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Authors: Schätti, Beat, Tillack, Frank, Stutz, Andrea, and Kucharzewski, Christoph

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Three new cliff racer species from the Sultanate of Oman (Reptilia: Squamata: Colubrinae) and zoogeographic traits of its herpetofauna

Beat Schätti[1,4], Frank Tillack[2], Andrea Stutz[3] & Christoph Kucharzewski[2]

[1] *Apartado postal 9, San Pedro Pochutla, Oaxaca 70900, United Mexican States.*
[2] *Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Invalidenstr. 43, D-10115 Berlin, Germany.*
[3] *Cerrada Las Palmas s/n, Puerto Ángel, Oaxaca 70902, United Mexican States.*
[4] *Corresponding author: beatschaetti@hotmail.com*

Abstract: This study investigates the distribution and geographic variation of East Arabian taxa of the *Platyceps rhodorachis* complex. *Platyceps hajarensis* sp. nov. from the Eastern Oman Mountains and their periphery deviates in morphological characters from *P. r. rhodorachis* (Jan, 1863) distributed beyond the Gulf (Iran) and *P. gallagheri* sp. nov. of the Ras Musandam area. Cliff racers from Masirah Island and central Al-Wusta (*P. masirae* sp. nov.) considerably differ vis-à-vis polymorphic *P. hajarensis* and Dhofar populations with as yet unresolved taxonomic status. Morphologically, the latter are most similar to East Yemen cliff racers. The distribution of the new Omani taxa is compared to geographic patterns observed among the regional terrestrial herpetofauna. Ranges of certain southern Arabian reptiles and the systematics of *P. variabilis* (Boulenger, 1905) are briefly reviewed.

Keywords: *Platyceps* spp. nov. - Dhofar - Hajar - Masirah - Musandam - endemism - systematics - *P. variabilis*.

INTRODUCTION

Roughly two decades ploughing through the once notorious *Platyceps karelini-rhodorachis-ventromaculatus* complex (e.g., Schätti & McCarthy, 2004; Schätti & Ineich, 2004; Schätti, 2006; Schätti & Schmitz, 2006; Schätti *et al*., 2012, 2014) disentangled and defined all involved species known in those days. Newly established taxa in the *rhodorachis* species group encompass *P. afarensis* Schätti & Ineich, 2004 from the Horn of Africa and three based on type material formerly classified explicitly under Jan's Cliff Racer (*rhodorachis* auct., e.g., Boulenger, 1893; Minton, 1966; Mertens, 1969), viz. *P. noeli* Schätti *et al*., 2014 (Nushki Mountains, Pakistan), *P. saharicus* Schätti & McCarthy, 2004 (western Sahara and north Chad to southern Jordan Rift Valley and northwest Saudi Arabia), and *P. sindhensis* Schätti *et al*., 2014 (SE Pakistan).

Platyceps rhodorachis (Jan, 1863) is a polymorphic species distributed from northeast Iraq (Kurdish mountains) north to the Aral region and south Kazakhstan, and east into the Himalayas (Ladakh, Spiti, south Zanda Xian in Tibet). Related Arabian cliff racers are currently referred to as *P.* cf. *rhodorachis* (Schätti *et al*., 2014).

After the systematic clean-up of the "*rhodorachis*" jumble from North Africa to Central Asia and the Indian-Chinese border (Guo *et al*., 2018), the present study tackles pending matters. The Arabian Peninsula is the ultimate corner of cliff racers that uphold unresolved taxonomic status. In a first step towards clarification, this contribution addresses Southeast Arabian populations of *Platyceps rhodorachis* auct.

MATERIAL AND METHODS

Ninety cliff racers from Oman and East Yemen (Al-Mahra and Hadramawt, n=12) have been examined for this project, and limited data is available for additional evaluated material and certain characters (incl. six East Yemen maxillary tooth counts from preserved heads provided by Barry Hughes, BMNH 1962.955-58 and —.960-61). These specimens are deposited in the herpetological departments of the following

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institutions: Abu Dhabi University (ADU); Academy of Natural Sciences, Philadelphia (ANSP); Natural History Museum, London (formerly British Museum [Natural History], BMNH); California Academy of Sciences, San Francisco (CAS); Museum of Comparative Zoology, Harvard University, Cambridge (MCZ); Muséum d'Histoire naturelle Genève (Geneva, MHNG); Museo e Istituto di Zoologia sistematica della Università, Torino (Turin, MZUT, now housed in the Museo Regionale di Scienze Naturali, Torino); Naturhistorisches Museum, Wien (Vienna, NMW, ex NHMW); Oman Natural History Museum, Masqat (ONHM); Museum Koenig, Leibniz-Institut zur Analyse des Biodiversitätswandels, Bonn (former Zoologisches Forschungsinstitut und Museum Alexander Koenig, ZFMK); Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung, Berlin (former Zoologisches Museum, ZMB); Zoologische Staatssammlung, München (Munich, ZSM). Further acronyms used in the text are BNHM (former Bombay Natural History Museum, Mumbai), HUJ (Zoological Museum, Hebrew University, Jerusalem), MDG (Michael Desmond Gallagher's field collection), and SQU (Sultan Qaboos University, Masqat).

Morphological terminology, measurements, and techniques are explained in Schätti *et al*. (2014). 'Bands' and 'bars' (narrower) are dorsal cross-marks distinguished by their width and mostly black colour of the former. 'Total body scales' encompass the combined number of ventrals and subcaudals. The abbreviations 'dsr' and 'msr' stand for dorsal scale rows and midbody rows, respectively. The regular (19-19-13 dsr) and four-steps (19-19-11) dorsal formulas record the number of cross-rows at the 15th ventral, midbody (50%ven), and five ventrals prior to the anal scute. The reduction pattern is expressed in terms of ventrals and as a percentage of their total number (%ven), based on the average of right and left side counts. Transverse dsr levels lie lateral or paravertebral (rarely median incl. vertebral row). A slash denotes a terminal bilateral increase in the number of dsr (19-19-11/13) or separates right from left side meristic data for head scales, longitudinal reduction positions, and tooth counts. The number of maxillary teeth and their configuration were usually ascertained only on the right side. Seven CT scanned skulls of type material (new species, BMNH 1971.1309, 1980.222, MHNG 2664.71, MCZ 156715, 156719, ZMB 10324) as well as a Dhofar cliff racer (MHNG 2664.62) allowed accurate counts on all dentigerous bones. The length of the hemipenis in situ and the insertion of the *Musculus retractor penis magnus* are indicated in absolute numbers of subcaudals and as a percentage thereof (%subc).

The chresonymies compile relevant taxonomic references and works that yield new distribution records. Specimens with their pertinent data (locality incl. coordinates, acronym, accession number) are quoted on their first mention only; for the sake of clarity, included material reviewed in the present study is listed separately at the end of the respective citation. Geodetic positions usually hail from geonames.org. Distribution ranges of Oman and UAE reptiles (Discussion incl. Notes) rely in part on the maps in Burriel-Carranza *et al*. (2019, 2022) and data in Carranza *et al*. (2021).

The terms 'Arabia' (viz. the Arabian Peninsula or 'Peninsula') and 'Southwest Arabia' are explained in Arnold (1987) and Schätti & Gasperetti (1994). 'Southeast Arabia' is the area shown in Fig. 1. 'Gulf' refers to the Arabian or Persian Gulf. 'Musandam' (Masandam, Muḥāfaẓat Musandam) denotes the montane Omani exclave (M. Governorate) wedged into the Strait of Hormuz. The 'Musandam Peninsula' as understood in the following pages encompasses Musandam Governorate and Ras al-Khaymah Emirate (UAE) north of 25°40'N (latitude of extreme south Musandam-UAE border). 'Ras Musandam' applies to the entire northern tip of the promontory beyond the narrow Maqlab isthmus centring around 26°11'30"N 56°22'E north and west of Ghazirah Bay. The 'Eastern Oman Mountains' (Hajar, incl. northeast UAE and Musandam) run southeast into lower Wadi Bani Khalid in northern South ash-Sharqiyah. Conveniently, the Hajar Range is divided into western (north), central (Ad-Dakhiliyah), and eastern sectors (e.g., Carranza *et al*., 2021). For the purpose of this study, 'South Oman' covers Masirah Island (Jazīrat Maṣīrah) and the area from Ras al-Hadd to the Yemen border, viz. the Ramlat Wahiba (W. or Sharqiyah Sands, Rimla al-Wahaybah), the Jiddat al-Harasis to inland Dhofar (Zufar, Muḥāfaẓat Ẓufār), the mesic southwestern corner beyond Ras Hasik, and the more arid inland facing escarpment of the Dhofar Mountains (Fig. 1). The 'Southern Mountains' extend from the Jabal Samhan range (Dhofar) to the Jabal Habashi (13°28'N 43°53'E) area inland of Aden (Yemen). Al-Mahra and Hadramawt Governorates form 'East Yemen'.

In an effort to standardize the text and be in accordance with prevailing practise in references (particularly older cited works), we refrain from using Arabic articles for localities, wadis, peaks or mountain ranges, peninsulas, islands, and further prominent geomorphological features, e.g., Barr Hikman, Dis Sharqiyah, Hallaniyah (Hallaniyat, Khorya Moriya islands), Jabal Akhdar, or Mukalla instead of Ad-Dis ash-Sharqiyah, Al-Jabal al-Akhdar, Al-Mukalla, etc. However, in accordance with common usage, higher-level administrative divisions (districts, governorates) and well-established major landmarks are spelled in full (e.g., Al-Qaf, Al-Wusta, Ash-Sharqiyah, Bab al-Mandab, Jiddat al-Harasis, Ras al-Hadd, Ras al-Khaymah, Rub al-Khali, Fig. 1). We respect different pronunciation and transcription for Arabic and Iranian (Farsi) geographic names (e.g., Hormuz versus Hormoz, resp.) as well as local dialects (Oman, UAE), for instance in the case of 'Bay' or 'Inlet' (Khawr vs. Khor, resp.).

Fig. 1. Region covered in this study with relevant localities and geomorphological features mentioned in the text. Stippled lines mark administrative borders of Ad-Dakhiliyah, Al-Wusta, Dhofar, and North and South ash-Sharqiyah Governorates (from Foreign Ministry of Oman website). Shaded area shows approximate extent of sand deserts. Broken line indicates western limit of Jiddat al-Harasis (from Arnold, 1987).

TAXONOMIC PART

Platyceps gallagheri sp. nov.
Gallagher's Cliff Racer

Figs 2, 6, 11-12, Table 1

Zamenis ventrimaculatus [sic] (Gray, 1834) [partim]. – Blanford, 1876: 415 ("Cape Massandim, Arabian coast, entrance to Persian Gulf") · ZMB 10324.

Zamenis Karelinii [sic] (Brandt, 1838) [partim]. – Bedriaga, 1879: 44 ("Vorgebirge Massandim am Eingang in das Persische Meerbusen", after Blanford, 1876, see Note 13).

Zamenis ventrimaculatus [sic] var. *karelini*. – Boettger, 1888: 930 ("Arabien", after Blanford, 1876).

Zamenis ladacensis Anderson, 1871 [partim]. – Boulenger, 1890: [324] 326 ("Arabia", Blanford, 1876).

Zamenis rhodorhachis [sic] Jan, 1863 [partim]. – Boulenger, 1893: [381, 383] 398 ("Arabia", Blanford, 1876).

Zamenis karelinii [sic]. – Anderson, 1896: 82, 86, 90 ("Ras Massendam", after Bedriaga, 1879).

Coluber karelinii [sic]. – Corkill & Cochrane, 1966: 483 (after Bedriaga, 1879).

Coluber karelini. – Gasperetti, 1974: 15 ("Ras Al Khaimah in 1879", see Distribution and Remarks). – Gasperetti, 1977: 5 (Ras "Massendam in 1879"). – Leviton & Aldrich, 1984: xxiii (checklist). – Gasperetti, 1988: [216] 218, 404 (literature review, see Distribution and Remarks).

Coluber r. rhodorhachis [sic] [partim]. – Gasperetti, 1988: 219, fig. 28 [map, loc. 60], 408 (Khasab) · BMNH 1980.222.

Platyceps cf. *rhodorachis*. – Schätti *et al*., 2012: 458, smallprint (literature review).

Platyceps rhodorachis [partim]. – Sindaco *et al*., 2013: 130, map 84 (plot).

Platyceps r. rhodorachis [partim]. – Gardner, 2013: 367, map (unspecified records in Ras Musandam area and vic. Khasab, see Discussion).

Platyceps rhodorachis [partim]. – Carranza *et al*., 2021: 164, map (Khasab record). – Burriel-Carranza *et al*., 2022: 14, map (see Discussion).

Type series (n=2): Holotype: BMNH 1980.222 (vic. Khasab, Musandam, 26°11'N 56°15'E, Sultanate of Oman, "c. 80 m" above sea level, ad. ♀, coll. G.P. Walker 21st April 1980, *leg.* M.D. Gallagher, MDG 5997). Paratype: ZMB 10324 ("Masandim" [register entry], viz. "Cape Massandim" [Ras Musandam, Blanford, 1876], Sultanate of Oman, ad. ♀, *leg.* W.T. Blanford, 1871, see Distribution and Remarks).

Diagnosis: Ventrals 243-245, subcaudals ≥141 (n=1, extreme tail tip possibly missing), sum ≥386 (1); a single subocular (presubocular or postsubocular absent); neck transversely patterned; 19-19-13 dsr, first transverse reduction level lateral or paravertebral; 18 maxillary teeth.

Etymology: The species name honours Michael Desmond Gallagher (1921-2014), the collector of the holotype and an unlocated Khasab specimen, for his invaluable impact on the investigation of reptiles in the Sultanate of Oman and the support he offered to this project.

Description:

Holotype (BMNH 1980.222, ♀, Fig. 2): Snout-vent length 685 mm, tail 274 mm (extreme tip missing); head 15.0 mm (interocular width 6.4 mm). Rostral 1.6 times broader (3.0 mm) than high (1.9 mm), rounded in dorsal view. Internasals smaller and distinctly shorter (1.5 mm) along midline than prefrontals (2.4 mm). Distance from posterior tip of rostral to anterior edge of bell-shaped frontal 4.1 mm (length of latter 5.1 mm, max. width 3.6 mm). Parietals 5.5 mm along median suture, posterior margin slightly inclined, right plate displaced by small scale towards midline; laterally lined by three temporals. Nasal divided, rests on 1st and anterior portion of 2nd supralabials. Nostril-eye distance 3.7 mm. Loreal much longer than high, above posterior upper edge of 2nd and entire 3rd supralabials, distant from subocular. Preocular contacts frontal. Subocular curved in front (straight upper margin), above small 4th supralabial, contacts upper ends of 3rd and 5th (anterior upper half) supralabials, and distinctly smaller than loreal. Nine supralabials, 5th+6th enter eye, 6th higher than long (borders anterior lower temporal), 7th-9th enlarged. Two postoculars, upper larger, lower contacts anterior temporals. Temporals 2+3+3, two upper scales in second row rest on anterior lower temporal, which is by far the largest. Ten sublabials (6th largest), first pair meets broadly along midline; four (right side) or five in contact with anterior chin shields which are wider and shorter than posterior pair. The latter (left slender) separated by two granules in front and five rows of elongated scales behind. Three oblique gular rows between posterior inframaxillaries and first ventral. Preventral(s) absent, 245 ventrals; anal scute divided; ≥141 paired subcaudals (complete?); total body scales ≥386. Dorsal scales subequal and smooth with two apical pits, arranged in 19-19-13 transverse rows; reductions at ventrals 134/137 (55%ven) involving rows 7-8, 140 (57%, 2-4), and 165 (67%, 6+7).

Pileus grey (in alcohol) with dark pigmentation on most of snout and mottled frontal, supraoculars, and parietals. Lateral snout including anterior three supralabials dark brown. Preocular, subocular, 4th-5th supralabials, and postoculars yellowish. Sixth and following supralabials and temples (anterior temporals, scales below posterior lateral margin of parietals) with blackish marking. Nape and neck with a median series of black cross-bars and transverse lateral blotches. Median marks reduced in width over a portion of anterior trunk and partially disrupted, basically forming two rows of blotches further down. Dorsal pattern becomes indistinct posteriorly (speckled, faint lateral bars) and lacks on last sixth of trunk, which shows a brownish tinge that extends onto the tail (Fig. 2). Underside yellowish from throat to tail (brownish towards tip?) and largely unmarked except for black dots (absent on neck) along outer edges of ventrals (impinged on by dorsal colouration in midbody zone) onto posterior belly.

Eighteen maxillary teeth, two posteriormost enlarged (last offset laterad) and separated by a diastema. Palatine with 11 teeth, pterygoid 22, and mandibular 21/22 (bilateral count).

Paratype (ZMB 10324, ad. ♀): Snout-vent length 700 mm, incomplete tail 230 mm; head 15.9 mm (interocular width 5.9 mm). Configuration and shape of head scutes identical to holotype except subocular (pentagonal and larger), posterior chin shields (meet over anterior half, separated by two or three scales posteriorly), and gulars (four oblique rows to first ventral).

One preventral and 243 ventrals, 103+? paired subcaudals. Positions of first and second dsr reductions involving rows 3+4 and 8+9 (vertebral) adjacent (ventrals 139-140, 57%ven), third at ventrals 167/176 (71%, rows 6+7).

Overall greyish (in alcohol), snout above with an olive tinge. A dark transverse blotch on supraoculars and a black-edged semi-rectangular mark on anterior two thirds of parietals, coalesced along midline. Lateral head as in holotype. Anterior neck partially banded, giving way to four rows of black marks (paravertebral series usually juxtaposed) onto posterior quarter of trunk. Underside yellowish, with lateral dots (anterior neck) and irregular black borders between ventrals beyond midbody.

Eighteen maxillary teeth (last offset laterad), palatine with 10, pterygoid 25/24, and mandibular 21 teeth (bilateral count).

Distribution and Remarks: *Platyceps gallagheri* is only known on the basis of the type series from the dark limestone mountains of the Ras Musandam area including Khasab south of the Maqlab isthmus in northernmost Oman (Fig. 6).

An unlocated Khasab cliff racer (MDG 6191, see Discussion) probably belongs to this species that may inhabit satellite islands of the Musandam Peninsula (e.g., Abu Rashid, Hamra, Musandam Island, Sawda, Umm Fayyarin) including the more distant Salamah

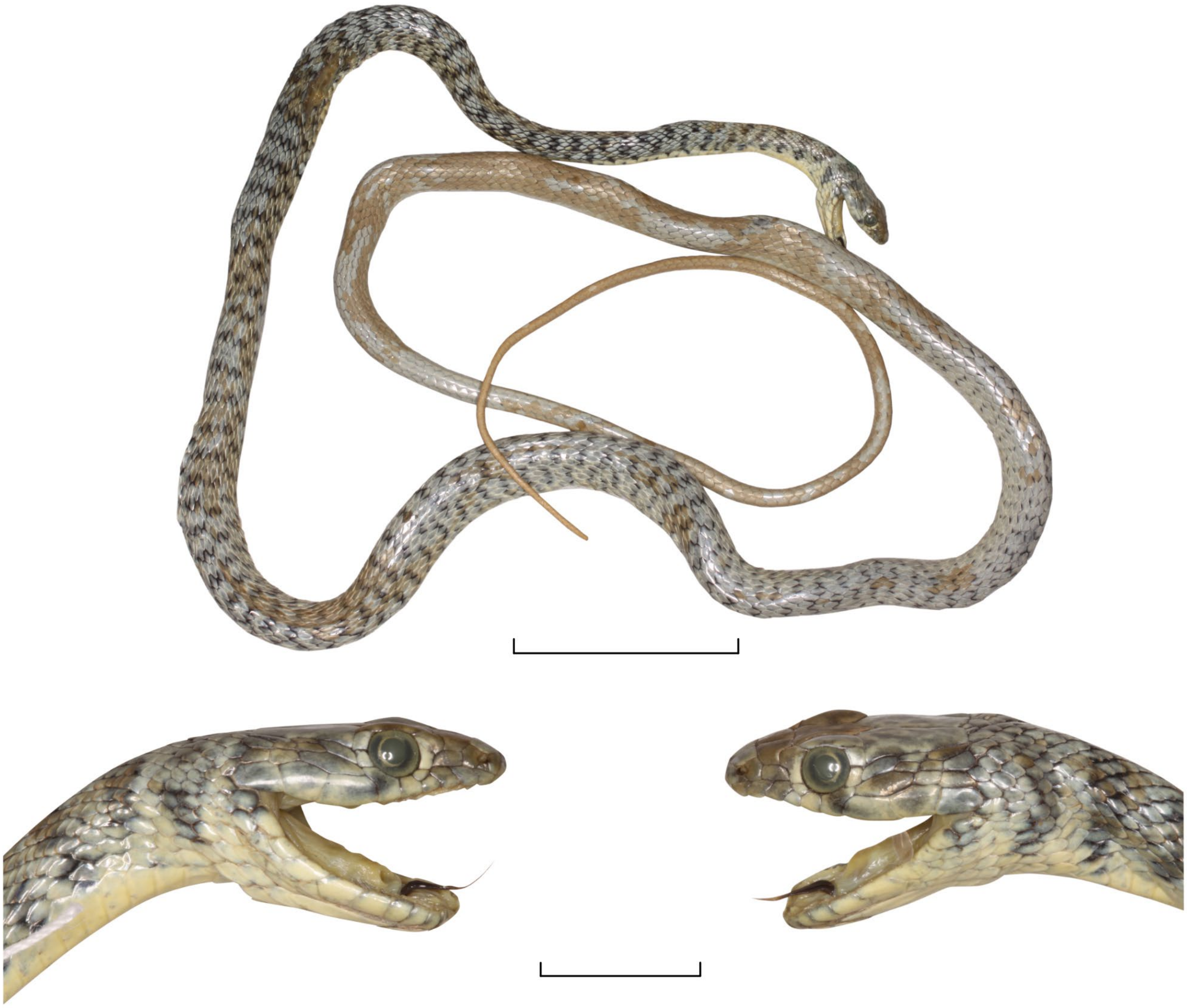

Fig. 2. Dorsal aspect and lateral head scales of *Platyceps gallagheri* sp. nov. (♀ holotype, BMNH 1980.222) from the vicinity of Khasab, Musandam Governorate, Sultanate of Oman. Scale bars equal 50 mm (entire specimen) and 10 mm (head views).

archipelago (e.g., Quoin). A "*Coluber r. rhodorhachis*" plot ("Jazira Daimaniyat", Gasperetti, 1988: fig. 28, loc. 58, BMNH 1978.780, *Platyceps hajarensis* sp. nov.) in the Ras Musandam area is misplaced (see Material section of following species).

