14145
					26-05-2018	Hatch - birth	14236	14236
	266	Male	17	16	~01-06-2019	Transfer	14145	14145
					23-01-2019	Transfer	14159	14159
					~01-01-1900	Hatch - birth	14161	14161
	267	Male	17	16	~01-06-2019	Transfer	14145	14145
					23-01-2019	Transfer	14159	14159
					~01-01-1900	Hatch - birth	14161	14161
14122	145	Female	59|60	58	14-11-2017	Transfer	14122	14122
					~01-09-2016	Transfer	14236	14187
					~26-03-2013	Hatch - birth	14187	14187
	173	Male	24	22	24-09-2016	Transfer	14122	14122
					12-01-2014	Hatch - birth	14178	14178
	174	Male	24	22	24-09-2016	Transfer	14122	14122
					15-08-2014	Hatch - birth	14178	14178
	226	Female	62	94	08-09-2018	Transfer	14122	14122
					11-05-2017	Hatch - birth	14121	14121
14231	185	Female	62	94	12-09-2016	Transfer	14231	Dwarf Tortoise Conservation
					12-09-2015	Hatch - birth	14121	Dwarf Tortoise Conservation
	316	Male	62	94	06-12-2020	Transfer	14231	Dwarf Tortoise Conservation
					09-07-2020	Hatch - birth	14121	Dwarf Tortoise Conservation
	319	Female	62	94	06-12-2020	Transfer	14231	14231
					03-09-2020	Hatch - birth	14121	14121
14236	234	Male	64	63	~25-04-2014	Transfer	14236	14236
					~01-11-2012	Hatch - birth	14224	14224
14222	366	Unknown	128	228	03-09-2024	Transfer	14222	14222
					06-09-2023	Hatch - birth	14159	14159
	367	Unknown	128	228	03-09-2024	Transfer	14222	14222
					06-09-2023	Hatch - birth	14159	14159
14139	369	Unknown	175	228	08-09-2024	Transfer	14139	14139
					01-05-2024	Hatch - birth	14159	14159
	370	Unknown	128	228	08-09-2024	Transfer	14139	14139
					25-05-2024	Hatch - birth	14159	14159
	372	Unknown	128	228	08-09-2024	Transfer	14139	14139
					25-05-2024	Hatch - birth	14159	14159
14211	69	Male	59|60	58	19-06-2010	Transfer	14211	14211
					~21-05-2006	Transfer	14194	14187
					~22-04-2004	Hatch - birth	14187	14187
	71	Female	59|60	58	19-06-2010	Transfer	14211	14211
					~21-05-2006	Transfer	14194	14187
					~06-03-2004	Hatch - birth	14187	14187
	130	Female	62	94	05-04-2019	Transfer	14211	14211
					16-03-2012	Hatch - birth	14185	14185
	132	Male	62	94	05-04-2019	Transfer	14211	14211
					18-07-2012	Hatch - birth	14185	14185
	133	Female	62	94	05-04-2019	Transfer	14211	Dwarf Tortoise Conservation
					13-08-2012	Hatch - birth	14185	Dwarf Tortoise Conservation
	308	Male	59|60	58	27-04-2025	Transfer	14211	14211
					06-03-2024	Transfer	18550	18550
					13-01-2021	Hatch - birth	14187	14187
	335	Female	59|60	58	27-04-2025	Transfer	14211	14211
					06-03-2024	Transfer	18550	18550
					09-03-2022	Hatch - birth	14187	14187
	360	Female	130	132	15-03-2023	Hatch - birth	14211	14211
	363	Unknown	133	149	02-07-2023	Hatch - birth	14211	14211

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
	381	Unknown	130	132	23-07-2025	Hatch - birth	14211	14211
	382	Unknown	130	132	06-08-2025	Hatch - birth	14211	14211
	383	Unknown	130	132	09-08-2025	Hatch - birth	14211	14211
14213	313	Male	128	234	~01-08-2021	Transfer	14213	14213
					06-02-2021	Hatch - birth	14159	14159
	314	Female	128	234	~01-08-2021	Transfer	14213	14213
					06-02-2021	Hatch - birth	14159	14159
	338	Female	175	228	~17-12-2023	Transfer	14213	14213
					10-04-2022	Hatch - birth	14159	14159
14227	376	Unknown			01-01-1900	Hatch - birth	14227	14227
	377	Unknown			01-01-1900	Hatch - birth	14227	14227
	378	Unknown			01-01-1900	Hatch - birth	14227	14227
Turtle Conservancy	207	Female	11	10	11-04-2016	Hatch - birth	14439	Turtle Conservancy
	209	Male	11	10	15-05-2016	Hatch - birth	14439	Turtle Conservancy
	236	Male	11	10	04-04-2017	Hatch - birth	14439	Turtle Conservancy
	328	Unknown	207	209	20-08-2021	Hatch - birth	14439	Turtle Conservancy
	350	Unknown	207	209	20-08-2022	Hatch - birth	14439	Turtle Conservancy
	351	Unknown	207	209	20-08-2022	Hatch - birth	14439	Turtle Conservancy
	352	Unknown	207	209	20-08-2022	Hatch - birth	14439	Turtle Conservancy
14215	84	Male	59|60	58	02-06-2011	Transfer	14215	14215
					~07-02-2008	Hatch - birth	14187	14187
	85	Male	59|60	58	02-06-2011	Transfer	14215	14215
					~07-02-2008	Hatch - birth	14187	14187

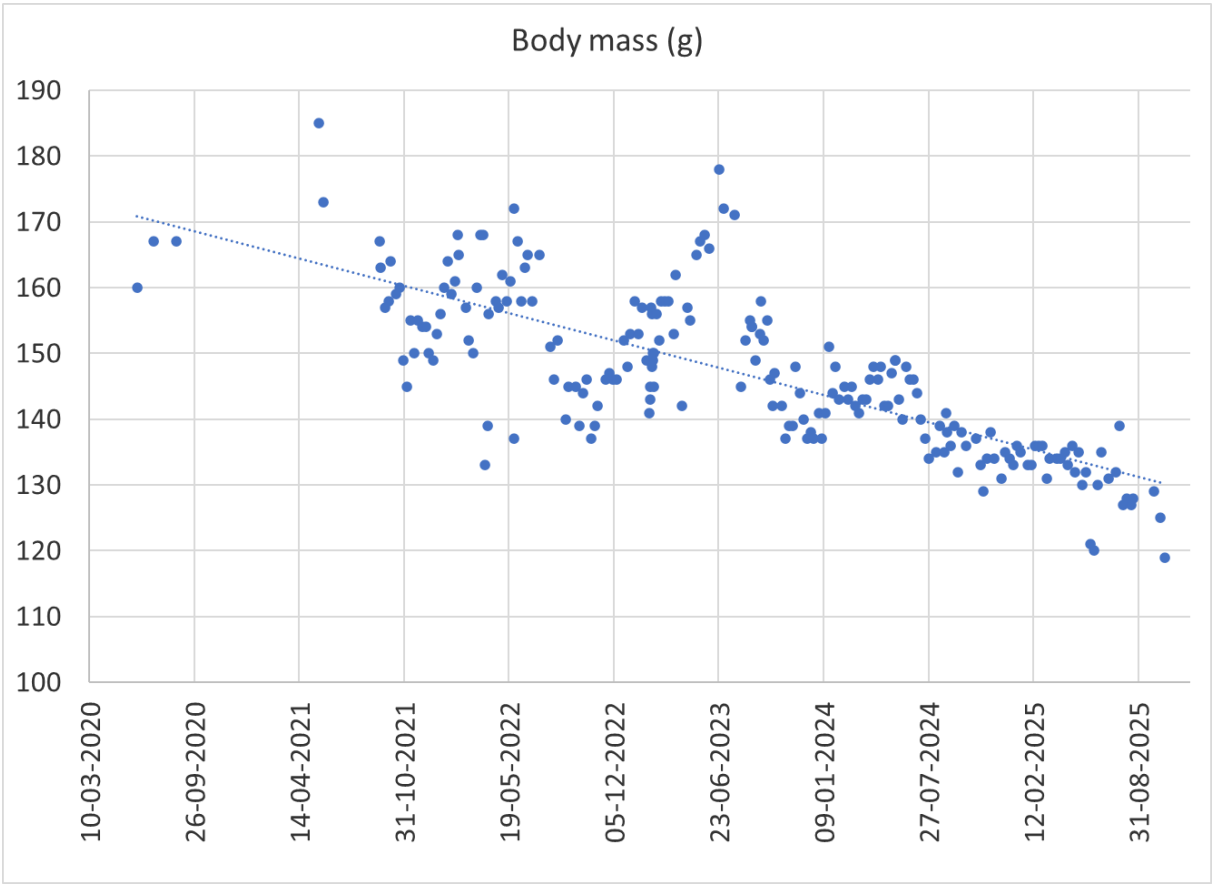
Homopus femoralis: live and available studbook population.