The submission date and place (January 1872 at Cape Gwadar, Pakistan) of Blanford's (1872) report on "a recent voyage up the Persian Gulf" with a visit to "Rás Massandim" makes us believe that ZMB 10324 was gathered in 1871. The paratype may have been caught during the collector's stay at Khawr Shamm ("The inlet I visited, Khor-as-Shem" at 26°12'58"N 56°20'31"E, l.c.) in the large western Shamm Bay. Consequently, the vague origin ("Cape Massandim", Blanford, 1876) is mapped on its northern shore (Fig. 6). BMNH 1980.222 hails from "80 m" asl in the vicinity of Khasab (city centre ca. 25 m).

Gasperetti (1988) unravelled the taxonomic muddle that had beset the paratype of *Platyceps gallagheri* (see chresonymy, Note 13) but was mistaken regarding the actual collector and origin of Blanford's (1876) specimen ("Bedriaga's [sic] record […] from Musandam, no doubt refers to the Iranian side of the Strait of Hormuz"). This lapsus is probably due to Anderson's (1896: 82) single reference ("Bedriaga, 1879") for the "Ras Massendam" paratype of *P. gallagheri*, and the purported "1879" Ras al-Khaymah (UAE) origin for the same specimen (Gasperetti, 1974) is in error (see chresonymy incl. Gasperetti, 1977).

ZMB 10324 entered the Berlin collections in 1881 or 1882. The record in the 'Inventarkatalog' bears no registration date. Together with ZMB 10325 ("*Ablabes [Liophis] rappi*", Darjeeling, *leg.* W.T. Blanford), the paratype of *Platyceps gallagheri* appears amidst a bunch of specimens collected by Richard H. Beddome and purchased from Edward Gerrard & Sons in London. This suggests that ZMB 10324-25 reached their final destination via this dealer of natural history items.

Platyceps hajarensis sp. nov.
Hajar Cliff Racer

Figs 3, 4B, 5-6, 11-12, Table 1

Zamenis ventrimaculatus [sic] (Gray, 1834). – Boulenger, 1887: 408 ("Muscat" [Masqat], BMNH 1885.11.7.16-21, 1887.11.11.21, *leg.* A.S.G. Jayakar, see Notes 1 and 5 [1885.11.7.16]).

Zamenis ladacensis Anderson, 1871 [partim]. – Boulenger, 1890: [324] 326 ("Muscat", incl. BMNH 1880.11.10.154-57, *leg.* W.T. Blanford [Boulenger, 1893], see Note 1).

Zamenis rhodorhachis [sic] Jan, 1863 [partim]. – Boulenger, 1893: [381, 383] 398 ("Muscat", incl. BMNH 1891.2.9.46, *leg.* A.S.G. Jayakar, see Note 1). – Anderson, 1895: 654 ("Mascat", after Boulenger, 1893), and 1898: 254 (see Note 11). – Werner, 1929a: 64, 70 ("Arabien", after Boulenger, 1893).

Coluber [*r.*] *rhodorhachis* [sic]. – Parker, 1949 [partim]: [30] 37, figs 1 [body scale data], 2-3 [ventral data and head ratio analysis] ("Muscat", see Note 1 as to material) · incl. BMNH 1901.1.30.98, 1903.1.27.3-4 (see Discussion, Note 11).

Coluber rhoderhachis [sic]. – Gasperetti, 1974: 15, fig. 10 (map, see Note 6).

Coluber rhodorhachis [sic]. – Arnold & Gallagher, 1977: 69 (vic. Ayr, Wadi Bani Awf, Wadi Sahtan incl. Khadra [all in Oman]; UAE: "near Dayd", Wadi Shawkah, Wadi Siji [sight record]) · BMNH 1971.1308-11, 1973.736-38, 1975.970, 1977.836. – Bischoff & Schmidtler, 1981: 15, fig. 5 (Wadi Siji, UAE) · ZSM unreg. – Gasperetti, 1988 [partim]: [215, "*rhodorachis*"] 219, fig. 28 [map], Appendices II-III [pp. 406-408, 446] ("Al Khubura" [Khabura, incl. BMNH 1979.475], "Jazira Daimaniyat" [D. Island], "Hajarash Sharqi" [Sabt, Wadi Bani Khalid], "btwn. Hazam [Hazm] & Rostaq", "Muscat" [incl. BMNH 1976.1483], Ras Hamra area [incl. Qurm, BMNH 1982.265, 1985.626], "Rostaq" [Rustaq, 23°23'N 57°25'E, BMNH 1980.579], vic. Rusayl [Murtafiah, 23°34'N 58°15'E, BMNH 1985.627], Sib [23°40'N 58°11'E, BMNH 1979.474, 1983.713], Wadi Hatta [ca. 24°47'N 56°27'E, BMNH 1976.1690], Wadi Khawd, Wadi Sarin, Wadi Tayin [Sawt, incl. BMNH 1978.2054]) · BMNH 1975.968, 1977.79-80, —.834-35, —.837, 1978.344, —.778, —.780, —.2055, 1980.220, 1987.1009.

Coluber rhodorachis. – Gallagher, 1990, 1993: 13 [15], photos (Oman).

Coluber r. rhodorhachis [sic]. – Hornby, 1996: table 1 (checklist UAE).

Coluber rhodorachis. – Geissler, 1998: 181 ("südwestlich von Khor Khalba" [K. Kalba, ca. 25°01'N 56°22'E, sight record], UAE). – Leptien, 1998: 182 ("Wadis von Asimah und Uyaynah" [incl. ca. 25°28'N 56°11'E, sight records], UAE) · ZFMK 35768.

Coluber rhodorhachis [sic]. – Jongbloed, 2000: 35 [*rhodorachis*], 93, photos (Wadi "Khudayrah" [?= W. Khadrah', ca. 24°30'N 56°02'E, Al-Buraimi]; "Hayl fort" [25°05'N 56°13'E], UAE).

Coluber rhodorhachis [sic]. – Cunningham, 2000a: 23 (Wadi "Muqalit" [unlocated], Wadi Qahfi [ca. 24°47'N 56°14'E], Wadi Shuwayhah [ca. 24°45'N 56°25'E]; Wadi "Wurrayah" [Wurayah, ca. 25°25'N 56°22'E], UAE).

Coluber rhodorachis. – Van der Kooij, 2001 [partim]: 56, photo (habitat vic. Wadi Bani "Khaled"). – Cunningham, 2002a: 173 (Wadi Bih [ca. 25°46'N 56°03'E, UAE]; "Wadi Shawayah [Shuwayhah], in the Hatta border area").

Coluber rhodorhacis [sic]. – Drew *et al*., 2005: 14 (species list UAE).

Platyceps rhodorachis. – Gardner, 2005: 237, photo (UAE).

Platyceps rhodorachus [sic]. – Egan, 2007: 72, photos, col. drawings (dorsal and lateral head views, colour pattern varieties), map (Khor Fakkan, UAE).

Platyceps rhodorachis. – Tourenq *et al*., 2009: 300 ["*rhodorhacis*"], table 5 ("Wadi Wurayah region", UAE). – Gardner, 2009: 177 (Appendix I, checklist Oman and UAE).

Platyceps rhodorhachis [sic]. – Šmíd, 2010: 330, fig. 1 [map] (3 km W Asaylah [Asilah], 21°57'N 59°38'E, see Discussion).

Platyceps rhodorachis. – Kowalski *et al*., 2011: 43-44, fig. 24

(incl. “Al Ayn” [Ayr], “Ghul” [23°10’N 57°09’E]). – Grossmann *et al.*, 2012: 12, figs 11a-b (“Al-Ayn” [see Kowalski *et al.*, 2011 incl. fig. 24], “Saiq” [Sayq, 23°04’N 57°38’E]). – Sindaco *et al.*, 2013 [partim]: 130, map 84.

[*Platyceps* sp.]. – Perry, 2012: fig. 9 (“Oman”, see Note 2, Schätti *et al.*, 2014: 382).

Platyceps r. rhodorachis [partim]. – Gardner, 2013: 367, figs 289-292 (photos), map (incl. unspecified UAE records; Jabal Akhdar area [ca. 23°15’N 57°20’E], Wadi Abyad [ca. 22°56’N 57°32’E], and unspecified plot vic. Jabal Qarari, see Discussion).

Platyceps cf. *rhodorachis* [partim]. – Schätti *et al.*, 2014: 382 (interim operational term for Arabian cliff racers excl. *P. saharicus*, see Note 21).

Platyceps r. rhodorachis [partim]. – Sinaiko *et al.*, 2018: 337 (Appendix I, Wadi Bani Habib) · CAS 251164. – Burriel-Carranza *et al.*, 2019: 57, map, photo (UAE).

Platyceps rhodorachis [partim]. – Carranza *et al.*, 2021: (79) 164, map, photo (Oman). – Burriel-Carranza *et al.*, 2022: 14, map (Hajar).

Type series (n=5): Holotype: MHNG 2664.71 (ad. ♂, Fanjah, 23°27’N 58°06’E, ca. 215 m asl, Bidbid District, Ad-Dakhiliya, Sultanate of Oman, pres. M.S. Farook early 2005). Paratypes (4): OMAN: MHNG 2664.64 (subad. ♂, vicinity of Khawd, ca. 23°34’N 58°07’E, Masqat Gov., pres. SQU), —.69 (subad. ♀, Mubaylah, 23°41’N 58°08’E, Masqat Gov., pres. M.S. Farook). UNITED ARAB EMIRATES (Ash-Shariqah): BMNH 1971.1309 (ad. ♂, Wadi Shawkah, ca. 25°06’N 56°03’E), —.1310 (ad. ♀, same origin).

Additional material examined (n=38, excl. two heavily damaged specimens without pertinent scale data marked with an asterisk [*]): OMAN: ANSP 5468 (Masqat Cove, ♂); BMNH 1901.1.30.98 (“Muscat” [Masqat], ca. 23°37’N 58°36’E, ♀), 1903.1.27.3-4 (“Muscat”, ♂♀), 1973.736-37 (Wadi Bani Awf, ca. 23°15’N 57°26’E, ♂, juv. ♀), —.738 (vic. Ayr, ca. 23°13’N 57°28’E, ♀), *1975.968 (Wadi Sahtan, ca. 23°23’N 57°19’E, ?), —.970 (Khadra, W. Sahtan, 23°22’N 57°19’E, ♂), 1977.79 (Ras Hamra, 23°37’N 58°31’E, subad. ♂), —.80 (Wadi Khawd, ca. 23°32’N 58°06’E, subad. ♀), —.834 (“between Hazm and Rostaq [Rustaq], 23°31’N 57°28’E”, ♂), —.835 (Wadi Sarin, ca. 23°15’N 58°30’E, ♂, broken), —.836 (Wadi Bani Awf, ♀), —.837 (Sabt, Wadi Bani Khalid, 22°28’N 59°07’E, ♀), 1978.344 (Sawt, Wadi Tayin, 23°03’N 58°42’E, ♂), —.778 (Khabura, 23°59’N 57°06’E, ♂, MDG 5098), *—.780 (Daimaniyat Island, 23°51’N 58°05’E, ?, see *Platyceps gallagheri*: Distribution and Remarks), —.2055 (Sawt, W. Tayin, ♂, MDG 5153), 1980.220 (Khabura, juv. ♂, MDG 5944), 1987.1009 (Ras Hamra, ♀), 1994.112 (Masnaah, 23°46’N 57°38’E, ♂, ex OMNH 2177); CAS 225344-45 (vic. N “Qatana”, 23°01-05’N 57° 40-46’E, ♂♀), 251164 (Wadi Bani Habib, 2.9 km WSW Sayq, 23°04’N 57°36’E, ♂); MHNG 2664.58 (Nakhl, 23°24’N 57°50’E, juv. ♀), —.65 (vicinity of Khawd, subad. ♀, pres. SQU), —.66 (Sultan Qaboos University Campus, 23°35’N 58°10’E, ♂, pres. SQU), —.67-68 (Mubaylah, ♀, pres. M.S. Farook; 2664.67 in poor state, gender unknown); ONHM 1126 (“Capital area?”, ♀), 2828 (Wadi Tanuf, ca. 23°09’N 57°28’E, juv., only ventral data), 2834 (Murtafaat Khuwe, ca. 23°36’N 58°27’E, ♀); ZFMK 70929 (“km 106 Sur–Muscat”, 23°12’N 58°55’E, ♀). UNITED ARAB EMIRATES: BMNH 1971.1308 (“3 km from Dayd” [Dhayd], ca. 25°17’N 55°51’E, ♂), —.1311 (Wadi Shawkah, ♀); NMW 32331 (10 km SE Hatta, ca. 24°46’N 56°10’E, ♀); ZFMK 35768 (Wadi Asimah, ca. 25°24’N 56°09’E, ♀), 35769 (Wadi Siji, ca. 25°16’N 56°03’E, ♂); ZSM unregistered (“Wadi Asimah, N Masafi”, ca. 25°19’N 56°10’E, juv. ♂).

Diagnosis: Ventrals usually 226-235 (as few as at least 222 along Gulf of Oman), subcaudals 126-140, sum usually 354.5-374 (as few as 349); usually a single subocular (presubocular uncommon, postsubocular absent); barred or banded at least on neck (zipper-shaped or chequered behind), or unmarked throughout; 19-19-13 dsr (19-19-11 in some ♂♂), first transverse reduction level variable; usually 17-18 (16, rarely 19) maxillary teeth.

Comment: According to Boulenger (1893), slightly fewer ventrals (220) than ascertained in the examined material (222) occur in the “Mascat” area. Concurrently, some specimens from the Gulf of Oman inland with reportedly as much as 239 ventrals (l.c., *leg.* A.S.G. Jayakar) exceed the highest recorded data in our reviewed series (235, ♂♀, BMNH 1977.834. OMNH 2834, Fig. 11, Table 1). The indicated maximum number of total body scales (374, Fig. 12) originates from ZFMK 35769 (♂, 140 subcaudals); a subadult “Mascat” individual (l.c. letter q, 235 ventrals) with an identical high number of subcaudals and a hypothetical sum of 375 scutes requires a recount of genuine ventral scales (see Discussion, Notes 1 and 12).

Etymology: The species’ scientific name refers to its distribution centre in the Hajar Range.

Description:

Holotype (MHNG 2664.71, ad. ♂, Fig. 3): Snout-vent length 565 mm, tail 235 mm; head 13.3 mm (interocular width 5.6 mm). Rostral 1.6 times broader (2.7 mm) than high (1.7 mm), bluntly rounded in dorsal view. Internasals smaller and distinctly shorter (1.4 mm) along midline than coalesced prefrontals (2.3 mm). Distance from posterior tip of rostral to anterior edge of bell-shaped frontal 3.7 mm (length of latter 4.9 mm, max. width 3.4 mm). Parietals 5.0 mm along median suture, posterior margin oblique (concave) and distinct small notch at midline; laterally lined by three temporals. Nasal divided, rests on 1st and 2nd supralabials. Nostril-eye distance 3.2 mm. Loreal as long as high, above posterior upper edge of 2nd and entire 3rd supralabials, distant from subocular. Preocular contacts frontal. Subocular pentagonal (straight upper margin), above small 4th supralabial, contacts upper ends of 3rd and 5th (anterior upper half) supralabials, and clearly smaller than loreal. Nine supralabials, 5th+6th enter eye, 6th (higher than long, borders anterior lower temporal) to 9th enlarged. Two postoculars, upper larger, lower contacts anterior temporals. Temporals 2+3+3, anterior lower scale by far largest. Ten sublabials (6th largest), first pair meets broadly along midline; five in contact with anterior chin shields which are wider (rostral) and shorter than posterior pair. The latter meets along almost the entire length (caudal tips separated by a single scale). Four oblique gular rows between posterior inframaxillaries and first ventral.

One preventral and 229 ventrals; anal scute divided; 136 paired subcaudals; total body scales 365. Dorsals subequal and smooth with two apical pits, arranged in 19-19-13 transverse rows; reductions at ventrals 136/135 (59%ven) involving rows 7-9, 141/140 (61%, 2-4), and 168/162 (72%, 6+7).

Pileus dull greyish olive without apparent pattern apart from two smaller dark blurs along parietal suture. Colouration extends beyond occiput and over lateral snout, most of anterior three supralabials, and temples including last two supralabials. Preocular, subocular, 4th-5th and 7th supralabials, and postoculars cream to yellowish. A dark oblique subocular streak across 6th supralabial. Nape and forebody buff with dusky crossbars, foremost connected along midline to dull grey postparietal zone. Transverse pattern disrupted over a portion of neck (juxtaposed half-bars) and patchy, towards midbody (basically a median and two lateral rows of spots and faint paraventral marks), median segment with a slightly matter tinge than flanks; stramineous longitudinal lines on paraventral scales. Dorsal pattern fades on posterior trunk and colouration grades to fawn, passing into persimmon on second half of tail (Fig. 3). Underside yellow onto tail, reddish towards tip. Chin and throat unmarked. Outer edges of ventrals impinged on by dorsal colouration (slightly darkened) and with irregular black dotting anteriorly.

Eighteen maxillary teeth, two posteriormost enlarged (last distinctly offset laterad) and separated by a diastema. Palatine with 11 teeth, pterygoid 23/25, and mandibular 21/20 (bilateral counts).

Paratypes (BMNH 1971.1309 [Fig. 4B] and —.1310, MHNG 2664.64 and —.69, ♂♂♀♀): Snout-vent and tail lengths 655 + 267, 663 + 223 (tail incomplete), 401 + 169, and 445 + 186 mm, respectively. Configuration and shape of head scutes except prefrontals (paired) generally identical to holotype. Fronto-preocular contact variable. Loreal longer or much longer (BMNH 1971.1310) than high. Two secondary temporals on left side of latter specimen. Ten sublabials, four contact anterior chin shields, posterior pair separated by two (rostral) normally small to five usually elongated scales except in MHNG 2664.69 (in contact along almost entire length).

MHNG 2664.69 (♀) has 222 complete ventrals plus a half-scale prior to the anal scute. The paratype series features a single preventral, 222.5-232 ventrals (♂♂ 230-232, ♀♀ 222.5-230), 132-138 subcaudals (136-138, 132 [n=1], resp.), and a sum of 354.5-368 (368 [n=2], 354.5). Dorsals in 19-19-13 transverse rows; reductions in males between ventrals 127 and 139 (extremes, $\bar{x}$ 55-60%ven) by fusion of rows 7+8, 131-142 (57-61%, 2-4), and 146-167 (64-72%, 6+7); females reduce at ventrals 130-137 (59%ven in both) involving lateral (rows 3+4) or paravertebral levels (8+9), 133-137 (60% in both, 2-4 or 7+8), and 161-174 (73-75%, 6+7).