Participant	Studbook number	Sex	Mother	Father	Date	Event	Keeper	Owner
18167	12	Male	4	3	13-07-2025	Transfer	18167	Dwarf Tortoise Conservation
					02-08-2015	Transfer	14197	Dwarf Tortoise Conservation
					12-07-2013	Hatch - birth	1392	Dwarf Tortoise Conservation
	13	Female	4	3	13-07-2025	Transfer	18167	Dwarf Tortoise Conservation
					10-09-2016	Transfer	14197	Dwarf Tortoise Conservation
					15-06-2014	Hatch - birth	1392	Dwarf Tortoise Conservation
14131	17	Female	4	3	25-07-2019	Transfer	14131	Dwarf Tortoise Conservation
					26-06-2017	Hatch - birth	1392	Dwarf Tortoise Conservation
	18	Male	4	3	25-07-2019	Transfer	14131	Dwarf Tortoise Conservation
					08-07-2017	Hatch - birth	1392	Dwarf Tortoise Conservation
	19	Male	4	3	25-07-2019	Transfer	14131	Dwarf Tortoise Conservation
					26-06-2018	Hatch - birth	1392	Dwarf Tortoise Conservation
Crocodile Zoo Prague	22	Male	15	2	05-09-2022	Transfer	17756	Dwarf Tortoise Conservation
					01-06-2021	Hatch - birth	14121	Dwarf Tortoise Conservation
	24	Male	15	2	05-09-2022	Transfer	17756	Dwarf Tortoise Conservation
					05-07-2021	Hatch - birth	14121	Dwarf Tortoise Conservation
14116	10	Male	4	3	23-04-2022	Transfer	14116	Dwarf Tortoise Conservation
					27-06-2015	Transfer	1276	Dwarf Tortoise Conservation
					28-05-2011	Hatch - birth	1392	Dwarf Tortoise Conservation
	23	Unknown	15	2	10-09-2022	Transfer	14116	Dwarf Tortoise Conservation
					04-06-2021	Hatch - birth	14121	Dwarf Tortoise Conservation
14121	2	Male	Wild	Wild	06-07-2006	Transfer	14121	Dwarf Tortoise Conservation
					23-12-2001	Transfer	1277	Dwarf Tortoise Conservation
					~01-01-2001	Transfer	14172	Tortoise Trust
					~01-01-1900	Hatch - birth	1417	Wild
	15	Female	4	3	09-03-2019	Transfer	14121	Dwarf Tortoise Conservation
					10-09-2016	Transfer	14222	Dwarf Tortoise Conservation
					19-06-2014	Hatch - birth	1392	Dwarf Tortoise Conservation
14222	14	Female	4	3	10-09-2016	Transfer	14222	Dwarf Tortoise Conservation
					18-06-2014	Hatch - birth	1392	Dwarf Tortoise Conservation

5. SPECIFIC INFORMATION FROM STUDBOOK PARTICIPANTS

Participant 1392

During the past 5 years, *C. signatus* female number 156 gradually developed respiratory problems and lost body weight. It was evaluated by two veterinary specialists on multiple occasions, but a conclusive diagnosis could not be made. The tortoise did not produce nasal discharge, and tested negative for *Mycoplasma* and *Herpesvirus*. Untargeted treatment with enrofloxacin was ineffective. The only symptoms were slight breathing difficulties after exercise (e.g., feeding), regurgitating after copious drinking, lack of egg-production, and weight loss. Behaviour, including feeding, remained normal. In 2025, after body mass had dropped 30% compared to initial body mass, the tortoise was euthanised.



Participant 1776
I have observed several matings in one of my newly formed *C. signatus* pairs, but so far no eggs have been laid. I will put the two animals back together again in the spring.

Participant 14133
On 19 July, a *C. signatus* was born. The egg was laid on 4 April, from wild-caught parents 152 and 157. This couple had not produced any eggs since 2020, yet immediately resumed egg-laying after it had been transferred to my location on 14 September 2024.

Participant 14139

Unexpectedly, a female *C. boulengeri* started to produce a relatively large amount of foam, especially after drinking or eating, which flowed from her mouth. My veterinarian diagnosed it with fungal lung infection based on an X-ray. He is a great expert in breeding exotic birds and it is said to be a common infection in birds from very dry areas in our more humid conditions. He recommended using the antifungal drug Prokanazol. One pill contains 100 mg of itraconazole. For a female weighing 220 g, I was supposed to administer 2 g daily for at least 7, ideally 14 days. I solved the dosage by simply counting the contents of the capsule consisting of micro beads by hand. To be sure, I had the number of micro beads counted by artificial intelligence. I counted 1700 micro beads by hand, the AI counted 1669 micro beads, which confirmed the manual counting. I set the daily dose at 34 micro beads.

But how to apply the medicine without having to force the female to open her beak every day and stuff the medicine down her throat? I took advantage of the female's weakness for *Crassula* leaves. I reduced the amount of food to an absolute minimum so that she had a "healthy hunger". Every day, I applied one *Crassula* leaf, into which I added 50 micro beads (a small amount fell out during ingestion). I also stopped regularly misting the entire terrarium, which I normally did 3 times a week during regular cleaning and feeding. The air humidity in the room is relatively low, around 40%. Every time I added water to the bowl, the female drank greedily and for a long time - maybe this species is "naturally programmed" like this? So, I also limited the water supply, I now always leave the bowl empty for 2-3 days.

The female was able to tolerate one *Crassula* leaf every day for ten consecutive days without any problems. During the follow-up check-up, the vet enthusiastically told me that the treatment had worked and the fungal lesion in the right lung had been resolved. He said it would take a few more weeks for the lungs to clear up. I can confirm that after another three weeks the female did indeed stop foaming from the mouth, which she had been doing before after every drink or food she ate.

The female has apparently had these problems (probably not to this extent) since import. However, she was fully functional - she was not losing weight and was reproducing, which is why this symptom was not addressed earlier.