BMNH 1971.1310 is densely marked with black bars beyond midbody on a brownish dorsum; venter white, dusky laterally. MHNG 2664.69 is barred (incl. neck bands), pattern disrupted over portions of forebody, reduced to mid-dorsal blotches and transverse lateral bands. Chin, throat and underside of neck unmarked yellowish, ivory posteriorly, belly without pattern apart from prominent black dotting along lateral edges of all ventrals beyond midbody. MHNG 2664.64 is virtually unmarked (incl. pileus, extremely vague remains of nape band, black streaks on lateral edges of some neck scales), head and forebody grey, olive grey behind (tail buff to tan), and yellow below. BMNH 1971.1309 is grey (forebody) to brownish without apparent pattern except for scattered fine black lateral speckles on dorsals. Chin and throat ivory, neck yellow; venter “pale iridescent pink” in life (field tag), lateral edges darkened (impinged on by dorsal colouration). Iris “brown cream” (BMNH 1971.1309) or “gold” in life (—.1310, field tags data).

Seventeen to 18 maxillary teeth (n=4, incl. bilateral count), two posteriormost enlarged (last distinctly offset laterad) and separated by a usually distinct diastema (comparatively narrow in BMNH 1971.1310). Palatine with 10 teeth, pterygoid 23, and mandibular 21 (BMNH 1971.1309, bilateral count).

Variation: Pileus with only eight shields in holotype and BMNH 1973.736 (coalesced prefrontals). Posterior margin of parietals straight with a faint notch at median suture, obtusely curved (convex), or forming a concave angle (pronounced in BMNH 1903.1.27.4). Rostral rounded in dorsal view. Nasal divided. Loreal longer, or much longer, than high. Preocular single except in BMNH 1901.1.30.98 (divided on right side) and CAS 225345 (bilateral; semi-divided on left in BMNH 1977.836) and in contact with frontal or separated. Subocular smaller than loreal, or distinctly so, and normally single. ANSP 5468 (right), MHNG 2664.68 (left), and NMW 32331 with a presubocular wedged in between 3rd and 4th supralabials; a tiny scale (detached upper tip of 4th supralabial) present in BMNH 1977.835 (right). Nine supralabials (unilaterally 8 by fusion of last two in BMNH 1977.80), 5th+6th enter eye, 6th (higher than long, comparatively small in some specimens) or 7th to 9th enlarged. Two postoculars (right single in CAS 225344), upper larger. Postsubocular absent. Two anterior temporals, lower larger (or distinctly

Fig. 3. *Platyceps hajarensis* sp. nov. (♂ holotype, MHNG 2664.71) from Fanjah, Ad-Dakhiliyah, Sultanate of Oman.

so) and usually three smaller scales in second row (x̄ 2.96, n=78, bilateral counts; two on one side in three specimens incl. BMNH ♀ paratype). Rostral tip of anterior lower temporal detached (separate scale) on right side of MHNG 2664.66.

Mostly 10 sublabials (6th largest, very large in, e.g., ZFMK 35768-69), 11 in BMNH 1971.1309 (paratype); first pair meets broadly along midline; four or five border anterior chin shields which are equal or wider and shorter than posterior pair. Anterior in contact except in BMNH 1994.112 (separated by large elongated scute, posterior shields fragmented). The latter meet over some length and are barely apart behind (e.g., MHNG 2664.66), or are separated by one or two rows of usually small scales in front and three to five series posteriorly. Gulars in usually four oblique rows between posterior chin shields and first ventral.

One (two) preventral(s) and 222-235 ventrals (♂♂ 222-235, ♀♀ 222.5-235); 126-140 paired subcaudals (126-140, 126-139, resp.), sum 349-374 (349-374, 354.5-370, resp., see Comment and Discussion) [**Note 1**]. Anal scute divided. Subcaudals 2-4 and last scale before terminal spine undivided in MHNG 2664.65.

Dorsal scales subequal and smooth with two apical pits, arranged in 19-19-13 transverse rows except in three males (19-19-11 dsr) and a female (19-19-15). Both genders show variation in the sequence of the first and second transverse levels comprised of a lateral and paravertebral reduction. Irrespective of their total number, the third (15-13) is invariably paravertebral. In males with regular pattern, the anterior bilateral steps occur between ventrals 127 and 140 (extremes, x̅ 55-61%ven) and 131-143 (57-62%), respectively; last decrease usually at 147-170 (64-72%), and between ventrals 174 (left) and 178 (77%) in BMNH 1971.1308. Positions in males with four reductions are 120.5 (54%), 127 (57%), 146 (65%), and 212.5 (95%, involving rows 2-4, BMNH 1978.778), 125.5 (55%), 129 (57%), 161.5 (71%), and 214.5 (94%, rows 2+3, BMNH 1994.112) as well as 132 (19-17 and 17-15, 58%), 163.5 (72%), and 222 (96%, rows 3+4, MHNG 2664.66); the unregistered ZSM juvenile (♂) reduces to 11 dsr at 204.5 (90%, 6+7 [vertebral], anterior positions unknown). In females except MHNG 2664.58, dsr fusions occur at ventrals 130-139 (57-59%), 133-143 (59-62%), and 148-173 (64-75%). The latter (juv. ♀) has only two bilateral dorsal reductions (19-15 dsr, conservation state does not allow to determine sequence nor detail positions).

Head and trunk above and laterally greyish, stramineous, shades of brown, or olive in life. Posterior portion and tail usually monochrome buff or tan to dun. Dorsal body pattern basically composed of prominent transverse bands or bars, in particular on nape and forebody, or dorsum devoid of distinctive marking (plain or unmarked phenotypes). [**Note 2**]

Pileus, lateral snout and temples of marked individuals darker than rest of head, and adults frequently without pattern apart from a few smudges of various shape and size, mostly on parietals. Discernible marking comprises dim grey, brown or black spotting and/or filigree curlicues (incl. internasals) or a transverse interocular bar (continuous, broken up, or partial), particularly in smaller specimens. Loreal area pigmented black to various intensity. A dark band across anterior temples (often absent or irregular dorsally) and from angle of mouth to occiput. A usually oblique dark streak or a black mark below eye (vestigial and faint or tiny in, e.g., BMNH 1903.1.27.3-4, resp.). Preocular, postoculars and scales immediately below (subocular, supralabials) cream. Posterior supralabials often mostly light. “Iris yellow-reddish” in BMNH 1977.80 (field tag, see Paratypes).

Dorsum with dark grey or black cross-marks of variable width (restricted to nape in, e.g., BMNH 1903.1.27.4 and ONHM 2834) gradually fading behind and absent on posterior trunk (Fig. 3; photos in, e.g., Bischoff & Schmidtler, 1981: fig. 5; Gallagher, 1990, 1993; Gardner,

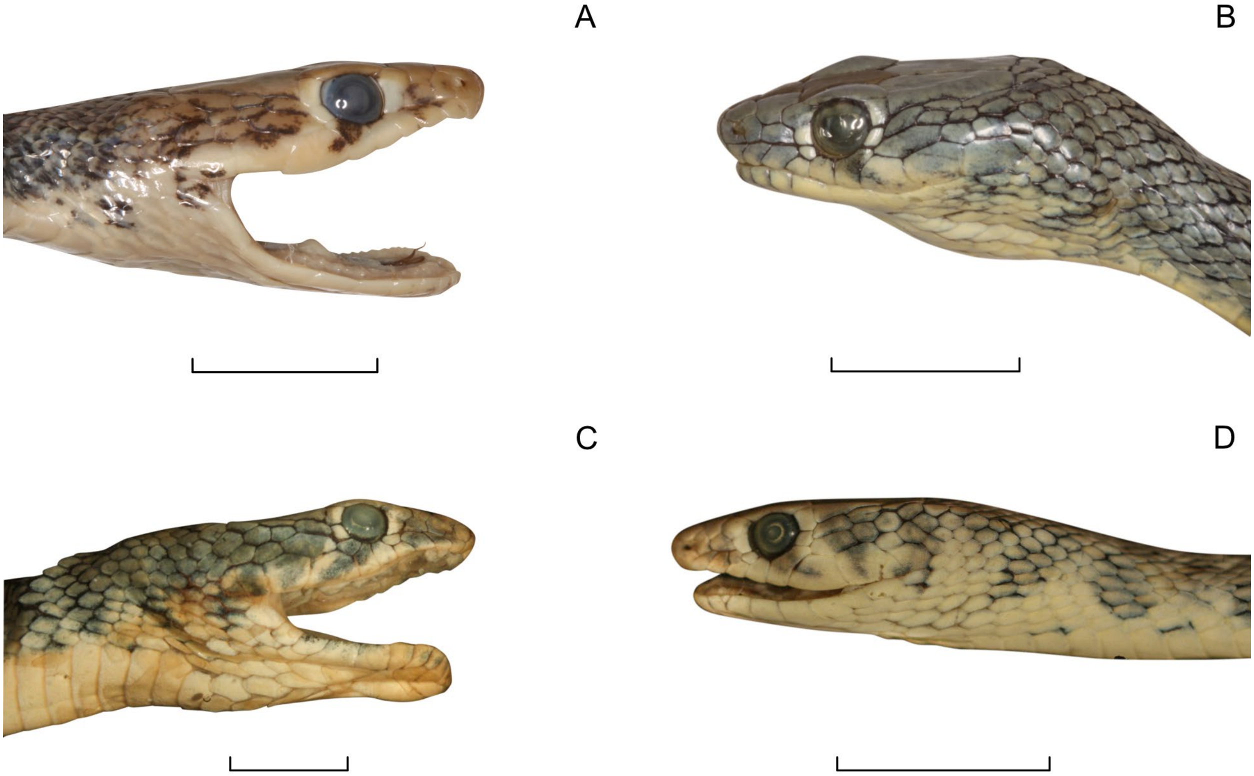

Fig. 4. Lateral head scales in *Platyceps* forma inquirenda BMNH 1980.520 (A), *P. hajarensis* sp. nov. BMNH 1971.1309 (B, ♂ paratype) and *P. masirae* sp. nov. MCZ 156715 (C, ♂ paratype) and 156719 (D, ♀ holotype). Courtesy of Stevie Kennedy-Gold and Breanna Jordan (MCZ specimens). Scale bars equal 10 mm.

2005, 2013: figs 289-292; Gebhart, 2013: fig. 41; Sindaco *et al*., 2013: figs 149-150; Carranza *et al*., 2018; Burriel-Carranza *et al*., 2019). Some specimens have a vertebral extension of the foremost nuchal band to darkened occiput. Transverse blotches behind neck may juxtapose along midline (zipper-like). Increasing fragmentation of cross-bars towards midbody usually results in chequered appearance (roundish spots or squares) and posterior speckling. Lower flanks behind portion of complete cross-marks with pronounced black bands down to edges of ventrals, a row of shorter and finer bars or spots, indistinct pattern (in particular posteriorly), or lower dorsal rows darkened (e.g., BMNH 1971.1310, paratype). Tail may show reddish hue (e.g., holotype), orange below in a UAE male (BMNH 1971.1308), or is "pale brown striped rufous" and "brown, tipped rufous" below in BMNH 1977.80 (field tag).

Underside of head and trunk ivory to yellow, or belly pinkish in BMNH 1971.1309 (paratype, see above). Venter on forebody dotted (in particular on sides), heavily mottled (e.g., BMNH 1973.736, 1978.344), or median zone without pattern throughout (e.g., BMNH 1978.778); lateral edges of ventrals often encroached upon by lower flank marks, in same tint as rest of venter, dusky anteriorly, or impinged on by dorsal colouration (darkened, e.g., BMNH 1973.738, MHNG 2664.67).

The light plain phenotype is buff to dun throughout (incl. tail) except for the creamy scales in front and behind the eye (photos in, e.g., Gallagher, 1990, 1993; Kowalski *et al.,* 2011; Carranza *et al*., 2021). Gardner (2005, 2013) or Kowalski *et al*. (2011) report "dull tan" and, respectively, light camel or tuff ("hellbeigebraun") specimens practically without dorsal pattern ("almost unmarked" and "nahezu ungezeichnet", resp.).

A paratype with poor marking (MHNG 2664.64, see above) and another two grey specimens (pileus uniform) with just fine speckling on the nape (juv., MHNG 2664.58) or narrow streaks along the outer edges of dorsals onto midbody (—.68, venter yellow, darkened laterally) hail from the same general area (Masqat area incl. hinterland) as MHNG 2664.65, a grey subadult (venter light) almost devoid of any pattern. ZFMK 70929 (roadkill) from further south along the east Oman coast is uniform grey and a black mid-dorsal line runs from midbody down the posterior trunk. BMNH 1971.1311 from Ash-Shariqah (UAE) resembles specimens from the Masqat area (absence of distinct dorsal marks, fine black lines along outer edges of scattered scales, ventrals without pattern, darkened laterally; see paratypes with identical origin). A virtually plain cliff racer ("nahezu zeichnungslos", Grossmann *et al*., 2012: figs 11a-b) from Wadi Sayq shows the characteristic light ocular area and highly intermittent fine speckles on the neck and anterior trunk. This lead-coloured phase occurs in the Jabal Akhdar region (Perry, 2012: fig. 9, see Note 2; Gardner, 2013: figs 290, 292; Gebhart, 2013: fig. 42) and elsewhere in Oman. It remains unclear to what degree the phenetic expression of both plain phenotypes is subject to ontogenesis. Unmarked specimens dwell alongside patterned cliff racers but the light morph has not been documented from the UAE so far.

Maxillary normally with 16-18 teeth (n=22), 19 in BMNH 1903.1.27.3. Anterior series subisodont, diastema usually distinct (comparatively narrow in, e.g., BMNH 1903.1.27.4 or 1971.1311); posterior two teeth usually enlarged (only slightly so or about same length as remaining series in, e.g., BMNH 1903.1.27.3-4, resp.) and last distinctly offset laterad. Palatine bears 10-11 teeth (n=4, bilateral counts), pterygoid 23-25 (4, ibid.), and mandibular 19-23 (8, incl. bilateral counts). Hemipenis subcylindrical, *sulcus spermaticus* simple, densely covered with distinct spines (min. 15 rows along groove) from base to lower border of calyculate apex (Fig. 5). The latter reaches subcaudals 7-10 (5.6%subc, n=1), insertion of *Musculus retractor penis magnus* at subcaudals 24-25 (19.8%, n=1). The ZSM juvenile shows the umbilical scar between ventrals 205 and 207.

Fig. 5. Sulcate (left) and opposite view (right) of left hemipenis of *Platyceps hajarensis* sp. nov. BMNH 1977.835. Scale bar equals 10 mm.

Longest complete males 1142 mm (845 + 297 mm, BMNH 1978.344) and ca. 1130 mm (ca. 850 + 280 mm, BMNH 1977.834); BMNH 1903.1.27.3 has a snout-vent length of ca. 930 mm, and BMNH 1973.736 880 mm (tail >260 mm). Females attain at least ca. 1160 mm (ca. 850 + 310 mm, BMNH 1903.1.27.4). Gallagher (1990, 1993) mentions a total length of "1287mm/51in" in an unspecified individual, "of which tail length 336 mm" (Gardner, 2013). Tail versus body length ratio in males usually 0.38-0.42 (0.35-0.36 in BMNH 1978.344 and 1978.778), females 0.35-0.42.

Distribution and Ecology: *Platyceps hajarensis* is recorded from Ras al-Khaymah (incl. Hatta area) and Fujayrah west to extreme south Umm al-Qaywayn and southern Ash-Shariqah (Sharjah) in the UAE,

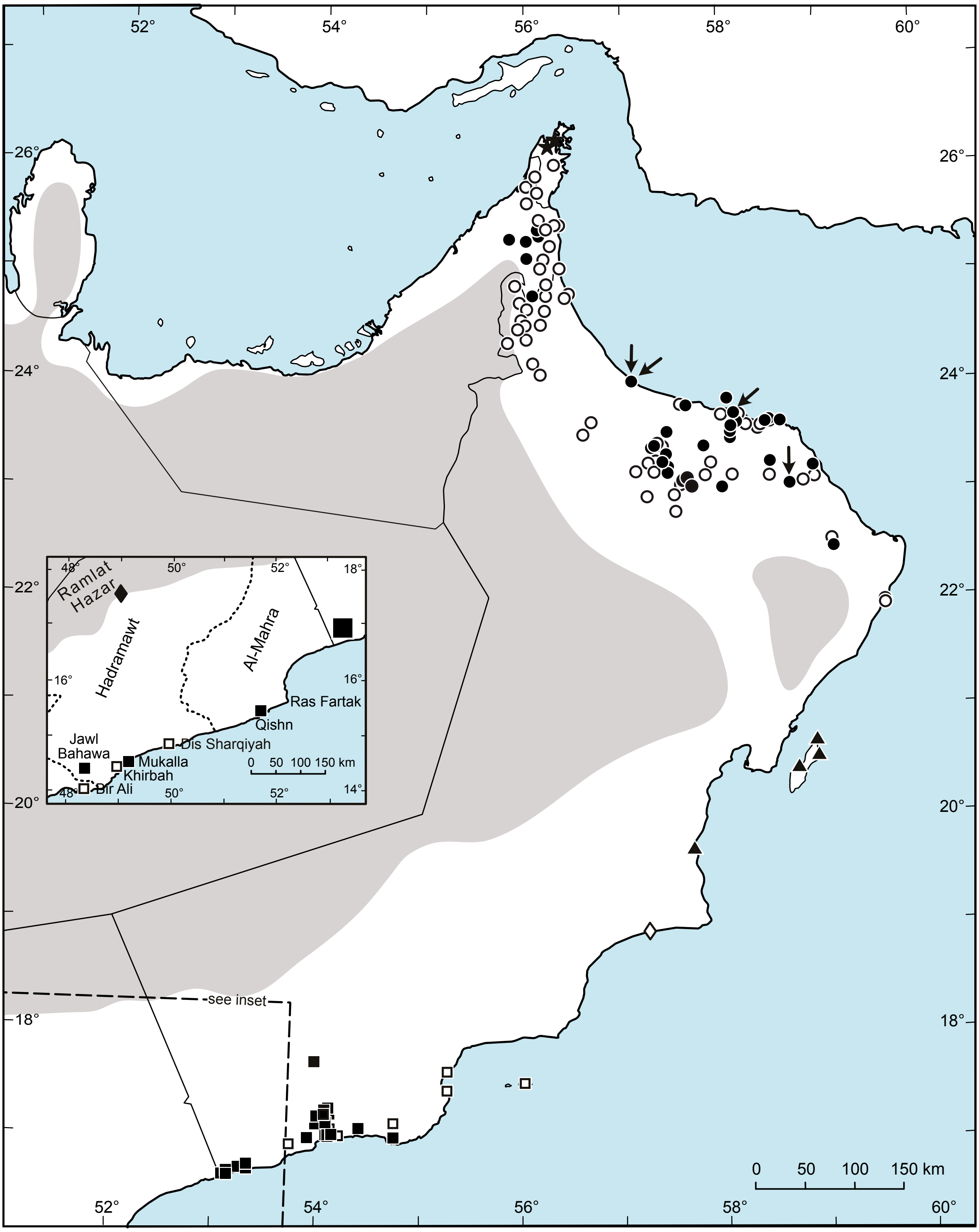

Fig. 6. Locality records of *Platyceps gallagheri* sp. nov. (stars), *P. hajarensis* sp. nov. (circles, incl. tentatively assigned Musandam Gov. and limitrophe UAE literature data, see Discussion), *P. masirae* sp. nov. (triangles), and *P.* forma inquirenda (squares). Solid (empty) symbols refer to examined material (literature and collection records). Arrows identify the origin of four *hajarensis* body scale outliers (see Discussion, Figs 11-12: Group C). Diamonds denote the tentatively referred Al-Wusta littoral report (Gardner, 2013; *masirae*, see Discussion) and the approximate location of "Hazar" in north Hadramawt (inset, viz. "Nazore Desert", BMNH 1962.968, see Note 6). The inset shows collecting sites of unassigned cliff racers in East Yemen (Al-Mahra, Hadramawt, farthest SE Shabwah), evaluated records from extreme southwest Dhofar (Jabal Qamar, see main map), and landscape features mentioned in the text. See Fig. 1 for further explanations.

possibly lives in Musandam (Oman, see Discussion), and through the Hajar and its periphery including the Batinah (see next paragraph, incl. Daimaniyat Island off Barka) and Masqat Governorate south at least to the Wadi Bani Khalid area in Ash-Sharqiyah, and likely occurs as far as the vicinity of Jabal Qarari (21°54’N 59°28’E, peak ca. 277 m asl) near the Arabian Sea (Fig. 6, see Discussion).