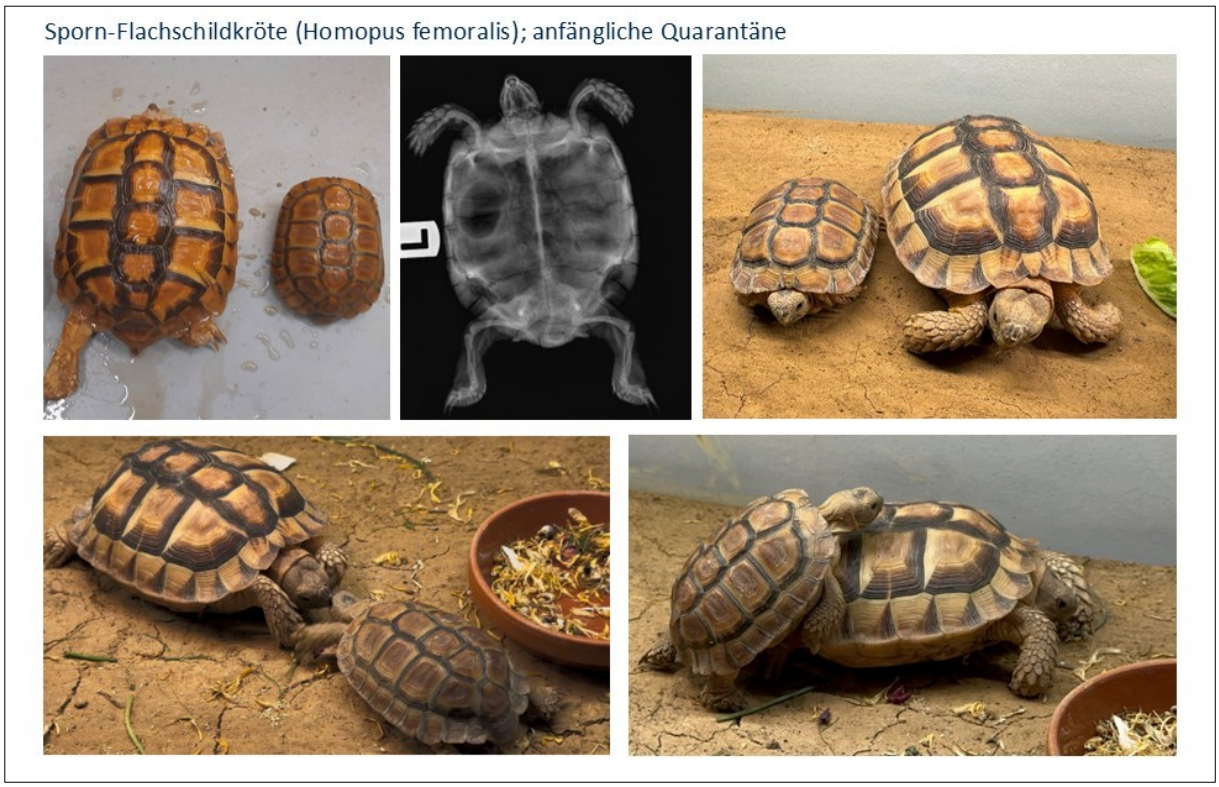
The male *C. boulengeri* was introduced to the female early in August, but the female did not allow mating. Mid-August, they were combined again, and a copulation was observed. An egg was laid in a heated retreat on 17 September and on 23 October. The first hatchling was born on 6 December.

Participant 14213
Recently, I saw my *H. areolatus* male (studbook number 313) trying to mate with the bigger female at my place (studbook number 314), which is promising for future generation. They are still too young to reproduce, but it is promising. The tortoises show a steady growth; not too slow, not too fast. They are eating well and are active even when temperatures are low. *Homopus areolatus* appears easier to keep than other dwarf tortoises. The male tends to be reddish in colour, whereas females are more rock-coloured (grey/brown/beige). The male has a prognathous/protruding jaw, but it seems harmless and the male can feed without problems.

Participant 14219
The two male *C. signatus* housed at my location are doing well.

Participant 18167
On 21 August, I visited my vet for the fourth time with a newly received *H. areolatus*. I chose to have it treated for nematodes by a vet, due to the small size, rarity and value of dwarf tortoises. A fresh faecal sample had nearly no worms left. The veterinarian was very satisfied, administered Panacur for the fourth and last time and declared the treatment successfully completed. After that, I have introduced this animal to my other *H. areolatus*. The female is still a bit shy and hides a lot, but that will certainly improve soon.

The nematode treatment of my newly acquired couple *H. femoralis* had already been successfully completed two weeks earlier and they are doing well now. In the end of August, both were inactive and rarely came out of their hideout. I'm not worried yet, but I'll continue to observe it. Soon, the couple will move from their quarantine terrarium to a final terrarium. Since the male is always very pushy, I consider keeping the two separated, at least temporarily, so that the female has more peace.



Since February 2024, my couple *C. signatus* has inhabited a new terrarium (100 x 70 x 50 cm). In the course of time I was able to observe mating, and finally I also saw egg-laying live twice. Later, I found a

third egg in the terrarium, which had presumably been laid before. I did the incubation according to the specifications from the husbandry guidelines. One egg hatched in July. I was very surprised of the size and hatchling weight. I weighed it only a few days after hatching and it weighed 16 g. The other two eggs did not hatch; one of them exploded.

Almost at the same time, I also hatched a *H. areolatus*. This hatchling was also a first offspring for me, which I was very happy about. I found it amazing how much smaller and lighter (6 g) *H. areolatus* offspring are compared to *C. signatus* offspring (16 g). When both sit next to each other, it seems as if they have an age difference of one year. The two offspring are doing well. They are quite active, they eat, and I soak them once weekly.

Participant 18267
A first *C. signatus* egg was laid in the beginning of June, but it failed to develop.

Participant 18584
In March, it was noted that soft skin at the hind limbs of a *C. signatus* female bulged outside the shell. Advice from other studbook participants reassured that the bulging was not indicative of fluid retention, but merely reflected ample reserves or reproductive mass inside the shell.

Participant Basel Zoo
Basel Zoo received the first *C. boulengeri* on 22 February 2022 with a group of three juveniles (studbook numbers 13 (born 25 May 2021), 14 (born 20 June 2021) and 15 (born 14 August 2021)).

The sizes of the animals were:
13: 53.6 mm SCL, 35 g
14: 53.1 mm SCL, 35 g
15: 46.7 mm SCL, 34 g

We kept them in a tank of 1 m^2 size according to the husbandry guidelines provided by Dwarf Tortoise Conservation. The tank was illuminated by LED strips Epistar 100 lumen/Watt for 10 (December) to 14 hours (June). Additionally three UV-MH Spots were placed between 30 and 70 cm above the tank, powered depending on the season 70, 100 or 150 Watt for 6 (December) to 8 hours (June). Ambient temperature in winter was about 18–22 °C, in summer 26–32 °C with maximum temperatures under the spots from 30 °C up to 45 °C depending on location and season. Animals were fed with chicory combined with leaves of herbs like *Taraxacum*, *Plantago*, *Trifolium* or *Vicia*. While the food was given in spring and summer freshly, we used dried leaves in winter. In the beginning, the animals were soaked once weekly.

As substrate we use mixture of loam and sand with a height of about 5–7 cm. The tanks were decorated with six crevices formed by rocks, partially interconnected. At the end of March 2023, the three animals were moved into a larger tank of 1.5 m^2. At that time it was clearly visible that studbook number 13 was a female and 14 was a male. The sex of 15 remained questionable. During summer 2023, aggression between 14 and 15 increased, with 14 being the stronger animal and also being slightly larger at 73.6 mm and 75–78 g. Therefore, 15 was taken out of the tank in summer 2023 at a size of 68.8 mm and a weight of 60–63 g. During the next weeks it became obvious he was male for sure.

While 14 showed sometimes interest but no aggression towards female 13, the first copulation could be observed on 30 August 2024. Male 14 had a SCL of 79.2 mm and a weight of 89 g; female 13 had a SCL of 87.3 mm and a weight of 154 g. In the next weeks, several matings were seen. The female increased its weight slowly but gradually to 167 g by 15 November 2024 and to 174 g on 29 November 2024. Due to construction works, the animals had to be moved to another tank of the same size, same equipment and similar decoration on 20 November 2024. When the female had to be moved, it was X-rayed and we could detect it was carrying an egg; this was the first F1 animal of this species in captivity found to be gravid. Activity of the animals decreased in the new tank. Also the light cycle was reduced to 10 hours and temperatures dropped. We could never observe any digging behaviour or restless walking in the female, nor any weight drop of 15–20 g or more during our weekly weighing. Hence we suspected the female had the egg still inside and expected egg-laying in the following spring. However the behaviour of male 14 did not change; it remained aggressive and tried to mate at every opportunity, even at short days and low temperatures, so that we separated the male at the end of January 2025. When photoperiod and temperatures increased again and spring arrived, no behavioural change in female 13 was noted; no digging behaviour and no restless walking, nor any major weight drop. Therefore we added two boxes with relatively moist soil to the enclosure; one inside a crevice and the second about two months later (early June) in the open outside area. Additionally, the crevice containing the box was heated with low hanging 100 W UV-MH spot in order to provide higher temperatures.