Apart from the no longer appropriate vernacular name ‘Jan’s Cliff Racer’ (Gardner, 2013; see also Egan, 2007), the species is usually referred to as ‘Wadi Racer’ (e.g., Hornby, 1996; Cunningham, 2000a; Drew *et al.*, 2005; Gardner, 2005; Tourenq *et al.*, 2009) or ‘Desert Racer’ (Jongbloed, 2000; Gardner, 2009). Though, *Platyceps hajarensis* is absent from truly arenicolous areas devoid of rocky terrain, viz. large portions of Ad-Dhahirah and contiguous North al-Batinah (Burriel-Carranza *et al.*, 2022: map; see Note 14), the interior of Ad-Dakhiliyah, Al-Wusta and North ash-Sharqiyah, and the Ramlat Wahiba [**Note 3**].

Platyceps hajarensis enters the Hajar foothills and foreland with drier than usually observed conditions. In the northern Jiddat al-Harasis (vic. Asilah, see Note 16), the species lives amidst scattered rocks with sparse vegetation in mostly sandy habitat sympatric with *Lytorhynchus diadema*, *Phrynocephalus arabicus, Pristurus carteri, P. minimus, P. rupestris* auct. (see Notes 15 and 18), *Psammophis schokari*, and “*Scincus* sp.” (Šmíd, 2010).

The Hajar Cliff Racer occurs from the littoral to at least 2750 m asl on the slopes of Jabal Shams (ca. 23°14’N 57°16’E, Andrew Gardner in litt.). The species is mostly diurnal or crepuscular and among the most often encountered snakes within a good part of its range (Gallagher, 1990, 1993; Gardner, 2013). In Fujayrah’s Wadi Wurayah region (UAE), *Platyceps hajarensis* and the carpet viper *Echis omanensis* are “[t]he most common species of reptiles seen during the day” (Tourenq *et al.*, 2009). [**Note 4**]

Platyceps hajarensis abounds in cultivated land and enters all kind of buildings including inhabited places (e.g., ONHM 2834) in search of shelter and food. Preferred hideouts are barns and rooftops, ready to ambush potential prey. The Hajar Cliff Racer easily climbs walls and trees in hunt for lizards and birds (e.g., Jongbloed, 2000). “BMNH 1971.1311 was carrying a *Ptyodactylus* when captured” (Arnold & Gallagher, 1977) and a “Muscat” specimen contained an only recently described gecko [**Note 5**]. Gallagher (1990, 1993) notes predation on “bats in caves, by day or at dusk.” An incidence of cannibalism occurred in captivity (Cunningham, 2000b). This is “the most frequently encountered snake” in perennial wadis (Gardner, 2013) where specimens are often seen at the edge of pools in wait for prey along “small crevices just above the water level” which serve as favourite retreats (Gardner, 2005). *Platyceps hajarensis* is an excellent swimmer “often submerging to escape attention” (Cunningham, 2000a) or chase for small fish and amphibian larvae (Arnold & Gallagher, 1977; Bischoff & Schmidtler, 1981; Gardner, 2005, 2013) and follows adult toads (Jongbloed, 2000: 35). Specific prey items include tadpoles of *Duttaphrynus arabicus* and probably *D. dhufarensis* (Cunningham, 2002a), the euryhaline cyprinodont *Aphanius dispar*, and the blind freshwater cave-dwelling *Garra barreimiae* (Cunningham, 2002b; Damien Egan in litt., upper Wadi Wurayah). An adult light plain *P. hajarensis* was observed below overhanging seaside cliffs near Ras Hamra, apparently in search of saltwater fish in shoreline pools.

Platyceps masirae sp. nov.
Masirah Cliff Racer

Figs 4C-D, 6-9, 11-12, Table 1

Coluber rhodorhachis [sic] (Jan, 1863) [partim]. – Arnold & Gallagher, 1977: 69 (“Masirah island”) · BMNH 1975.1041-42.

Coluber r. rhodorhachis [sic] [partim]. – Gasperetti, 1988: 219, fig. 28 [map], 407 (“Masirah Island” [only BMNH 1975.1042 listed], Duqm) · BMNH 1980.1041 (see Variation).

Coluber rhodorachis [partim]. – Schätti & Gasperetti, 1994: 385 (“Masirah”).

Platyceps rhodorachis [partim]. – Sindaco *et al.*, 2013: 130, map 84.

Platyceps r. rhodorachis [partim]. – Gardner, 2013: 370, map (“Masirah Island” and Duqm record).

? *Platyceps r. rhodorachis* [partim]. – Gardner, 2013: 367 (unspecified map record in southern Al-Wusta littoral, see Distribution and Remarks, Discussion, Fig. 6).

Platyceps rhodorachis [partim]. – Carranza *et al.*, 2021: 164, map (“Masirah”).

Type series (n=3): Holotype: MCZ 156719 (Masirah Island [Jazīrat Maṣīrah] Airforce Base, ca. 20°40’31’’N 58°53’25’’E, Sultanate of Oman, ca. 20 m asl, ♀, *leg.* J.P. Ross 1st February 1978). Paratypes (2, see Comment): BMNH 1975.1042 (Masirah Island, [Qaryat] “Shi’inzi”, viz. Sha’nazi, 20°33’42’’N 58°55’46’’E, near sea level, ad. ♂, *leg.* T.D. Rogers 21st March 1975); MCZ 156715 (Masirah Island, near Sur Musayrah, ca. 20°24’N 58°44’E, ad. ♂, *leg.* M.D. Gallagher 28th March 1977, MDG 5047, see Distribution and Remarks).

Additional material examined (n=3). Al-Wusta: BMNH 1980.1041 (Duqm, 19°40’N 57°41’E, nsl, subad. ♀, coll. M. Stanley-Price 26th April 1980, *leg.* M.D. Gallagher, MDG 6038, see Variation). Masirah: BMNH 1975.1041 (“RAF Camp” [Airforce Base], ca. 20 m asl, juv. ♀, *leg.* T.D. Rogers 6th August 1975); MCZ 157693 (“Masirah airport”, ca. “20°40’N, 58°50’E”, juv. ♂, *leg.* J.P. Ross 24th May 1979, see Distribution and Remarks).

Diagnosis: Ventrals 203-209, subcaudals 110 (MCZ paratype) and 115-124, sum 317 (ibid.) and 318-333; regular subocular present, presubocular (40% of bilateral counts in insular sample) and postsubocular (50%, ibid.) common; dorsum barred or with two mid-dorsal rows of marks; 19-19-13 or 19-19-11/13 (♂♂) dsr, first reduction lateral; 17-18 maxillary teeth.

Comment: The exceedingly low subcaudal count (110) in MCZ 156715 may rely on an injured but neatly healed tail tip. Besides the number of total body scales (317), hemipenis data (relative length of organ in situ and insertion of major retractor at 8.2 and 23.6%subc, resp.) and the tail versus body length ratio (0.33) are subject to some reservations. This flaw and the fact that the second examined adult male (BMNH 1975.1042) has part of the dorsum damaged urged us to select a female, and perhaps not fully mature specimen, as the holotype of *Platyceps masirae* sp. nov.

Etymology: The species' scientific name alludes to the origin of its type series, Masirah Island (Sultanate of Oman) in the Arabian Sea.

Description:

Holotype (MCZ 156719, ♀, Figs 4D and 7): Snout-vent length 440 mm, tail 159 mm; head 12.2 mm (interocular width 5.3 mm). Rostral 1.9 times broader (2.5 mm) than high (1.3 mm), rounded in dorsal view. Internasals smaller than prefrontals and half its length along midline (1.7 vs. 3.4 mm). Distance from posterior tip of rostral to anterior edge of bell-shaped frontal 2.8 mm (length of latter 4.0 mm, max. width 2.5 mm). Parietals 7.3 mm along median suture, posterior margin straight, laterally lined by three to four (right) temporals. Nasal divided, rests on 1st and 2nd supralabials. Nostril-eye distance 2.7 mm. Loreal distant from regular subocular and as long as high, above posterior edge of 2nd and entire straight upper margin of 3rd supralabials (right), bordering anterior portion of presubocular on left side. Preocular contacts frontal in a point (right) or slightly separated. Subocular pentagonal, above small 4th supralabial, contacts upper ends of 3rd and 5th (anterior upper half) supralabials (right), and clearly smaller than loreal. A left presubocular of about equal size as regular subocular wedged in between 3rd and 4th supralabials (Fig. 4D). Nine supralabials, 5th+6th enter eye, 6th (higher than long, borders anterior lower temporal) to 9th enlarged (right, last left supralabial considerably smaller). Two postoculars, upper larger, lower contacts anterior temporals. Temporals 2+2+3, lower right anterior scale largest (similar size as upper first on left). Ten or 11 (right) sublabials (6th or 7th largest, resp.), first pair meets broadly along midline; five in contact with anterior chin shields which are wider than posterior pair (length roughly equal). The latter separated anteriorly by two small scutes; four elongated scales behind. Four or five oblique gular rows between posterior inframaxillaries and first ventral.

Preventral(s) absent, 203 ventrals; anal scute divided; 115 paired subcaudals; total body scales 318. Dorsals subequal and smooth with two apical pits, arranged in 19-19-13 transverse rows; reductions at ventrals 122/121 (60%ven) involving rows 3+4, 125/127 (62%, 7+8), and 170/166 (83%, 6+7).

Pileus dull olive without any apparent pattern; a narrow lighter zone across anterior edges of parietals and posterior tip of frontal. Loreal, subocular, and mid-temporal areas dark with black borders. Preocular, regular subocular, most of supralabial row except oblique subocular streak (running onto 7th supralabial), and postoculars light (cream or yellowish). A dusky band from angles of mouth to posterior lateral margin of parietals. Dorsum onto midbody light greyish olive. Two complete bars across nape, followed by a median and lateral series of marks beyond midbody; mid-dorsal segment with disrupted pattern behind paired cross-bars, mostly in two longitudinal rows of blotches, adjacent along midline or juxtaposed; flanks transversely barred. Marking fades on posterior trunk and is reduced to irregular sporadic black speckling, in particular fine streaks along lateral edges of dorsals. Gradual change of pattern comes along with dorsal colour shading to light brown and monochrome tan on tail. Chin and throat (unmarked) as well as underside of body onto tail yellowish. Belly faintly impinged on by dorsal colouration along extreme outer margins. Small lateral dots, shrinking posteriorly, on most ventrals between neck and anal scute.

Eighteen maxillary teeth, last two enlarged (last distinctly offset laterad) and separated by a diastema. Palatine with 10 teeth, pterygoid 24/23, and mandibular 20 (bilateral count).

Paratypes (BMNH 1975.1042, MCZ 156715, ♂♂, Figs 4C and 7): Snout-vent and tail length ca. 510 + 206 mm (BMNH) and ca. 800 + 263 mm (MCZ, see Comment). Configuration, shape, and number of head scutes except for postloreal-subocular area and temples similar to holotype (Figs 4C-D). Broad fronto-preocular contact in BMNH specimen. Presubocular absent (MCZ) or present unilaterally (left side, BMNH) and smaller than regular subocular. Sixth supralabial higher than long (except on right in MCZ) and in contact with anterior lower temporal (ibid.), 6th (7th) and following supralabials enlarged. Postsubocular in BMNH (bilateral) and MCZ specimens (right, Fig. 4C), not separating 6th supralabial from eye. Three secondary temporals (2+3+3 scales), lower first largest. Ten sublabials (6th largest), four in contact with anterior chin shields which are slightly shorter and wider than posterior pair. The latter only slightly separated anteriorly by two pairs of granules; two large elongated scales between the posterior tips.

One preventral and 203-207 ventrals, 110-121 paired subcaudals, sum 317-324 (see Comment). Four dorsal reductions (19-19-11 dsr) plus terminal increase (11-13 dsr); first step at ventrals 119/117 (MCZ) and 119 (57-59%ven) involves rows 3+4, second at 123/124 (MCZ, 60%, 7+8), third 136 (MCZ) and 147 (66-72%, 6+7),

Fig. 7. *Platyceps masirae* sp. nov. MCZ 156719 (♀ holotype, above) and MCZ 156715 (♂ paratype, below). Courtesy of Stevie Kennedy-Gold and Breanna Jordan. Scale bars equal 50 mm.

and last reduction at 190 (MCZ, 92%, 2+3); 13 dsr re-established near 204/205 (MCZ, 99%; BMNH partly damaged). Dorsal colour pattern, dentition, hemipenis features, and dimensions see below.

Variation: Configuration and shape of cephalic scutes (pileus, anterior lateral snout, lower head, chin and throat) including diagnostic characters (9 supralabials, 5th+6th enter eye, usually 6th-9th largest; two anterior temporals) in examined material as in *Platyceps gallagheri* and *P. hajarensis* (divergence in subocular sector). Fronto-preocular contact variable. A unilateral presubocular in holotype (Fig. 4D) and BMNH paratype, and on both sides in BMNH 1975.1041. The latter shows a distinct (though incomplete) suture on the right 6th supralabial, and a genuine postsubocular (detached upper portion of 6th supralabial) occurs in BMNH 1975.1042 (paratype) and MCZ 157693 (bilateral in both) as well as in MCZ 156715 (paratype, right, Fig. 4C). Size of anterior temporals variable in holotype which has two scales in second row (also on right in MCZ paratype), three in rest. Ten to 11 sublabials, four or five in contact with anterior chin shields; posterior pair separated from first ventral by four or five oblique gular rows.

Preventral present or absent, 203-209 ventrals (♂♂ 203-207, ♀♀ 203-209), 110-124 paired subcaudals (110 and 120-121, 115-124, resp.), and sum 317-333 (317 and 324-327, 318-333, resp., see Comment). Anal scute divided. Dorsal scales subequal and smooth with two apical pits, arranged in 19-19-13 or 19-19-11/13 transverse rows. Anterior reductions between ventrals 117 and 127 (extremes, x̄ 57-60%ven), third 136-147 (66-72%, ♂♂) and 166-170 (83%, holotype). At least on Masirah, the first decrease is invariably lateral (rows 3+4) and the second and last regular steps are paravertebral (7+8 and 6+7, resp.) except in MCZ 157693 (vertebral; no detailed data for BMNH 1975.1041 with 19 msr). A fourth reduction (13-11 dsr) is present in both paratypes (♂♂) which re-establish 13 dsr prior to the vent (see end of this section pertaining to data for single mainland record).

Pileus uniformly greyish olive, vague darker pattern across interocular area and on parietals (usually a transverse bar and/or some dotting); colouration extending on lateral head (distinctly darker in MCZ 157693, juv.) except for creamy preocular and postocular areas (incl. suboculars and involved supralabials, Fig. 8). Body dull olive, shades into brownish tint on second half, and buff to tan on tail. Nape with a few dark cross-bars except in both male paratypes. Dorsal pattern along trunk basically identical to holotype, viz. median and lateral rows of blotches (black in juveniles, Fig. 9) including transversely barred

Fig. 8. General aspect of *Platyceps masirae* sp. nov. (Masirah Island) in life. Courtesy of Roberto Sindaco.

dorsum and flanks beyond midbody, or median crossbars extending over a good portion of midbody (e.g., MCZ paratype, Fig. 7). Distal, the pattern diminishes and dwindles to intermittent speckling resulting from black lateral edges of scales; posteriormost trunk and tail unmarked. Chin, throat, venter and tail ivory to yellow and without pattern apart from lateral dotting of ventrals extending from neck beyond midbody and gradually fading behind; marking more intense, dots larger, and lateral edges of ventrals darkened (e.g., MCZ 156715), particularly so towards midbody in BMNH 1975.1042 (both paratypes).

Maxillary with 17-18 teeth (n=7, incl. bilateral count), two posteriormost enlarged (last distinctly offset laterad) and separated by a diastema. Palatine bears 10 teeth (n=4, bilateral counts), pterygoid 22-24 (ibid.), and mandibular 20-21 (n=5, incl. bilateral counts). Apex of hemipenis at subcaudals 7-9 (5.8-8.2%subc, n=2, see Comment), insertion of *Musculus retractor penis magnus* 23-26 (19.0-23.6%, ibid.); minor retractor muscle extends to subcaudal 4 (MCZ 156715). MCZ 157693 (juv.) shows traces of the umbilical scar at ventral 190.

Fig. 9. Juvenile dorsal colour pattern of *Platyceps masirae* sp. nov. MCZ 157693. Courtesy of Stevie Kennedy-Gold and Breanna Jordan. Scale bar equals 20 mm.

Maximum total length ca. 1063 mm (MCZ ♂ paratype), largest female (MCZ 156719, holotype) 599 mm. Tail versus body length ratio in males 0.33 and 0.36-0.40 (see Comment), 0.36 in holotype (♀), juvenile 0.38.

BMNH 1980.1041 (♀) from Al-Wusta with ca. 206 ventrals (partly damaged, tail incomplete) clearly differs from *Platyceps hajarensis* and fits diagnostic data for the evaluated Masirah series. This subadult (snout-vent length 328 mm) has three secondary temporals, 19-19-13 dsr (sequence or exact reduction positions indeterminable), and 17 maxillary teeth (dentigerous count fide Barry Hughes). It conforms to *P. masirae* in the dorsal colour pattern, viz. a banded nape, narrow mid-dorsal bars on anterior trunk gradually transforming into four (incl. paraventral) rows of dark markings, underside from chin to tail light and without pattern except for distinct black dots at lateral edges of each ventral between neck and posterior belly.

Distribution and Remarks: We understand that *Platyceps masirae* inhabits Masirah Island, probably Marsays (Shaghaf, ca. 20°27’37’’N 58°44’55’’E) in the Umm Rasas Bight, and at least the central Al-Wusta littoral (vic. Duqm) on the mainland.

The Masirah (or Jiddat al-Harasis) Cliff Racer may occur on Bay Juwaysim islet (Bin Quwaysim, ca. 20°36’51’’N 58°48’03’’E) off the northern tip of Masirah, and probably Hamr Nafun Island (19°48’N 57°48’E) roughly 20 km north-northeast of Duqm. Along the Arabian Sea, the species possibly lives near the coast south to Ras Madrakah or enters the northern Sawqarah Bay (Dawhat S.) in southern Al-Wusta. This assumption is based on a *Platyceps* “*r. rhodorachis*” record in the vicinity of Juwayrah (Gardner, 2013; Fig. 6, see Discussion).

All collecting sites are situated near sea level, including those for both BMNH Masirah vouchers reportedly from “275” m (Gasperetti, 1988). MCZ 156715 (paratype) was encountered at 3 pm in an “Indian hut, on sand ½ km from sea, 5 m elev.” (differing online info is incorrect). MCZ 157693 registered from “Masirah airport” (see material section, geodetic data indicated on accompanying tag positioned in sea near northern tip of island) was found in “an artificial garden”, and this juvenile (Fig. 9) regurgitated two unidentified geckos which may not have been catalogued (Stevie Kennedy-Gold in litt.). All examined specimens were collected between February and May, and in August.

Platyceps forma inquirenda

Figs 4A, 6, 10-12, Table 1

Zamenis rhodorhachis [sic] Jan, 1863. – Anderson, 1896 [partim]: 51, table (“Hadramut”, Yemen, *leg.* J.T. Bent) · BMNH 1897.3.11.110, MZUT 628 (see Note 11). – Steindachner, 1903: 10 (“Gischin” [Qishn], Yemen) · NMW 25444.1-2. – Werner, 1929a [partim]: 64, 70 (“Arabien”, after Anderson, 1898, table: “Hadramut”, see Note 11).

Coluber rhodorhachis [sic]. – Parker, 1931a: 229 ("Qara Mountains", see also Parker, 1932: 342). – Parker, 1931b: 516 (same series: Ain [Ayn], "Airget", "Khiyunt", "Mairbon", Wadi "Arbot", Wadi "Thidot", "Zik") · BMNH 1931.7.16.59-67 (see Material).

Coluber r. rhodorhachis [sic] [partim]. – Parker, 1949: [30] 37, fig. 1 [body scale data] ("Dhufar", same series as in Parker, 1931a, b and 1932; see Notes 1 and 10).

Coluber ventromaculatus Gray, 1834. – Haas, 1957: 79 ("Jebel Qara", HUJ 3863, *leg.* D. Vesey-Fitzgerald, see Notes 11 and 13).

Coluber rhodorhachis [sic]. – Corkill & Cochrane, 1966 [partim]: 483 (Yemen: incl. Bir Ali, "Dis" [D. Sharqiyah], "Jol Bahawa" [Jawl Ba Haywah], Khirbah, and Mukalla) · BMNH 1962.952, —.954, —.959, —.962-65, —.969 [**Note 6**]. – Arnold, 1980: 314, 329, table 8 [general habitats] (incl. Salalah [BMNH 1975.2097], Wadi Darbat, Wadi Nahiz [ca. 17°10'N 54°04'E, sight record], Wadi Raykhut [ca. 17°26'N 55°16'E, sight record], Wadi "Sarfait", Wadi Sayq) · BMNH 1976.1484, 1977.1189-91.