After consultation with Victor Loehr during his visit on 13 July 2025, we decided to X-ray the female 13 next day, and the pictures proved that it was not gravid. Following this, we thoroughly searched the whole enclosure starting with the localities along and inside one of the crevices Victor suspected to be an ideal egg deposition place, however there was no egg. Finally we found broken and dried shells of the egg in the sand/loam mixture alongside the side stone of a similar crevice in an original similar situation. However this was the crevice which we equipped with the egg deposition boxes, so it looked different than last December. Probably, during installation of the boxes, the buried egg was overlooked and must have been crushed by placing the boxes. Although disappointment of a crushed egg is large obviously, we are glad that the female was not carrying the egg as long as we thought. Also, checking our weight data, we suspect the egg must have been laid between 29 November 2024 and 6 December 2024, when weight dropped from 174 to 161 g, so losing 13 g in seven days. This gives us several learnings:

1. The female was not carrying an egg for eight months (and was never for an unusually long period).
2. The substrate is obviously ideal for the female to dig and lay an egg without us realizing it.
3. That even so after moving into a new enclosure which the female only knew for 9–16 days.

4. We had the first egg of an F1 female at the age of 3 years 6 months and 4–11 days, at the size of at least 87.3 mm straight carapace length and a weight of 174 g.
5. Weight loss of 13 g within one week can be an indicator already for an egg laying, at least in a first clutch.
6. Females can lay eggs end of November/early December with relatively low temperatures and short photoperiod of 10–11 hours only.
7. A female is able to handle egg-laying without major problems at this size, age and in our enclosures with this substrate, and the establishment of additional egg-laying boxes is absolutely unnecessary or in our case even counterproductive.
8. We have a strong argument to add mobile camera devices to record behaviour of presumably gravid females

Participant Crocodile Zoo Prague
A wild-caught female *C. boulengeri* laid a first egg, probably on 5 September in the evening. This is one month after the male had been introduced to mate. The egg was in a nest with a depth of 6 cm. Unfortunately, the egg was seriously damaged during nesting. There was a crack along the entire length of the egg. The egg measured 40 x 25 mm and weighed 16 g. The female seemed alright, at a weight of 212 g.

6. NEW PUBLICATIONS

The following overview summarises all manuscripts and articles that were submitted, accepted, published, or under review in 2025. A full list of publications authored or co-authored by Dwarf Tortoise Conservation, including download links, is available at the website.

Subject	Submitted	Accepted	Published	Journal
Karoo dwarf tortoise, *Chersobius boulengeri* (Duerden 1906), South Africa	2024	2024	2025	Turtles in trouble: the 25+ most endangered tortoises and freshwater turtles (English)
Speckled dwarf tortoise, *Chersobius signatus* (Duerden 1906), South Africa	2024	2024	2025	Turtles in trouble: the 25+ most endangered tortoises and freshwater turtles (English)
The story of the world's smallest tortoise: the speckled padloper	2025	2025	2025	Responsible Herpetoculture Journal (English)
Body condition of Karoo Dwarf Tortoises (*Chersobius boulengeri*) in response to rainfall	2025			Journal of Herpetology (English)

7. FINANCIAL REPORT

Funds were received from one organisation and three private individuals. A submitted paper on body condition in wild *C. boulengeri* (chapter 6) was not yet published in 2025, so that publication expenses were postponed and more precisely estimated. Expenses in 2025 were limited to costs for banking and web hosting, resulting in increased reserves for future expenses.