Coluber r. rhodorhachis [sic] [partim]. – Gasperetti, 1988: 219, fig. 28 [map], Appendices II-III [pp. 407-408, 446] (incl. Arzat [17°01'N 54°13'E, BMNH 1980.221], Salalalah, Thamarit, Wadi Nahiz [BMNH 1977.1192], and "Hadramaut" [incl. BMNH 1956.1.15.95]) · BMNH 1971.1337-38, 1980.580.

Coluber rhodorachis [partim]. – Van der Kooij, 2001: 56, photo (Wadi "Sunayke (Jabal Samhan)" [W. Sunayk, ca. 17°36'N 55°16'E]).

Platyceps rhodorachis [partim]. – Schätti & McCarthy, 2004: 701 (comparison with *P. saharicus*).

Platyceps rhodorachis "auct." [partim?]. – Schätti, 2006: [76], 83, Appendix (incl. Salalah) · MHNG 2443.38-39.

Platyceps rhodorachis. – Gebhart, 2013: 150, fig. 32 (Wadi "Derbat" [Darbat, ca. 17°06'N 54°27'E]). – Sindaco *et al.*, 2013 [partim]: 130, map 84.

Platyceps r. rhodorachis [partim]. – Gardner, 2013: 367 (two unspecified map records in Hasik Bay, see Distribution and Ecology).

? *Platyceps r. rhodorachis* [partim]. – Gardner, 2013: 367, map (unspecified plot in southern Al-Wusta littoral, see Distribution and Ecology, Discussion, Fig. 6).

Platyceps cf. *rhodorachis* [partim]. – Schätti *et al.*, 2014: 382 (see Note 21).

Platyceps rhodorachis. – Ball & Borrell, 2016: 9459, table 1 (Wadi Sayq).

? *Platyceps rhodorachis*. – Colacicco *et al.*, 2018: 46, figs 15-16 ("Al Hallaniyat" Island, roadkill, see Distribution and Ecology, Discussion, Note 7).

Platyceps r. rhodorachis. – Grossmann *et al.*, 2020: 3, 15, fig. 3 (Wadi Ushuq ["Ashawq"]).

Platyceps rhodorachis [partim]. – Carranza *et al.*, 2021: 164, map.

Material examined (n=39). DHOFAR: ADU unregistered (New Salalah, ca. 17°02'N 54°05'E, subad.); BMNH 1931.7.16.59-60 ("Mairbon" [Wadi Marbun], Jabal Qara, 17°15'N 54°06'E, ♀♀), —.61 (Ain [Ayn], J. Qara, 17°14'N 54°08'E, juv. ♂), —.62 ("Airget" [vic. Jabal Airehot], J. Qara, ca. 17°07'N 54°00'E, ♀), —.63 (Khiyawt, J. Qara, 17°12'N 54°07'E, ♀, see Note 10), —.64–65 ("Zik, Qutun" [Zayk, Qatan], J. Qara, 17°16'N 54°09'E, ♂♀), —.66 (Wadi "Arbot" [Arbat], J. Qara, ca. 17°11'N 54°01'E, ♀), —.67 (Wadi "Thidot" [Thirrat], J. Qara, ca. 17°08'N 54°06'E, ♂, all *leg.* B. Thomas), 1971.1337-38 (Salalah, 17°01'N 54°06'E, ♂♀, *leg.* D.J. Rainford), 1976.1484 (Wadi "Sarfait" [Sarfayt], Jabal Qamar, ca. 16°42'N 53°08'E, ♂, *leg.* M.D. Gallagher), 1977.1189 (Salalah, ♂), —.1190 (Wadi Sayq, J. Qamar, ca. 16°45'N 53°20'E, ♂), —.1191 (Wadi Darbat, Jabal Samhan, ca. 17°06'N 54°27'E, ♂, all *leg.* E.N. Arnold), 1980.580 (Thamarit, 17°42'N 53°59'E, ♂, MDG 6084), 1994.115 (Razat, 17°02'N 54°13'E, ♀); MHNG 2443.38–39 (Salalah, ♀♂, MDG 5517–18), 2664.59–60 (Haqab, J. Qamar, 16°43'N 53°16'E, subad. ♂, juv.), —.61 (Wadi Kharfawt, J. Qamar, 16°44'N 53°20'E, ♂), —.62 (Khadrafi, J. Qamar, 16°40'N 53°09'E, ♀), —.63 (Deem, J. Qamar, 16°40'N 53°08'E, ♀), —.70 ("east of Mirbat", Wadi Ayn, ca. 17°00'N 54°45'E, ♀, pres. M.S. Farook); ZFMK 70930 ("between Raysut and Mughsayl", ca. 16°58'N 53°52'E, ♂). YEMEN (Al-Mahra, Hadramawt): BMNH 1897.3.11.110 ("Hadramaut", ♂, *leg.* J.T. Bent 1893), 1962.952, —.954, —.959 (Mukalla, 14°33'N 49°07'E, ♀♀♂), —.962 (Wadi "Maada", Mukalla, ♀), —.963–65 ("Jol Baharawa, Hajr Province" [Jawl Ba Haywah], 14°27'N 48°18'E, ♂♀ and unknown gender), —.969 (ibid., ♂, all *leg.* N.L. Corkill); MZUT 628 ("Hadramaut", ♀, *leg.* J.T. Bent, received in exchange with BMNH); NMW 25444.1-2 (Qishn, 15°25'N 51°41'E, ♂♂, *leg.* W. Hein).

Diagnosis: Ventrals 215-233, subcaudals 119-135, sum 335-361; usually a single subocular (presubocular uncommon, unilateral postsubocular exceptional); chequered or with transverse pattern on forebody, or unmarked throughout; 19-19-13 dsr (occasionally 19-19-11 in ♂♂) and first reduction usually paravertebral; 15-16 maxillary teeth in Dhofar (up to 17 in Yemen).

Comment: The lowest verified ventral (215), subcaudal (119), and total body scales (335-336) counts rely on BMNH 1971.1337 and 1980.580 (♂♂), 1931.7.16.60-61 (♀♂), and two males (1980.580, 1931.7.16.61), respectively. The Diagnosis and Key consider data (214 ventrals, sum 333) for a female Jabal Qara specimen (see Notes 11 and 13).

Description: Configuration and shape of head scutes in examined material generally identical to *Platyceps gallagheri* and *P. hajarensis* (usually single subocular scale; 9 supralabials, 5th+6th enter eye, 6th-9th largest; 2+3 temporals, anterior lower scale enlarged). Subocular absent in BMNH 1980.580 (Fig. 4A, 4th-6th supralabials bordering eye) and on left side of MHNG 2664.60 (ibid.). A presubocular present in 2443.38 (left), 2664.59 (right), —.61 (ibid.), and —.62 (bilateral), wedged in between 3rd and 4th supralabials. Upper part of right 5th supralabial in MHNG 2664.70 detached (lower portion excluded from contact with eye). Ten supralabials on left in MHNG 2664.59 (division of 4th, 6th+7th enter orbit). A postsubocular occurs in BMNH 1977.1191 (left). Posterior chin shields extremely separated behind in MHNG 2664.61.

One (2) preventral(s), 215-233 ventrals (♂♂ 215-232, ♀♀ 216-233, juvs 219-230), 119-135 paired subcaudals (119-135, 119-130, 128 [n=2], resp., see Note 11), sum 335-361 (335-361, 340-354, 347-352, resp., see Discussion). Anal scute divided. Dorsal scales subequal and smooth with two apical pits, arranged in 19-19-13 (19-19-11) transverse rows. Relative positions of regular reductions at 54-61%ven, 57-63%, and 63-74% (♂♂), and 58-60%, 59-61%, and 66-72% (♀♀, max. in MZUT 628 from "Hadramawt"), respectively. Three Dhofar males (BMNH 1931.7.16.67, 1977.1191, MHNG 2664.59) show a lateral first reduction (paravertebral in rest) and both BMNH specimens involve the vertebral row in second step (17-15 dsr). Last regular decrease (15-13) invariably paravertebral. Fourth reduction (19-19-11 dsr) by fusion of median rows (6+7) present in four males, viz. BMNH 1897.3.11.110 (no detailed sequence data), 1976.1484 (ca. ventral 200, 90%ven), 1977.1190 (oscillates between 11 and 13 dsr at 185-200), and 1980.580 (see Note 9).

Dorsal colour pattern basically similar to *Platyceps hajarensis* (greyish, straw-coloured or brown) and polymorphic (marked and plain specimens). Pileus often without apparent marking and/or supraoculars with a dusky tint; transversely barred or spotted internasals, longitudinal streak on frontal, interocular band (usually interrupted), and irregular dark (incl. O-shaped) pattern on parietals occur; supralabials sometimes light throughout apart from prominent black dot at lower posterior edge of eye (e.g., BMNH 1977.1189).

Dorsum chequered (e.g., ADU unreg., MHNG 2664.59, —.62, Fig. 10B) on forebody, banded (e.g., BMNH 1931.7.16.60 [neck], 1977.1191) or barred anteriorly (MHNG 2664.63, —.70, Figs 10A and D) or far beyond midbody (e.g., MHNG 2664.61, Fig. 10C) with sporadic paravertebral marks onto tail base (BMNH 1977.1189), or light plain (photos of patterned specimens in, e.g., Thomas, 1932: plate opp. p. 42; Gebhart, 2013: fig. 32; Grossmann *et al*., 2020: fig. 3; see below regarding BMNH 1980.580).

The completely plain light phenotype documented for Jabal Samhan (Van der Kooij, 2001: photo) seems uncommon (see Arnold, 1980). A Jabal Qamar juvenile (MHNG 2664.60) is virtually unmarked greyish anteriorly, shows intermittent speckling behind the neck followed by indistinct narrow lateral bars slightly beyond midbody (median zone plain), and monochrome light tan posterior trunk and tail (pileus without pattern, venter dotted laterally). Specimens with "dark cross-bands" and unmarked ones ("uniformly […] greyish olive") are found in "Hadramut" (Anderson, 1896: MZUT 628, *leg.* J.T. Bent).

Underside of head and venter ivory to dark yellow. Chin and throat without pattern. Anterior ventrals usually dotted or with transverse black marks along lateral edges that may extend to posterior trunk (e.g., BMNH 1977.1189-90, MHNG 2664.63); fine grey mottling of median zone in MHNG 2664.61. "[U]nderparts white" and "the angles of the ventrals are dusky, with a minute black spot" in Hadramawt specimens (Anderson, 1896).

These summary descriptions go without the most inland record. BMNH 1980.580 from inland Dhofar (see Note 9) has a uniform tan pileus (unmarked) and is basically devoid of an apparent dorsal colour pattern down the greyish anterior third of the trunk, with a distinctly darker neck. Broken median bars and a series of similar paraventral markings along the central portion fade posteriorly (faint speckling to near tail base). The tail is mostly light tan. The ivory lower parts are without pattern except for a continuous row of black marks along the lateral ventral edges as far back as near the anal scute.

Maxillary with 15-17 teeth (n=24, 15-16 in Dhofar, see Material and Methods as to sampling), two posteriormost enlarged (last moderately to distinctly offset laterad) and separated by a diastema. Palatine bears 9-10 teeth (n=3), pterygoid 24-25 (2), and mandibular 17-20 (5, all data incl. bilateral count of MHNG 2664.62). Hemipenis with about ten rows of subequal spines along *sulcus spermaticus* (MHNG 2664.61). NMW 25444.1 (subad.) shows an umbilical scar between ventrals 206 and 208.

Maximum snout-vent length 890 mm (♂, MHNG 2664.61) and 825 mm (♀, MHNG 2664.63), respectively (tail incomplete in both). Tail versus body length ratio 0.35 (♂, Hadramawt, BMNH 1897.3.11.110) or 0.37-0.40 (♂♂) and 0.39-0.41 (♀♀), juveniles (2) 0.36-0.41.

Distribution and Ecology: *Platyceps* forma inquirenda is documented from the southwest Dhofar littoral through the Jabal Samhan and Qamar ranges inland to Thamarit (Thumrait) and west into Yemen (Fig. 6). Two map records in the Hasik Bay (Gardner, 2013) probably belong to this taxon. Cliff racers on Hallaniyah (Khorya Moriya, mummified SQU specimen, *leg.* M.D. Robinson; Colacicco *et al*., 2018: photo voucher) and perhaps Sawda and/or satellite islands are tentatively assigned to this form [**Note 7**]. An isolated record in southern Al-Wusta (vic. Juwayrah) is difficult to classify (see *P. masirae*, Discussion).

This taxon is common from sea level to probably above 1500 m in the Jabal Samhan range, and certainly above the highest reported collecting site around Zayk (Qatan area, Jabal Qara, "2000 ft.", Parker, 1931b). *Platyceps* forma inquirenda is active throughout the year. The Jabal Qara series was collected in the first half of November, and Grossmann *et al*. (2020) observed a specimen at night in autumn. Van der Kooij (2001) found this form "on gravelly hills with little vegetation" in the Jabal Samhan area; his remark regarding semi-aquatic habits ("caught swimming in a wadi pool") may refer to

Fig. 10. Dorsal colour pattern variation in marked Dhofar *Platyceps* forma inquirenda from Deem (A, MHNG 2664.63, ♀), Khadrafi (B, MHNG 2664.62, ♀), and Wadi Kharfawt (C, MHNG 2664.61, ♂) in the Jabal Qamar area, and from the vicinity of Mirbat in Wadi Ayn (D, MHNG 2664.70, ♀), courtesy of Mohammed Sayed Farook.

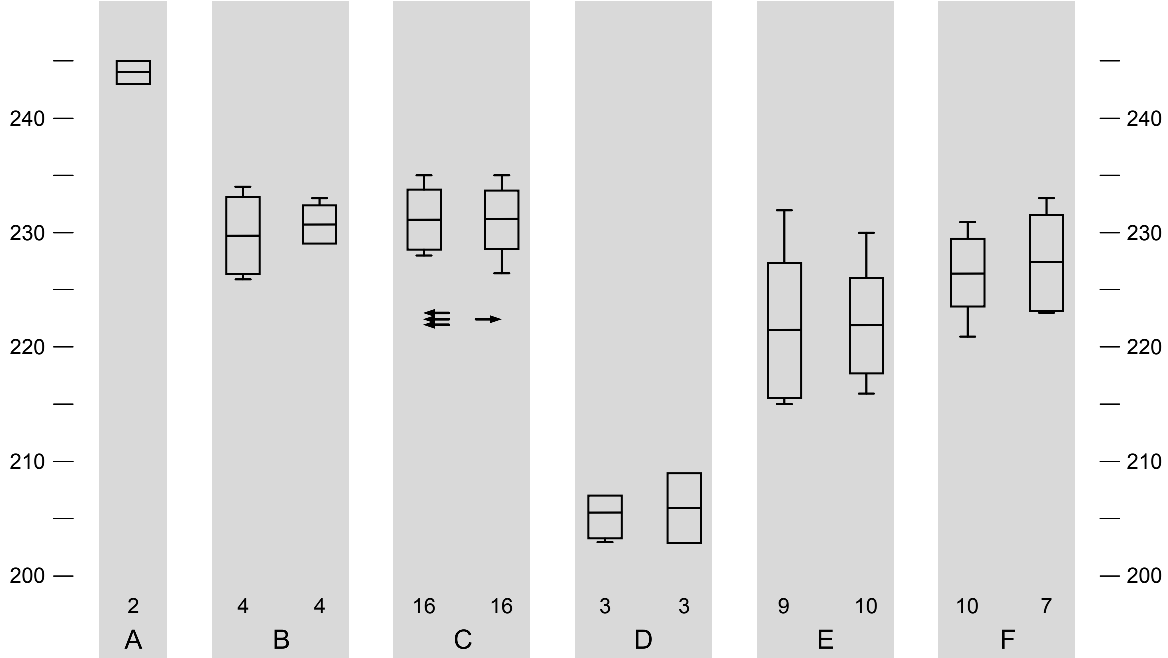

Fig. 11. Number of ventrals in examined Omani and East Yemen cliff racers from Khasab and Ras Musandam (A, *Platyceps gallagheri* sp. nov., only ♀♀ known), UAE (B, *P. hajarensis* sp. nov.), Central and Eastern Hajar including periphery (C, ibid.), Al-Wusta and Masirah (D, *P. masirae* sp. nov.), Jabal Samhan, J. Qara, and Salalah plain (E, *P.* forma inquirenda), and Jabal Qamar, Al-Mahra, and Hadramawt (F, ibid.). Chart shows extremes (range), mean, and standard deviation; sample size at bottom of each group (♂♂, ♀♀ except for *P. gallagheri*). Arrows identify four *hajarensis* outliers in Group C (BMNH 1978.344, —.778, 1980.220, MHNG 2664.69, Fig. 6, see Discussion).

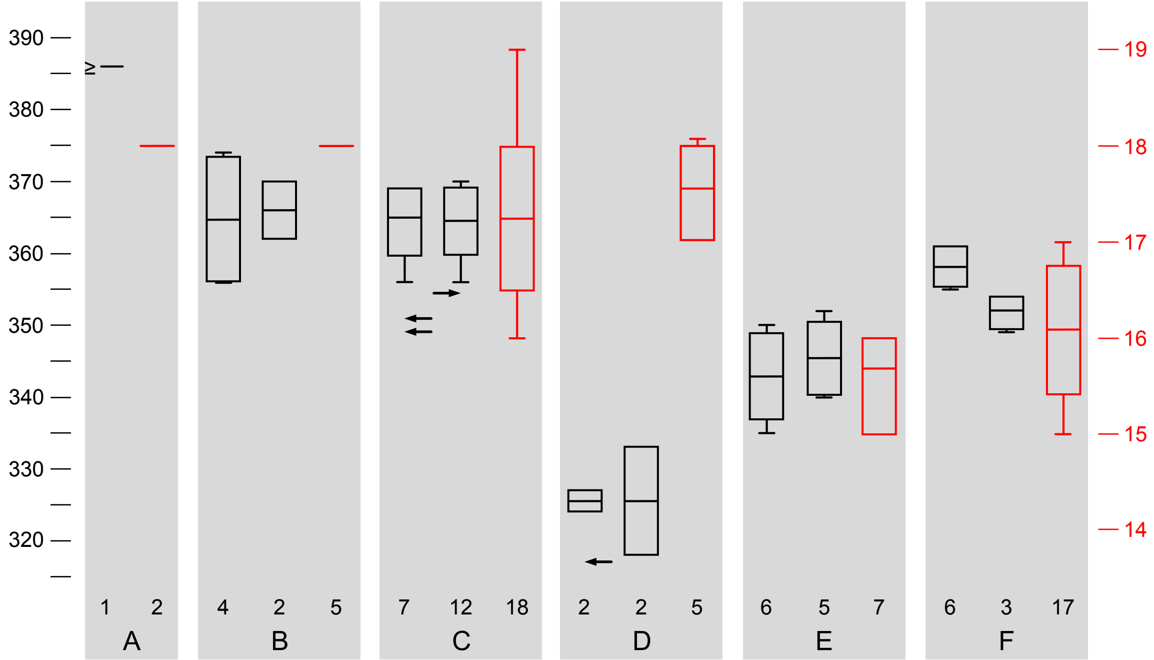

Fig. 12. Sum of ventrals and subcaudals (left y-axis, ♂♂, ♀♀ except for *Platyceps gallagheri*) and maxillary teeth (red plots, right y-axis, genders confounded) in examined Omani and East Yemen cliff racers. Group D arrow denotes absolute minimum for total body scales registered in Omani specimens (♂ *P. masirae* paratype, see Comment to Diagnosis). Tooth counts in Group E (*P.* forma inquirenda) include data for BMNH 1962.955-58 and —.960-61 from Mukalla (see Material and Methods). See caption to Fig. 11 for groups (A-F), genders and sample size, statistic parameters, and *P. hajarensis* outliers (C, arrows, n=3).

P. hajarensis. Gebhart (2013) encountered a specimen at night chasing fish in Wadi Darbat. BMNH 1977.1191 was taken in a "tree on river banks" in November. This taxon enters gardens and buildings (e.g., ADU unreg., MHNG 2443.38-39). In mid-May, we observed individuals in rocky places of woods (incl. MHNG 2664.62), among piled up stones covered with acacia branches serving as corrals (incl. MHNG 2664.63), next to a large boulder in steep terrain (MHNG 2664.61), and in a more open area (scattered stones of a grassy patch in scrubland, MHNG 2664.59-60). The Deem female (MHNG 2664.63) laid four eggs (ca. 500 x 135 mm) on 30th May.

At least locally, *Platyceps* forma inquirenda mimics *Echis khosatzkii* as evidenced by specimens of both species from Wadi Ushuq with unusually prominent dorsal colour pattern (Grossmann *et al*., 2020: 3, figs 3, 14) also present in an examined Salalah littoral cliff racer (BMNH 1977.1191).

DISCUSSION

Despite Iranian affinities among the northeast Arabian herpetofauna (e.g., the leaf-toed gecko genus *Asaccus*, *Ablepharus pannonicus*, *Acanthodactylus blanfordii, Echis carinatus sochureki*, *Hemidactylus persicus*, *Pseudocerastes persicus*), Eastern Oman cliff racers clearly deviate from *Platyceps r. rhodorachis* (Jan, 1863) *sensu stricto* and in particular the geographically closest populations along the northern Gulf mainland (Iran) in, for instance, the number of body scales (ventrals, distinctly higher mean for ventrals plus subcaudals, Table 1) or maxillary teeth (Musandam Gov. and UAE, Fig. 12) and in the complete absence of the red-striped phenotype (Schätti *et al*., 2014 incl. fig. 14) [**Note 8**]. Given the considerable morphological divergence observed across the Strait of Hormuz, we have no reservations to introduce *P. gallagheri* sp. nov. and *P. hajarensis* sp. nov. *Platyceps hajarensis*, the cliff racer species with by far the largest distribution in the Sultanate of Oman (Fig. 6), shows a generally low variability of scale characters including the number of ventrals. The figures for 38 out of 42 specimens with data available (incl. MHNG 2664.67 and ONHM 2828 without gender) lie within a comparatively small range (226-235) resulting in total body counts of 356-374 (♂♂ and ♀♀ confounded, Figs 11-12), and no sexual dimorphism is discernible. The ascertained maxima for ventrals (234-235, 4 ♂♂, 3 ♀♀) occur in a narrow sector from the vicinity of Masqat inland to the Jabal Akhdar area (ANSP 5468, BMNH 1903.1.27.3-4, 1973.737, 1977.79, —.834, ONHM 2834, see Comment to Diagnosis regarding higher literature data). Few ventrals and total body scales (222-223 and 349-354.5, resp., Figs 11-12) are observed in the Gulf of Oman littoral south to the inland border area between Masqat Governorate and North ash-Sharqiyah (Fig. 6), namely in both examined limitrophe specimens from Khabura in North al-Batinah (BMNH 1978.778, 1980.220, ♂♂), a paratype obtained in the western outskirts of Masqat (MHNG 2664.69, ♀), and a male from about 300 m asl in Wadi Tayin (Sawt, Fig. 1, BMNH 1978.344). Boulenger (1893: specimens f-h) notes few ventrals (220-226, sum 354-362) in three "Muscat" juveniles (BMNH 1880.11.10.154-57 series, *leg.* W.T. Blanford, not examined) but Parker (1949) records a minimum of more than 225 scales in his "Muscat" sample comprising these presumed outliers (see Note 1). Drastically lower body scale counts as well as relatively frequent head and dorsal scale conditions clearly distinguish cliff racers from Masirah and a central Al-Wusta littoral specimen (Duqm, BMNH 1980.1041) compared to *Platyceps hajarensis* and the

Key to Omani cliff racers (*Platyceps* spp.)

1 More than 240 ventrals and 140 subcaudals (♀♀) .... *Platyceps gallagheri* sp. nov.

– Fewer than 240 ventrals and 140 subcaudals (♂♂, ♀♀) 2

2 Fewer than 210 ventrals, first dsr reduction invariably lateral (Masirah Island population) .... *Platyceps masirae* sp. nov.

– More than 213 ventrals, first dsr reduction predominantly paravertebral 3

3 Usually 226-235 ventrals and 356-374 total body scales (as few as at least 222 and 349, resp., along Gulf of Oman), usually 17-18 (16-19) maxillary teeth, 19-23 on mandibular, unmarked (light or dark) specimens locally common .... *Platyceps hajarensis* sp. nov.

– 214-233 ventrals, 333-361 total body scales, 14-16 maxillary teeth (Dhofar, up to 17 in Yemen), 17-20 on mandibular, unmarked light-coloured (Dhofar, uncommon) and leaden (Hadramawt) specimens occur .... *Platyceps* forma inquirenda

Comments: In the case of some specimens, the key may prove inconclusive as to a proper distinction between *Platyceps hajarensis* and *P.* forma inquirenda. Limited data for these taxa suggest differing hemipenis features, in particular more and smaller spines in the former (see Taxonomic Part).

Diagnostic features separating Omani taxa from geographically close relatives, viz. insular Gulf cliff racers and *Platyceps r. rhodorachis* in mainland southern Iran, are detailed in Table 1 and the following paragraph.

Table 1. Number of ventrals, subcaudals, and aggregate, dorsal scale characters (terminal dsr count and transverse level of first reduction: lateral or paravertebral), number of maxillary teeth, and presence of red-striped or plain phenotypes in *Platyceps rhodorachis* (Jan), Gulf cliff racers (Iran) discussed in the text, and Omani taxa (*P. gallagheri, P. hajarensis*, and *P. masirae* spp. nov., *P.* forma inquirenda, see Figs 11-12; *hajarensis* and *masirae* body scale data incl. outliers). Last column specifies unusual conditions in further dsr reduction features (*gallagheri, masirae*, forma inquirenda) and additional characters (dorsal pattern, maxillary teeth) in Omani cliff racers. Range, mean and sample size (n, second line), and standard deviation indicated for ventrals, subcaudals, sum, and dentition; statistic parameters for dsr data and phenotypes (percentage and/or sample size) in parenthesis.

ventrals		**subcaudals**		**sum**		**dorsal rows**		**max. teeth**	**dorsal pattern**	**identity, origin, and comments**
♂♂	♀♀	♂♂	♀♀	♂♂	♀♀	**term. numb.**	**1st tr. lev.**			
205–224 218.6, 8 ± 6.5	213–224 219.0, 4 ± 4.7	125–140 >132.7, 7 —	128–132 130.7, 3 ± 2.3	336–364 >351, 7 —	345–350 348.0, 3 ± 2.6	13 (85%, 11) 11 (♂, juv.)	lateral (25%, 8) or parav.	15–16 15.4, 8 ± 0.5	striped (29%)	*Platyceps rhodorachis* (Jan, 1863) *sensu stricto* Iran Gulf area (inland to south Fars incl. Zagros, Schätti *et al*., 2014: fig. 15, tables 2 and 4, 'Group M')
—	237 (n=1)	—	116 (n=1) tail intact?	—	353 (n=1) tail intact?	—	—	—	?	"*Zamenis rhodorhachis* Jan" "Biabun" (Hormozgan, Iran; Werner, 1929b: 242) conceivably collected in Masqat area (see Note 12)
221 (n=1)	221 (n=1)	124 (n=1)	≥120 (n=1) [1]	345 (n=1)	≥341 (n=1) [2]	11 (n=2)	lateral (n=1)	14 (n=1)	—	Henjam Island (unassigned) BMNH 1919.7.18.12 (juv. ♂), BNHM 568 (♀) [1,2] tail tip possibly incomplete
—	243–245 244.0, 2 ±1.4	—	≥141 (n=1)	—	≥386 (n=1)	13 (n=2)	lateral or parav. (n=2) [1]	18 (n=2)	—	*Platyceps gallagheri* sp. nov. Ras Musandam area south at least to Khasab [1] vertebral 2nd reduction (17-15 dsr) in paratype
222–235 229.6, 20 ±3.9	222.5–235 230.7, 20 ±3.0	126–140 133.2, 11 ±5.0	126–139 133.1, 14 ±3.4	349–374 362.2, 11 ±8.4	354.5–370 364.0, 14 ±5.2	15 (1 ♀) 13 (86%, 31) 11 (13) (4 ♂♂)	lateral (38%, 12) or parav.	16–19 17.3, 23 ±0.8	plain [1] (36%)	*Platyceps hajarensis* sp. nov. Eastern Oman Mountains (incl. UAE) [1] light and dark phenotypes incl. poorly marked specimens
203–207 205.7, 3 ±2.3	203–209 206.0, 3 ±3.0	110–121 117.0, 3 ±6.1	115–124 119.5, 2 ±6.4	317–327 322.7, 3 ±5.1	318–333 325.5, 2 ±10.6	13 (60%, 3) 11/13 (2 ♂♂)	lateral (n=4) [1]	17–18 17.7, 7 [2] ±0.5	— (n=6)	*Platyceps masiræ* sp. nov. (Masirah Island and Al-Wusta) [1] vertebral 3rd reduction (15-13 dsr) in MCZ 157693 [2] maxillary incl. bilateral counts (holotype, BMNH paratype)
215–232 224.2, 19 ±5.2	216–233 224.2, 17 ±5.0	119–135 127.6, 12 ±5.2	119–130 124.6, 8 ±3.4	335–361 350.3, 12 ±9.3	340–354 347.9, 8 ±5.4	13 (81%, 17) 11 (4 ♂♂)	lateral (17%, 3) [1] or parav.	15–17 16.0, 24 ±0.6	plain [2] (uncommon)	*Platyceps* forma inquirenda (Dhofar and East Yemen) [1] vertebral 2nd reduction in two specimens (see text) [2] light (Dhofar) and dark grey (Hadramawt) phenotypes

rest of our evaluated samples including East Yemen specimens (Figs 11-12, Table 1). Besides the common presence of a presubocular (40%), *P. masirae* sp. nov. is noteworthy for the occurrence of a postsubocular in half of the bilateral counts on Masirah (n=10). The latter condition, viz. the upper portion of the 6th supralabial detached (postsubocular), is indeed rarely observed (unilaterally in BMNH 1977.1191 from Dhofar) within the *P. rhodorachis* species group in general (*P. afarensis, gallagheri, hajarensis, masirae, noeli, rhodorachis, saharicus, sindhensis, subniger* [see Note 21], and *P*. forma inquirenda). Examined *P. masirae* sp. nov. are further remarkable for the absence of paravertebral first dsr reductions (versus invariably lateral), and both male paratypes feature a decrease to 11 dsr over a portion of the posterior trunk (Table 1) [**Note 9**]. MCZ 157693 is the only cliff racer among the reviewed material that involves the vertebral row in the last regular reduction (15-13 dsr, paravertebral in rest). The Masirah (or Jiddat al-Harasis) Cliff Racer is also noteworthy for a seemingly elevated frequency in the occurrence of two instead of three secondary temporals (30% in insular sample, n=10, bilateral counts), which is highly unusual in the *P. rhodorachis* complex.

Dhofar and East Yemen cliff racers possess more ventrals as well as subcaudals and have fewer maxillary teeth (15-16 in Dhofar) than *Platyceps masirae* (17-18, incl. mainland record, Figs 11-12, Table 1). Ventral counts in examined specimens from Thamarit (BMNH 1980.580, 215 scales), Jabal Qara excluding Khiyawt (4 ♂♂ 216-221, 5 ♀♀ 216-222), and the Salalah plain (215-225 in 3 ♂♂, 3 ♀♀, and juv.) differ vis-à-vis BMNH 1931.7.16.63 (Khiyawt, ♀, 230) [**Note 10**], a Jabal Samhan couple (Wadi Darbat, vic. Mirbat, BMNH 1977.1191 and MHNG 2664.70, resp.) with 227 (♀) and 232 scales, and ZFMK 70930 (♂, 229) with vague origin. Data for these specimens agree with the Jabal Qamar population and East Yemen cliff racers (♂♂ 221-231, ♀♀ 223-233, Fig. 11: Group F). Reported figures for "Hadramut" (226-228, 2 ♂♂, 2 ♀♀, Anderson, 1896) are within the observed range of our Jabal Qamar sample [**Note 11**].

Two female cliff racers from the Ras Musandam area do not conform to body scale data for the geographically closest examined *Platyceps hajarensis* nor any other taxon found in the Sultanate and Gulf islands (Table 1) [**Note 12**]. The single available subcaudal count (≥141) for *P. gallagheri* sp. nov. and an extremely high number of ventrals (243-245, sum ≥386) clearly differ from data for seven evaluated *P. hajarensis* (226-234, 4 ♂♂, 3 ♀♀, all from Ash-Shariqah and Ras al-Khaymah Emirates, UAE, Figs 6 and 11-12) collected within less than 125 km airline distance farther south (BMNH 1971.1308-11, ZFMK 35768-69, ZSM unreg.), and NHM 32331 from Hatta (♀) with 231 scales. This discrepancy qualifies for taxonomic consideration, all the more as the remaining verified maxima for ventrals in *hajarensis* (234-235, Fig. 11, Table 1) are registered south of about 23°45'N latitude (Masqat area and north Ad-Dakhiliyah, probably southeast inland South Batinah, see second paragraph in this chapter incl. literature data, Note 1).

The female paratype of *Platyceps gallagheri* (ZMB 10324) shows a vertebral reduction (17-15 dsr) otherwise only observed in *P. masirae* (15-13, MCZ 157693), *P*. forma inquirenda (17-15, BMNH 1931.7.16.67, 1977.1191, Table 1), and among cliff racers with a fourth decrease belonging to the latter taxon (BMNH 1976.1484, 1977.1190, 1980.580) or *P. hajarensis* (ZSM unreg., see Note 9).

Notably, ZMB 10324 was the first Arabian representative of the genus *Platyceps* Blyth ever documented in the pertinent literature and, for good, created confusion among scientists interested in Middle East herpetology for the subsequent 135 or so years until Blanford's (1876) specimen became unearthed. And again, ZMB 10324 plays a distinguished role in the peninsular "*rhodorachis*" theatre [**Note 13**].

As baffling as the presence of a deviant cliff racer taxon at the veritable tip of the Arabian Peninsula may seem at first glance, thereby causing certain disbelieve, at least three reptile species (*Asaccus gardneri, A. margaritae*, *Ptyodactylus ruusaljibalicus*) are in fact endemic to the dark limestone Musandam promontory, and south to the vicinity of Mahada (Fig. 1, *A. margaritae*) in Al-Buraimi (Burriel-Carranza *et al*., 2019; Carranza *et al*., 2021; Burriel-Carranza *et al*., 2022; see Note 15). Gardner's leaf-toed gecko is recorded south to Dibba (Fig. 1, Fujayrah, UAE). The fan-footed gecko is restricted to a small area from Ras Musandam south to the Dibba Bay littoral near the Oman-UAE border. It replaces *P. orlovi* (absent from Musandam Gov.) found down the Hajar into northern South ash-Sharqiyah (see Note 18), a distribution largely congruent with the range of *Platyceps hajarensis* south of Musandam (*orlovi* enters the drier interior lowlands to some degree). It is noteworthy that the ubiquitous agamid *Pseudotrapelus jensvindumi* (Hajar endemic, see Note 15) is not on record for precisely the distant corner of the Musandam Peninsula beyond the vicinity of Khasab (see Material and Methods regarding terminology and definitions), viz. the confirmed range of *P. gallagheri* [**Note 14**].

Except for implicit mentions of the paratype of *Platyceps gallagheri* from Arabia until 1977 (see chresonymy, Note 13) and quotations of the holotype (Gasperetti, 1988; and subsequent authors), literature references do not register any cliff racer from Musandam Governorate and bordering UAE territory deposited in institutional collections. Actually, reports and mapped records of *P.* (or *Coluber*) *rhodorachis* auct. pertaining to this region (Fig. 6) basically rely on field observations (see chresonymy of *P. hajarensis*) and unspecified plots (e.g., Burriel-Carranza *et al*. 2019), in particular the Omani locality at about 26°N latitude between Jabal Halam and Jabal Dumah (ca. 56°16-22'E, resp., Gardner, 2013).

Inexplicably, the distribution range of *rhodorachis* auct. in Burriel-Carranza *et al.* (2022: map) excludes the Ras Musandam area.

Scarce preserved material (or lack of disclosure) and the morphological data gap extending over almost 100 km make it unfeasible to evaluate potential sympatry of *Platyceps gallagheri* and *P. hajarensis* (and thus confirm their taxonomic rank) in the Musandam Peninsula, and to corroborate or refute phenetic divergence in this sector. For the time being, our systematic ranking of *P. gallagheri* is consistent with its significantly discrepant body scale counts alone, and as long as we do not know of any intermediate Musandam (incl. UAE) cliff racer, we conceive Gallagher's taxon to be a valid species. However, future investigation may request the relegation of *gallagheri* to a distinct far north subspecies of *hajarensis*.

Awkwardly, we could not track a cliff racer from Khasab (MDG 6191, coll. May 1981) enumerated in a list of Omani "*rhodorachis*" prepared for the senior author by Michael D. Gallagher (excerpt from digitized notebook). The entry for this specimen comes with the concise and just as telling aside "sp.?", a strong indication that it appeared peculiar to the collector's eye at once (e.g., distinct general aspect incl. colouration) or upon closer examination.

The racer taxa dealt with in this study are the only representatives of the *Platyceps karelini-rhodorachis-ventromaculatus* complex that occur in the area under consideration (Schätti *et al.*, 2014: fig. 25; see Note 13). *Platyceps hajarensis*, *P. masirae*, and *P.* forma inquirenda are supposed to be potentially allopatric (Fig. 6). These discrete distribution ranges separated by natural barriers (Fig. 1) agree with zoogeographic patterns observed in the Sultanate's rich herpetofauna, and in particular among southern Arabian (Southwest Arabia, Southern Mountains, South Oman) endemics present in its territory shaped by desertification and sea level fluctuations over millions of years up to the present (see Note 17).

Besides *Platyceps hajarensis*, the Eastern Oman Mountains south to the upper Wadi Bani Khalid drainage are home to at least 17 additional documented endemic reptiles [**Note 15**]. Our specific allocation of cliff racers in the northern Jiddat al-Harasis (Jabal Qarari area, Šmíd, 2010; Gardner, 2013) slightly beyond Wadi Bani Khalid results from the identity of the nearest examined record (Sabt, BMNH 1977.837, Fig. 6) at roughly 80 km airline distance, and the assignment is in accordance with distribution limits observed in other essentially Hajar endemics crossing this permanent watercourse. The spatial separation of *Pseudotrapelus dhofarensis* from *P. jensvindumi* in the northern Jiddat al-Harasis (Tamar *et al.*, 2019: fig. 1; see Appendix and Note 15, resp.) is evocative of the situation observed in *P. hajarensis* and *P. masirae* [**Note 16**].

The nearly complete lack of verified records and preserved cliff racers from the Jiddat al-Harasis (Fig. 6, see Note 16) makes it all but impossible to define more detailed morphological demarcations between, and establish geographic boundaries in, *Platyceps hajarensis, P. masirae*, and *P.* forma inquirenda. We assume that the documented distribution gaps for these elusive snakes in South Oman (Fig. 6) reflect areas generally unhabitable for the Hajar and Southern Mountains herpetofauna, and that roughly 600 km (at least locally occupied by *masirae*) separate supposed *hajarensis* in the Jabal Qarari area (see preceding paragraph) and racer populations in the Hasik Bay, Dhofar (cf. forma inquirenda). Besides these considerations, the data vacuum for the littoral sector south of Duqm (cf. *masirae*, see next paragraph) not only precludes the detection of, for example, possible fragmentation and local variation as observed in *hajarensis* or Dhofar populations (see above). In fact, the lack of scale and dentition data impedes a proper evaluation of differences in morphological conditions registered between isolated samples of South Oman *Platyceps* spp. (Figs 11-12, Table 1).

The concurrence of divergent body scale conditions (few ventrals and subcaudals, peculiar transverse dsr reduction levels in ♂♂) and certain lateral cephalic states (subocular sector and secondary temporal scutes) on Masirah (*Platyceps masirae*, Figs 4C-D and 11-12, Table 1, see above) is in line with the island's mainland contact (central Jiddat al-Harasis) towards the end of the Pleistocene (last glacial maximum), resulting in poor endemism (Appendix) [**Note 17**]. A "*rhodorachis*" record in the vicinity of Juwayrah (Gardner, 2013: map) herein tentatively assigned to *P. masirae* pends further analysis. Distribution patterns of other reptiles native to the Jiddat al-Harasis may prove inconclusive as reliable reference species because of limited comparative data regarding these taxa for the coast between Duqm (BMNH 1980.1041) and the unverified southern Al-Wusta cliff racer record (Fig. 6) [**Note 18**].