Revenues Net amount €	Item	***Expenses*** Amount €	Item
General donations		*General expenses*	
500	Donation private individual (D)		
400	Donation Crocodile Zoo Prague (CZ)		
4	Donation private individual (CZ)		
904	Subtotal	0	Subtotal
Field ecology of Chersobius boulengeri		*Field ecology of Chersobius boulengeri*	
982	Remaining funds 2024	1,300	Reservation publication costs 2026
982	Subtotal	1,300	Subtotal
Other		*Other*	
172	Donation V. Loehr (NL) to cover bank expenses	172	Annual fee bank account
		102	Annual fee web hosting
		22	Domain transfer
172	Subtotal	296	Subtotal
2,058	Total	1,596	Total

8. PERMIT OVERVIEW

The activities reported in this annual report would not have been possible without the following permits issued by the South African and Namibian authorities:

Collecting and exporting of C. boulengeri

- Collecting permit FAUNA 0952/2018 (Northern Cape Department of Environment and Nature Conservation, South Africa)
- Collecting permit FAUNA 0540/2024 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)
- CITES exporting permit 217387 (Northern Cape Department of Environment and Nature Conservation, South Africa)
- CITES exporting permit ZA-CITES-P-000018024 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)
- Health declaration 10814 (Department of Agriculture, South Africa)
- Health declaration 26631 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)

Collecting and exporting of C. signatus

- Collecting permit 331/95 (Western Cape Nature Conservation Board, South Africa)
- Collecting permit 28/2001 (Northern Cape Nature Conservation, South Africa)
- Collecting permit 053/2015 (Northern Cape Department of Environment and Nature Conservation)
- Collecting permit FAUNA 0540/2024 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)
- CITES exporting permits 16579 and 281/95C (Department of Environmental Affairs and Tourism, South Africa)
- CITES exporting permit 148487 (Northern Cape Department of Environment and Nature Conservation)
- CITES exporting permit ZA-CITES-P-000018024 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)
- Permit to move animals/animal products 2001/10/3/A (Department of Agriculture, South Africa)
- Health declarations dated 03-10-01 and 19-09-15 (Department of Agriculture, South Africa)
- Health declaration 26631 (Northern Cape Department of Agriculture, Environment Affairs, Rural Development and Land Reform, South Africa)

Collecting and exporting of H. femoralis

- Collecting permit AAA004-00010-0035 (CapeNature, South Africa)
- CITES exporting permit 58679 (Department of Environmental Affairs and Tourism, South Africa)
- Health declaration dated 17-03-06 (Department of Agriculture, South Africa)

Exporting of H. areolatus

- Exporting permit 49683 (Ministry of Environment and Tourism, Namibia)
- CITES exporting permit 8830 (Ministry of Environment and Tourism, Namibia)
- CITES exporting permit 3558 (Ministry of Environment and Tourism, South Africa)
- Health certificate 13\1\4\2\ 09/2- 1676/04 (Ministry of Agriculture, Water and Rural Development, Namibia)
- Various additional permits issued to individual studbook participants (Namibia)

Field study and surveys on C. boulengeri

- Research permits 755/05, 43/2005 and 35/2005 (Northern Cape Nature Conservation, South Africa)
- Research permits 245/2/2015, FAUNA 0950/2017, FAUNA 0180/2022 and FAUNA 0181/2022 (Northern Cape Department of Environment and Nature Conservation, South Africa)
- Research permits FLORA 0066/2017 and FLORA 0067/2017 (Northern Cape Department of Environment and Nature Conservation, South Africa)
- Plant export permission NNO 1/10/3/6/ 39738

Field studies on C. signatus

- Research permits 137/99, 84/99, 019/2001, 010/2001, 46/2003, 26/2003, 8/2003, 168/2003, 43/2003,

158/2003, 633/2003, 25/2003, 158/2004 and 633/2004 (Northern Cape Nature Conservation, South Africa)
- Research permits 428/2002 and 41/2002 (Western Cape Nature Conservation Board, South Africa)
- Research permits 152/2012, 153/2012, 460/2013 and 052/2015 (Northern Cape Department of Environment and Nature Conservation, South Africa)

Field study on H. femoralis

- Research permits AAA-004-000185-0035, AAA-004-00020-0028, AAA-004-000392-0035, and AAA-004-00027-0028 (CapeNature, South Africa)