Two lizards found on Masirah and the opposite mainland, *Acanthodactylus masirae* (north to Barr Hikman peninsula, Meinig, 1994) and *Uromastyx thomasi*, reach their southern distribution limits in the vicinity of Thamarit, inland southwest Dhofar (Fig. 1, see Note 16). Reversely, supposed Dhofar endemics (*Hemidactylus alkiyumii*, *H. paucituberculatus, Tropiocolotes confusus*, none recorded farther than Hasik area on mainland) and reptile species entering Dhofar from Yemen hardly cross far beyond 17°N in the Jabal Samhan area. Some including *Atractaspis andersonii* (Grossmann *et al.*, 2018), *Chamaeleo arabicus, Mesalina austroarabica, Platyceps variabilis thomasi* [**Note 19**], or *Uromastyx benti* (Zilger *et al.*, 2016) are on record for the vicinity of Hasik (17°27'N 55°16'E) at the western limit of the Jiddat al-Harasis (Fig. 1, see Note 16). *Acanthodactylus felicis* or *Mesalina ayunensis* are registered for Shuwaymiyah in the northern Hasik Bay littoral. *Echis khosatzkii* extends at least to extreme southeast Al-Wusta (Sawqarah) and *Hemidactylus festivus* enters inland areas of the central Sawqarah Bay (Carranza *et al.*, 2021). [**Note 20**]

With this brief herpetogeographic review and morphological analysis of Omani *Platyceps* spp. including a tour d'horizon of the variability in contiguous Yemen, we feel confident that cliff racers from Hadramawt to Dhofar belong to the same taxon, *Platyceps* forma inquirenda. However, its western distribution limit is far from clear (see Notes 19-20). As exemplified by southern Arabian reptiles, this species may reach west to the Aden area or continue north through the Yemen highlands and along the Tihamah into Saudi Arabia (Asir).

Contrary to some current opinions (e.g., Perry, 2012; Sinaiko *et al*., 2018), we do not consider Arabian cliff racers to be a homogeneous clade, as corroborated by at least three Omani species presented and analysed to some length over the preceding pages, or Parker's (1949) detailed body scale data (see Note 11). Any unbiased appraisal of this taxonomically arduous cluster needs to account for the unresolved status of populations in the southern and western mountains and forelands, viz. from Dhofar roughly to the Tropic of Cancer along the Red Sea coast north of Jeddah (Gasperetti, 1988: figs 27-28). A serious approach to the complex situation requires coverage of a vast field of topics and demands comparison with *Platyceps saharicus* Schätti & McCarthy, 2004 (confirmed for Midyan in northwest Saudi Arabia) and *P. subniger* (Boettger, 1893) from west of the Bab al-Mandab Strait as well as an evaluation of Red Sea and further insular demes (e.g., Hallaniyah) [**Note 21**]. Hopefully, the present contribution brings us closer towards a comprehensive assessment of the morphology, taxonomy, distribution, and evolutionary history of Arabian cliff racers. There lies quite a bit of work ahead to grapple with the subject thoroughly.

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NOTES

Note 1. Boulenger (1893) reports body scale data for eleven out of twelve "Muscat" specimens (letters f-q, 4 ♂♂, 3 ♀♀, 4 juvs and subad.: BMNH 1880.11.10.154-57, 1885.11.7.16-21, 1887.11.11.21, and 1891.2.9.46, none examined) as follows: ventrals 220-239 (♂♂ 234-239, ♀♀ 230-236, juvs and subad. 220-235, incl. preventrals?), subcaudals 125-140 (125-138, 133 [n=1], 128-140, resp.), and sum 354-375 (359-373, 363, and 354-375, resp., see Comment to Diagnosis for *Platyceps hajarensis*). Three juveniles of the 1880 series (letters f-h, *leg.* W.T. Blanford) with 220-226 ventrals (sum 354-362) differ from eight individuals allegedly collected in the same general area with 230-239 (359-375, resp.) scales.

Parker (1949: fig. 1) indicates at least 226 and fewer than or equal to 241 ventrals for his "Muscat" sample (n=15), i.e., Boulenger's (1893) material (*leg.* A.S.G. Jayakar except 1880 series) plus BMNH 1901.1.30.98 and 1903.1.27.3-4 (n=14, genders confounded, range presented in steps of five scales, incl. preventrals?), and there are more than 120 (usually ≥131) and fewer than or equal to 141 subcaudals (n=9). Ventral and subcaudal counts reported by Gardner (2013: 214-262 and 113-154, resp.) are after Boulenger's (1893) figures for cliff racers obtained between "Egypt", the "Western Rhugti Hills" (Sindh, north of Shahpur), and "N.W. India", viz. comprising data for *Platyceps rhodorachis* (Jan) *sensu stricto* (nominotypical subspecies and *P. rhodorachis ladacensis*), *P. sindhensis*, and *P. saharicus*.

Note 2. The variety of dorsal pattern and colouration observed among Omani and UAE cliff racers does not include "brick-red […] as well as black specimens" (Egan, 2007). The latter morph is probably limited to western Arabia, and Parker (1938) reports "strongly erythristic" *Platyceps rhodorachis* auct. from Najran and the "southern Hejaz". An unspecified "Oman" voucher documenting "the melanistic form found throughout much of Arabia" (Perry, 2012: fig. 9, actually BMNH 1977.836, Jabal Akhdar area) represents the monochrome dark grey phenotype common in central Oman *P. hajarensis*, and there is no reason to raise doubts as to its taxonomic allocation ("the correct name […] remains unclear", l.c.; see Schätti *et al*., 2014: 382).

Note 3. Cliff racers (*Platyceps rhodorachis* complex) are absent from Mesopotamia (Iraq) and the Syrian Desert except, reportedly, in east Jordan (Amr & Disi, 2011: fig. 71). Besides seemingly isolated populations in central Riyadh Province, no Saudi records of *P. rhodorachis* auct. exist beyond 42°E longitude north of eastern Asir Province and Najran, nor along the border with southern Yemen (see Note 6) and east through the interior of Al-Wusta to the barren Hajar foreland in Oman (Gasperetti, 1988: fig. 28; Sindaco & Jeremčenko, 2008: map 84; Schätti *et al*., 2014: fig. 25). Some mapped distribution ranges (e.g., Sinaiko *et al*., 2018: fig. 1) do not account for the real situation in central and south Arabia.

Note 4. *Echis omanensis* (absent from the Batinah, only extreme east in the UAE) and *Platyceps hajarensis* share largely congruent ranges (Babocsay, 2004; Arnold *et al*., 2009; Burriel-Carranza *et al*., 2022) and ecological niches. Reversely, the distribution of *E. coloratus* south of the Tropic of Cancer is similar to the continuous range inhabited by Arabian cliff racers from Dhofar westwards (*coloratus* extends north to Jordan Rift Valley and encroaches northern Red Sea area in Egypt). Only few records of *coloratus* exist from Oman including inland Dhofar (e.g., Gardner, 2009, 2013; Carranza *et al*., 2021).

On Masirah, the carpet viper as well as *Platyceps hajarensis* and *P.* forma inquirenda are replaced by *Echis carinatus sochureki* and *P. masirae*. The saw-scaled viper is also on record for the Jiddat al-Harasis (substitutes *E. coloratus* in central Al-Wusta), the central Hajar and interior of Ad-Dakhiliyah, the Batinah as well as the northeast of the UAE west along the Gulf to the Abu Dhabi area (Arnold *et al*., 2009; Burriel-Carranza *et al*., 2019; see Fig. 1). This viperid shows Iranian affinities (see first paragraph in Discussion) and the species is found over the Indian subcontinent and in north Sri Lanka (Arnold *et al*., 2009).

The putative presence of *Echis carinatus sochureki* in western Abu Dhabi Emirate (UAE) and along the Gulf into Qatar or as far as about 27°N latitude in Saudi Arabia as reported by Russell & Campbell (2015 incl. map 12) relies on Egan (2007: in "suitable habitat throughout the Eastern Province of Saudi Arabia, Qatar, United Arab Emirates […]") and his involvement in a virtually simultaneous workshop publication. Branch *et al.* (2008: 16) describe the habitat and range "in vegetated sand deserts throughout the Eastern Province of Saudi Arabia, Qatar, the United Arab Emirates, and north-eastern Oman." However, the map (l.c. fig. 37, incl. southern Oman plots) shows no record west of ca. 54°E longitude in the littoral southwest of Abu Dhabi. When it comes to *E. khosatzkii* from "Dhofar, as far east as about 57°E" (Egan, 2007) "and possibly in southwestern Yemen" (Branch *et al*., 2008), these authors (incl. Russell & Campbell, 2015: fig. 16) neglect not only the type locality ("Hadramaut", Cherlin, 1990; see Note 20). The map accompanying the original description (l.c. fig. 5) indicates the range approximately from west of Mukalla to Sayhut and puts into perspective the unfortunate wording regarding the location of Hadramawt "on the shore of Aden Bay" ("Hadramauta na beregu Adenskogo zaliva"). Egan (2022) rectifies the distribution of *khosatzkii* ("Dhofar, S Oman; SE Yemen") and omits the undocumented occurrence of *c. sochureki* in Qatar, Saudi Arabia, and the western UAE ("E UAE, E Oman […]"), but the presence in South Oman including Masirah remains disregarded.

Note 5. *Hemidactylus endophis* Carranza & Arnold (BMNH 1976.1323, type locality "presumably the Muscat region") is only known on the basis of the holotype extracted from the stomach of a *Platyceps hajarensis* (BMNH 1885.11.7.16, Arnold, 1977; Arnold & Gallagher, 1977). The absence of any further specimen in the larger Masqat area may imply that at least some of the collector's cliff racers (*leg.* A.S.G. Jayakar, see Note 1), as well as other reptiles registered from "Mascat", were collected at a certain distance from the Sultanate's capital.

Note 6. Corkill & Cochrane's (1966) East Yemen cliff racers comprise part of the BMNH 1962.952-70 series (incl. —.966-67 from "Sana Yemen or Aden Protectorate", not considered) as well as specimens from Hadramawt and extreme southeast Shabwah Governorate (Fig. 6 inset), viz. Bir Ali (14°01'N 48°21'E), Dis Sharqiyah (14°54'N 49°57'E), and Khirbah (14°31'N 48°58'E), namely locality records for vouchers that were all included into the "Aden Protectorate" sample (BMNH 1962.939-51) during registration. None of these individuals is catalogued from "Hazar" or bears any hint to that place name. Instead, the register entry for BMNH 1962.968 reads "Nazore Desert" (*leg.* N.L. Corkill), a locality that is not listed nor mapped (l.c.). It seems admissible to conjecture that this specimen and the unregistered "Hazar" cliff racer are identical. Another inconsistency in Corkill's samples pertains to a Yemen cliff racer (BMNH 1962.970) reputedly from "Socotra" versus an "Aden Protectorate" *Hemerophis socotrae* (BMNH 1962.938, endemic).

Corkill & Cochrane's (1966) map shows "Hazar" northwest of Thamud (17°18'N 49°55'E) roughly at 18°N 49°E (Gasperetti, 1974: fig. 10; and 1988: fig. 28, loc. 18, "elev. 450 m") in the sandy Saudi-Yemen border region that hardly offers an adequate environment for cliff racers (see Note 3). Contingent on further investigation, we arbitrarily plot the collecting site of BMNH 1962.968 (register entry "Nazore Desert") at 17°30'N 48°59'E in lower Wadi Makhyah (or W. Sidarah, mouth of Wadi Ghazwan, ca. 540 m asl, Al-Qaf District, Hadramawt) near the southern fringes of the Ramlat Hazar. This isolated position is over 300 km airline distance from the nearest confirmed record of *Platyceps rhodorachis* auct. that we are aware of, namely Dis Sharqiyah beyond the Jawl Plateau (Fig. 6 inset).

Note 7. Sympatric reptiles recorded on Hallaniyah Island (ca. 17°30'N 56°01'E, Fig. 1) are *Hemidactylus alkiyumii, H. robustus, Pristurus carteri, Pristurus* sp. 1 (Appendix, see Note 18), *Psammophis schokari*, and *Tropiocolotes scorteccii*. *Hemidactylus paucituberculatus* lives on Hasikiyah, and the mentioned undescribed semaphore gecko also occurs on Sawda and Qibliyah (Colacicco *et al*., 2018; Carranza *et al*., 2021). Members of the 'Palinurus' expeditions found snakes "not of a venomous kind" that "thrive well" on Qibliyah (Hulton, 1841; Haines, 1845; "Jébeliyah" in Anderson, 1896: 11), most probably *Psammophis schokari* or a cliff racer taxon (Schätti & Desvoignes, 1999). Buist (1860) referred to those from "Helániyah" as "the whip-snake".

Note 8. The eponymous phenotype of *Platyceps r. rhodorachis* (Jan, 1863) *sensu stricto* displays a reddish dorsal stripe running all the way down the trunk and is common over much of Iran and peripheral areas, and in particular along the Gulf (Table 1). Corkill & Cochrane (1966) noted that a "vertebral stripe was present in some" Arabian specimens. This remark probably has its origin in MCZ 902 from "Arabia" (*leg.* Capt. Ch. Millet, Barbour, 1914: 88) actually collected in Iran (Fars, Schätti *et al*., 2014: 321, 345, footnote 7). In any event, we have never come across a red-striped truly Arabian cliff racer (see Material and Methods) in the field nor among the numerous sighted material, and can simply confirm that the typical '*rhodorachis*' attribute "has not been found on any […] specimen" (Gasperetti, 1988).

Note 9. Compared to Masirah, lateral first dsr reductions are uncommon in Dhofar (3 ♂♂). All Hajar (incl. Gulf of Oman littoral) and South Oman cliff racers with an optional reduction to 11 dsr are males, and this character state (presence of the decrease) shows sexual dimorphism in *Platyceps r. rhodorachis sensu stricto* (89.3% ♂♂, n=28, Schätti *et al*., 2014: 344). Seven specimens with detailed sequence data available have lateral or median (vertebral) levels involved in this last step at ca. 87-90%ven in *P.* forma inquirenda (BMNH 1976.1484, 1977.1190, see Variation), 92% in *P. masirae* (MCZ 156715, ♂ paratype), and 90-96% in *P. hajarensis* (BMNH 1978.778, 1994.112, MHNG 2664.66, ZSM unreg.).

An inland Dhofar cliff racer (BMNH 1980.580, Thamarit, ♂) with low body scale data, a peculiar dorsal colour pattern, and the subocular lacking (Fig. 4A, see Comment to Diagnosis of forma inquirenda, Variation) reduces to 13 dsr between ventrals 117-140 (55-65%ven), to 11 at 192-193 (90%) involving lateral and paravertebral levels, and there are 10 dsr at 199-201 by a lateral right side fusion immediately followed by a vertebral division (13 dsr re-established at above last ventral).

Note 10. "Khiyunt" (Parker, 1931b) as mapped in Thomas (1932) is the Wadi Khiyawt area along the inland escarpment of Jabal Qara mostly below 500 m asl. The collector (Bertram Thomas) also visited Ayn Khiyawt (17°14'05"N 57°08'56"E; l.c. plate opp. p. 82), a spring located at a slightly higher elevation (ca. 600 m) that better corresponds to data for the collecting site of BMNH 1931.7.16.63 ("1750 ft.").

Note 11. Parker's (1949: fig. 1) ventral data nearly separate his "Muscat" sample of *Platyceps hajarensis* (≥226 to ≤241, see Note 1) and "Dhufar" cliff racers (Jabal Qara) with more than 215 and fewer than or equal to 231 scales (n=9, BMNH 1931.7.16.59-67). A female from an unspecified locality in the Jabal Qara (Haas, 1957: HUJ 3863, see Note 13) allegedly has only 214 ventrals as well as the lowest total body scale count (333, 119 subcaudals) not only for Dhofar (Figs 11-12) but Omani cliff racers at all except *P. masirae* (Table 1). Apart from the implicit consideration in Parker (1931a, 1932) and Gasperetti's (1988) register, material from Dhofar or eastern Yemen compiled by Parker (1931b) and Arnold (1980) or in Steindachner (1903) and Corkill & Cochrane (1966), respectively, is without useful morphological data. Four cliff racers (♂♂, ♀♀) from "Hadramut" (Anderson, 1896: table) are reported with 226-228 ventrals (incl. preventrals?) and 125-129 subcaudals (n=3). Only one of them (BMNH 1897.3.11.110, *leg.* J.T. Bent) is today deposited in the Natural History Museum. The female with "226" ventrals and "125" subcaudals (in fact 224 and ca. 130, resp.) is MZUT 628 as evidenced by its total length ("561" mm) and gender (♀). Anderson's (1895, 1898) summary data for ventrals in cliff racers from "Muscat to Aden" (220-239) rely upon Boulenger's (1893) "Muscat" sample (n=11, see Notes 1 and 5), the "Hadramut" series (see above), and BMNH 1885.5.2.2 (*leg.* J.W. Yerbury) from "Aden"; pertinent individual scale counts are registered for three (tabulated, purportedly four in total, Anderson, 1895) specimens (CAS 38726-28). Anderson (1898: table and 'Analysis') provides data for two additional "Aden" cliff racers (221-231 ventrals, 114-133 subcaudals, place of custody unknown) and indicates 114-140 subcaudals for "Muscat to Aden". Twelve unspecified BMNH specimens from "Aden and Hadramaut" reviewed by Parker (1949: fig. 1) show more ventrals (potential extremes 221 and 246, twice more than 235) and subcaudals (≥126 to ≤146, n=7, see Note 1).

For more than the subsequent 70 years, no further relevant individual scale data have been published on Omani cliff racers nor various other indigenous snake species as well.

Subcaudal data samples are notoriously under-represented due to the high incidence of incomplete tails (certain South Arabian tribesmen value the tip as talisman). Our counts (119-136 in Dhofar) for the Jabal Qara and Salalah plain (119-128, x̄=124.0, n=9) indicate fewer scales than in the Jabal Qamar range and East Yemen (130.3, 10). At least 129 subcaudals occur in MHNG 2664.59-60 (Jabal Samhan, ♂, subad., 136 and 130, resp.), both Al-Mahra specimens (NMW 25444.1-2, ♂♂: 134-135) and three (♂♂, ♀) from Hadramawt (BMNH 1897.3.11.110 [129], 1962.963 [132], MZUT 628 [130]); the minimum observed in Yemen (125-127) relies on two Mukalla ♀♀ (BMNH 1962.952, —.954). As few as 112 subcaudals reported for "SW Arabia" (Schätti, 2006: 84) actually rely on a Dhofar specimen (BMNH 1931.7.16.62) with an incomplete tail. Total body scale counts (336-360 in Dhofar) range from 336-350 in the Jabal Qara area (incl. vic. Salalah), 352 in Wadi Ayn (MHNG 2664.70, ♀), and 353-361 in the Samhan massif and East Yemen except in BMNH 1962.954 (349, 125 subcaudals).

Note 12. High ventral counts (243-245) in *Platyceps gallagheri* contrast with data for two cliff racers (♂♀, 221 in both) from Henjam Island (26°39'N 55°53'E, Fig. 1) in the Strait of Hormuz (BMNH 1919.7.18.12, BMNH 568). The BMNH male differs from *P. gallagheri* and northern (UAE) *P. hajarensis* in clearly fewer maxillary teeth (14 vs. 18, resp., Fig. 12: Group A-B, Table 1). These insular demes including the population on Hormoz Island (27°04'N 56°28'E, Tuck, 1974) and much larger Qishn (presence unconfirmed) deserve particular attention.

Werner (1929b) reports 237 ventrals (incl. preventrals?) for an unlocated female cliff racer ("*Zamenis rhodorhachis* [sic] Jan") from "Biabun" in Hormozgan (Biyaban, "Südküste Persiens", *leg.* A. Gabriel) that does not fit body scale data of 'Gulf' *Platyceps rhodorachis sensu stricto* at all (Table 1). The identity of this specimen with purportedly 116 subcaudals (tail possibly incomplete) remains unresolved. It cannot be excluded that Alfons Gabriel's voucher was obtained in the Masqat area ("Matrah") where the collector settled for a while before heading to Bandar Abbas in Iran along the Strait of Hormuz (Gabriel, 1929; Schätti *et al.*, 2014: 351, footnotes 1 and 7; see Comment to Diagnosis for *P. hajarensis* and second paragraph in Discussion regarding high ventral counts).

Note 13. Bedriaga's (1879) Ras Musandam report of *Platyceps karelini* (Brandt), a wide-ranging racer species from northeast Africa to Central Asia and Baluchistan, relies on Blanford's (1876) "*Zamenis ventrimaculatus*", viz. the paratype of *P. gallagheri* (ZMB 10324, Schätti *et al.*, 2012; see chresonymy for details and subsequent quotations). Insular records (UAE) of *P. ventromaculatus* (Gray) auct. (e.g., Gardner, 2005: as Hardwicke's Racer) in reality refer to *P. karelini chesneii* (Martin). Chesney's Racer from northeast Libya, Lower Egypt, and the Near East to western Iran extends down the Gulf coast into Saudi Arabia (Dammam area incl. Al-Hassa oasis and, possibly allochthonous, around Riyadh) and Qatar (Gardner, 2013), inhabits Bahrain, and exists on Dalma (24°31'N 52°19'E) and Sir Bani Yas (24°20'N 52°36'E, Fig. 1) islands off the western UAE (l.c. incl. photo; additional UAE references and examined voucher see Schätti *et al.,* 2012: footnote 11; Schätti *et al.*, 2014: fig. 25, Appendix E). A Dhofar record of "*Coluber ventromaculatus* Gray" ("Jebel Qara", Haas, 1957; see Note 11) is confused with *Platyceps* forma inquirenda. Gray's Racer is a Sindian and sub-Himalayan lowland species (below ca. 600 m asl, Schätti & Schmitz, 2006; Schätti *et al.*, 2014: 357).

Note 14. Another parallel in the distribution of *Platyceps hajarensis* and further Eastern Oman Mountain endemics (*Echis omanensis, Omanosaura cyanura, O. jayakari*, *Pristurus gallagheri*, *Pseudotrapelus jensvindumi,* see next Note) is the hiatus observed over a good portion of the low, more arid main ridge along the border between the Batinah and Ad-Dhahirah southeast to the Jabal Akhdar region (see Distribution and Ecology).

Note 15. The distribution of the agamid *Pseudotrapelus jensvindumi* and *Platyceps hajarensis* all but coincide, and is almost congruent with the range inhabited by the only other endemic snake of the Eastern Oman Mountains, the viperid *Echis omanensis* (see Note 4). This massif, a veritable epicentre of endemism, harbours at least another 15 lizard species not found elsewhere. *Asaccus gardneri, A. margaritae*, and *Ptyodactylus ruusaljibalicus* are only known from Musandam Governorate, the extreme east of the UAE (vic. Dibba, Fujayrah), and near Mahada (*A. margaritae*, see Discussion; "Mahda", Carranza *et al.*, 2021). *Omanosaura* *cyanura* and *O. jayakari* (both discontinuous) occur from Ras Musandam to the upper Wadi Bani Khalid drainage. *Asaccus gallagheri* (disjunct) and *Pristurus celerrimus* reach south to the Central Hajar. *Asaccus montanus*, *A. platyrhynchus*, *Hemidactylus luqueorum*, or *Pristurus gallagheri* are Central Hajar natives, and *Hemidactylus hajarensis* is recorded from there to the littoral of Masqat Governorate and southeast to northern South ash-Sharqiyah. *Pristurus* spp. 2 and 4 are only known from the Eastern Hajar. *Asaccus arnoldi* is restricted to the latter region and northern South ash-Sharqiyah (Carranza *et al.,* 2021; Burriel-Carranza *et al*., 2022). *Pristurus* spp. 3 (incl. UAE, Gulf islands) and 5 (Central Hajar to extreme northern Jiddat al-Harasis, enters contiguous inland areas) remain unconsidered in this compilation.

Note 16. The flat rubble fields of the Jiddat al-Harasis extend over roughly 650 km from Ras al-Hadd along the Arabian Sea, and inland to the fringes of the Ramlat Wahiba and Rub al-Khali; in the eastern foreland of the Jabal Samhan range (Hasik area, Dhofar), it turns inland and continues into northeast Hadramawt (Fig. 1). The coast (in particular towards Ras al-Hadd) receives little rain during the summer monsoon but fog allows patchy higher vegetation cover. *Hemidactylus inexpectatus* (only Al-Wusta), an undescribed congeneric (*Hemidactylus* sp., only vic. Arīsh Desert Camp, ca. 22°30'N 58°41'E), *Phrynocephalus sakoi* (Ash-Sharqiyah incl. Ramlat Wahiba), and *Trigonodactylus sharqiyahensis* (ibid. plus northeast Al-Wusta) are endemic to the Jiddat al-Harasis area. Sako's toad-headed agama and the widespread Arabian congeneric *P. longicaudatus* are parapatric. *Acanthodactylus masirae* (north to Barr Hikman plain) and *Uromastyx thomasi* (mainland Oman north to vic. Duqm incl. more inland localities) are only found in the Jiddat al-Harasis (west to Thamarit area) and on Masirah. Wilms & Böhme's (2007: fig. 14, loc. 6) Barr Hikman record of *U. thomasi* is from Wadi Haluf (ca. 17°30'N 53°43'E, BMNH 1931.7.16.46, Arnold, 1980) west of Thamarit, and the map plot west of the Salalah plain is based on a series collected "between Bawi and Salalah" (loc. 1, *leg.* W. Thesiger), viz. from north or east of the Dhofar Mountains as evidenced by a *Cerastes gasperettii* (BMNH 1975.1030) with the same provenance.

Note 17. The Masirah Channel has a width of roughly 14-25 km and depths between the Barr Hikman area and northern Masirah are mostly below 12 m (37.5 ft., www.gpsnauticalcharts.com; Oman Marine Chart SA_GB341330). A drastic sea level drop during the last glacial maximum (ca. 20-25'000 ybp) laid bare a good part of the South Oman continental shelf, established the coastline from at least the mouth of Wadi Bani Khalid beyond today's Masirah Island to the Ras Madrakah area (Hall & Levenson, 2017), and active dunes (Ramlat Wahiba) invaded the hinterland. This recent land passage modifies certain statements (e.g., "long period of isolation", Tamar *et al*., 2019: 350) and makes it difficult to comprehend Masirah's comparatively impoverished terrestrial herpetofauna (15 lizards incl. introduced species and six snakes confirmed, Appendix) and to explain endemism (two gekkota) as well. Most remarkable is the apparent absence of widespread Arabian and/or Saharo-Iranian reptiles (mostly psammophile species) observed in the Al-Wusta littoral (Jiddat al-Harasis), e.g., *Acanthodactylus opheodurus, A. schmidti*, *Bunopus tuberculatus*, *Cerastes gasperettii*, *Eryx jayakari*, *Lytorhynchus diadema, Phrynocephalus longicaudatus*, *Stenodactylus doriae*, *Trapelus flavimaculatus*, or *Varanus griseus*.

Note 18. *Pristurus* sp. 1 *sensu* Badiane *et al*. (*P. rupestris* Blanford auct.) is distributed continuously (except central Sawqarah Bay littoral) from the Barr Hikman area (northeast Al-Wusta) southwest into Yemen (see penultimate paragraph in Appendix as to range and potential presence on Masirah). The range of *Hemidactylus minutus* is disjunct, viz. encompasses the coast between Ras al-Hadd and the border area of South ash-Sharqiyah with Al-Wusta, and from Ras Madrakah to inland Dhofar (Thamarit) and Yemen (Damqawt). Other lizards including *Ptyodactylus* spp. are absent from the entire Jiddat al-Harasis, viz. from north of Hasik (inland beyond Thamarit towards edge of J. al-H.) to lower Wadi Bani Khalid (*P. orlovi*). The widespread fringe-toed lizard *Acanthodactylus boskianus* has not been documented between Ras al-Hadd and central Al-Wusta. In the case of *Chalcides ocellatus*, an isolated and possibly allochthonous record exists for the Barr Hikman area (Carranza *et al*., 2021). Another peripheral mesic Arabian skink, *Trachylepis tessellata*, lacks in the Jiddat al-Harasis but is present on Masirah (Appendix, see next note).

Note 19. Besides a completely isolated photographic record from Madinah Province in western Saudi Arabia (Aloufi *et al.,* 2020), *Platyceps variabilis* (Boulenger) is distributed from Southwest Arabia to Dhofar (e.g., Sindaco *et al.,* 2013). *Coluber thomasi* Parker and *Zamenis variabilis* Boulenger are conspecific, and *P. variabilis* also includes *Coluber manseri* Leviton (Schätti *et al*., 2014: 384). The supposedly diagnostic scale condition (number of msr) segregating these nominal taxa follows a cline from the Saudi Tihamah (19, *manseri*) through western Yemen (17) into Dhofar (15, *thomasi*) with intermediate populations along the Red Sea escarpment of the Yemen highlands (17 or 19 msr) and in eastern Yemen (15-17). The original description of *Platyceps variabilis* provides a detailed account of the name-giving array of dorsal colour patterns observed in the type series from "El Kubar" (Khawbar, 13°48'N 44°45'E, ca. 1400 m asl) in Ad-Dali, southwest Yemen. Specifically, Boulenger (1905) enumerates a dark brown variant with black occiput and light-centred dorsals ('*manseri*', var. D) and another C "with a bright red vertebral stripe" ordinarily considered exclusive to '*thomasi*'. The fact that *P. variabilis* from Yemen and Oman (Mughsayl, 16°53'03"N 53°47'27"E) are genetically identical ("Probe […] entspricht der einzigen *P. variabilis*-Sequenz, die […] aus dem Jemen verfügbar ist", Jiří Šmíd fide Grossmann *et al*., 2020) does not contribute to clarify the taxonomic status of *Coluber thomasi* Parker. And the virtually syntopic presence of '*thomasi*' and *variabilis* auct. in Dhofar (Mughsayl, Šmíd, 2010; "Unidentified *Platyceps*", Carranza *et al*., 2021) entirely relies on the specimens' overall identification, viz. different dorsal colour patterns. No relevant scale data (in particular dsr) were published for these two racers ("no […] counts were taken", l.c.; see Gardner, 2013: 374). Actually, sympatry of different phenotypes does not exclude conspecificity at all as exemplified by the type series of *variabilis*. In a rare exception to customary practise (see Note 11, second paragraph), Arnold (1980: table 5) provides morphological data for BMNH 1962.935 ('*thomasi*', 15 msr) from "eastern South Yemen" (probably Hadramawt, *leg.* N.L. Corkill). This may imply that the red-striped phenotype is predominant in coastal East Yemen, and Dhofar as well. Wranik (1998: fig. 19) reports "*Coluber thomasi*" from Lahij Governorate ("Jafa Mt.") north of Aden.

No major collecting activity, let alone a comprehensive field study, has ever been conducted in most of Hadramawt and Al-Mahra as a whole, and the presence of many species in the former area relies on vague locality data ("Hadramaut") from James T. Bent's 1893 expedition. As tricky as it proves to establish reliable species' limits from scattered distant locality records, and even decide whether ranges are disjunct, patchy, or continuous, we assume that *Platyceps variabilis* and probably a fair number of so far unconfirmed reptiles occur over larger parts of eastern Yemen, and in particular the coastal region (see next Note). An example of how easily even large diurnal species remain undetected in supposedly well-explored areas is the recent discovery of *Uromastyx aegyptia microlepis* on Masirah (Zwanzig *et al.*, 2022), the veritable giant among this island's terrestrial herpetofauna (Appendix).

The exiguous herpetological investigation of eastern Yemen was reviewed by Anderson (1896) and more recently Schätti & Desvoignes (1999). The spring 1993 expedition of the Ornithological Society of the Middle East in Yemen produced field observations for 22 nominal reptile taxa (Showler, 1995) from the coast east of 48°30'E longitude (Hadramawt, incl. *Acanthodactylus arabicus, A. opheodurus*, *Chalcides ocellatus, Pristurus collaris*), Wadi Hadramawt (e.g., *Acanthodactylus boskianus*, 15°49'-16°08'N 48°25'-49°14'E, ca. 830 m asl; *Ptyodactylus* cf. *hasselquistii*, Ghurfah; *Trachylepis tessellata*, vic. Fughmah; *Uromastyx benti*, vic. Fughmah, Ghurfah), the inland west of Ghaydah (*Echis coloratus* and *Stenodactylus doriae*, Wadi Sh'hout, 800 m; *Mesalina* "*adramitana* ?", east of Jabal Sahum, 670 m; *Uromastyx aegyptia microlepis*, Mishqas area east to northern edge of Shalmit plains, 650 m; *Varanus griseus*, ca. 16°13'N 51°35'E, 260 m), and along the Al-Mahra littoral (14 species). Most remarkable is the presence of *Pristurus minimus* in the Faydami plain (16°25'N 52°28'E, nsl). Also reported are *Acanthodactylus boskianus* (Faydami plain), *Pristurus carteri* (as *P.* "*collaris*", 10 km west of Wadi Mirarah, 16°40'N 52°50'E), *Stenodactylus doriae* (east to Saqr, 15°32'N 51°56'E, nsl), *Tropiocolotes scorteccii* ("hills inland from" Ras Sharwayn, 15°24'N 51°35'E, 700 m), *Uromastyx benti* (Shahrat, 16°33'N 52°46'E, nsl), *Varanus griseus* (Wadi Masilah west of Sayhut, 15°14'N 51°08'E, 50 m) as well as *Acanthocercus adramitanus* (as "*Pseudotrapelus*" sp.), *Chamaeleo arabicus* (incl. Saqr), *Platyceps variabilis thomasi, Psammophis schokari*, *Trachylepis brevicollis*, an undefined *Hemidactylus* sp. (*H.* "*yerburii*", probably *H. alkiyumii*, see next Note), and a tentatively allocated sandfish ("*Scincus scincus conirostris"*) in Wadi Mirarah ("Mararah") only a few kilometres from the Dhofar border.

Scincus conirostris is not documented for the entire Yemen coast (Arnold & Leviton, 1977; Schätti & Gasperetti, 1994) nor Oman south of 22°N latitude (Seufer *et al.*, 2022), and Showler's (1995) cursory observation rather corroborates Steindachner's (1903) record of multiple *S.* "*muscatensis* Murr." (syn. *mitranus* Anderson) from Qishn, viz. the presence of *S. mitranus* along the Arabian Sea coast between the vicinity of Aden (Sindaco & Jeremčenko, 2008: map 133) and the Oman border area (absent from Dhofar Mountains, see Appendix).

Note 20. Despite its high diversity of species, Dhofar and immediately adjacent Yemen possess few truly endemic reptiles, viz. the recently described *Hemidactylus alkiyumii* (Damqawt east to Wadi Hasik area, Hallaniyah Island), *H. paucituberculatus* (Salalah plain to Hasik), *Ptyodactylus dhofarensis* (Yemen border to Hasik and Thamarit), and *Tropiocolotes confusus* (Salalah plain to Jabal Samhan range, Kowalski *et al.*, 2020). Their documented distribution ranges highlight the poor exploration between the Oman-Yemen border (Jabal Qamar) and, at least, the vicinity of Sayhut (15°13'N 51°15'E) some 250 km farther west (see preceding Note). Collecting in these swaths of land may bestow upon these species the fate of other "possible Dhofar endemics" (Arnold, 1980) probably found in appropriate habitats with sufficient mean annual precipitation through East Yemen. This applies to *Hemidactylus lemurinus* from the Salalah plain west to Abyan Governorate (Jayshan District, Busais *et al.*, 2022) northeast of Aden, *Mesalina ayunensis* (Hadramawt littoral near Riyan, Simó-Riudalbas *et al.*, 2019: 305 ["central Yemen"], fig. 2), or *Pseudotrapelus dhofarensis* recorded from the Oman-Yemen border region to Masirah and farther north on the mainland (see Appendix). Another species, the mole viper *Atractaspis andersonii* (Dhofar, Southwest Arabia) with a preference for loose soils, likely dwells in East Yemen.

The lack of herpetological field work in Al-Mahra is obvious in the case of, for instance, *Hemidactylus minutus* or *Pristurus* sp. 1 (see Notes 7 and 18), *P. carteri* (Appendix, see penultimate paragraph in preceding Note; isolated records along Saudi-Yemen border in northwest Hadramawt; the closely related *P. collaris* is an eastern Yemen endemic reaching at least Ras Fartak, Arnold, 1986), or *Trachylepis tessellata* (Appendix, see Note 19). The data gap west of Dhofar is also apparent in certain species confirmed for the Sawqarah area or central Hasik Bay to the Yemen borderland (Damqawt) such as *Hemidactylus festivus* or *Acanthodactylus felicis*, also documented from the Hadramawt Valley (Carranza & Arnold, 2012: fig. 2) or western Yemen (Sindaco & Jeremčenko, 2008: map 151) to Abyan (Mahfad) and Hadramawt (Arnold, 1980), respectively, and in the first place *Rhynchocalamus arabicus*. For a considerable period, this small secretive colubrid was known only on the basis of the holotype collected in the vicinity of "Aden" (Schmidt, 1933). Its discovery in southwest Dhofar (Wadi Ayun and Mughsayl, Gebhart, 2013, 2017: 'Marneef Cave' [Mughsayl record]; Šmíd *et al.*, 2015; Grossmann *et al.*, 2020) amplified the distribution range roughly 900 km airline distance farther east. *Echis khosatzkii* is reported from the Sawqarah Bay littoral north of Lakbi ("Liqbi", Arnold, 1980: *E.* "*carinatus*" BMNH 1977.841; "Lakabi", Carranza *et al.*, 2021) to the Yemen border (inexplicably incl. "Jebel Shams", l.c.), and along the Arabian Sea between the vicinity of Qishn (15°25'N 51°40'E, Fig. 6 inset) and Ras Mijdahah (13°59'N 48°28'E) in Shabwah near the administrative border with Hadramawt Governorate, without any published in-between record (Arnold *et al.*, 2009: fig. 1). This viperid is the only endemic Southern Mountains reptile species with close Ethiopian affinities (Red Sea region, Horn of Africa; *E. pyramidum* cluster, l.c. fig. 2; see Note 4 regarding *E. carinatus* and *E. coloratus* groups, and next paragraph as to East African relationships).

Taxa distributed from mesic southwest Dhofar to Southwest Arabia (Tihamah, Yemen highlands, Asir) include *Mesalina austroarabica* (Farasan Island and mainland southwest Saudi Arabia [e.g., Šmíd *et al.*, 2023] through Yemen to vic. Hasik), *Platyceps variabilis thomasi* (see preceding Note), *Trachydactylus spatalurus* (incl. vic. Thamarit), and *Tropiocolotes scorteccii* (enters central Al-Wusta littoral at least as far as Ras Madrakah), or *Acanthocercus adramitanus* and further species with Afrotropical affinities (e.g., Arnold, 1987) such as the thread snake *Myriopholis nursii* (incl. Horn of Africa, north Oman littoral) and the venomous *Atractaspis andersonii*, *Bitis arietans* (conspecific), and *Naja arabica*.

Note 21. *Platyceps rhodorachis* (Jan, 1863) *sensu stricto* is an Irano-Turano-Himalayan cliff racer (Schätti *et al*., 2014), and species rank becomes mandatory for Somalian *P. rhodorachis subniger* auct. (e.g., Schätti & Ineich, 2004; Sindaco *et al*., 2013; Nistri & Vanni, 2014; see Perry, 2012: 97, *P*. "*subnigra*"). The name *Zamenis ladacensis* var. *subnigra* Boettger, 1893 (type locality "Ogadeen, Somaliland") was established based on the semi-melanistic holotype.

Except for the three species described herein (*Platyceps gallagheri, P. hajarensis, P. masirae*), no scientific name has ever been introduced for cliff racers on the basis of Arabian type material. Should at least certain populations from east of the Bab al-Mandab Strait prove to be conspecific with those in the Horn of Africa as implied by morphology (Schätti, 2006: 84), *P. subniger* (Boettger) would become the correct designation for that species with a yet to be defined Arabian distribution between the Asir and Dhofar.

With these lines we bid farewell to the operational "cf. *rhodorachis*" (e.g., Schätti, 2006; Schätti *et al*., 2014) to embrace any cliff racer taxon whatsoever.

APPENDIX

Terrestrial reptiles confirmed for Masirah Island (Jazīrat Maṣīrah, Sultanate of Oman) and Marsays (*, Jazīrat Marṣayṣ, Shaghaf, "Shargaf", ca. 20°27'37"N 58°44'55"E), with brief distribution notes. Superscript ciphers identify species with entire original material from Masirah (^{1}, holotype or complete series) or including paratypes (^{2}) from there. Twenty-one species are documented, viz. ^{1}**Acanthodactylus masirae* Arnold, *Chamaeleo arabicus* (Matschie), **Echis carinatus sochureki* Stemmler, ^{1}*Hemidactylus masirahensis* Carranza & Arnold, *H. robustus* Heyden, *Malpolon [Rhagerhis] moilensis* (Reuss), *Mesalina adramitana* (Boulenger), ^{1}*Platyceps masirae* sp. nov., ^{1}**Pristurus carteri* (Gray), ^{1}*P. masirahensis* Tamar *et al*., ^{2}*P. minimus* Arnold, *Psammophis schokari* (Forskål), *Pseudotrapelus dhofarensis* Melnikov & Pierson, *Scincus mitranus* Anderson, *Spalerosophis diadema* (Schlegel), *Stenodactylus leptocosymbotes* Leviton & Anderson, *Telescopus dhara* (Forskål), ^{2}*Trachydactylus hajarensis* (Arnold), *Trachylepis tessellata* (Anderson), *Uromastyx aegyptia microlepis* Blanford, and *U. thomasi* Parker (e.g., Arnold, 1977; Arnold & Leviton, 1977; Arnold, 1980, 1986; Gasperetti, 1988; Schätti & Gasperetti, 1994; Meinig & Kessler, 1998; Carranza & Arnold, 2012; Gardner, 2013; Tamar *et al*., 2019; Carranza *et al*., 2018, 2021; Zwanzig *et al*., 2022).

Two gekkota (*Hemidactylus masirahensis*, *Pristurus masirahensis*) are endemic to Masirah Island. *Platyceps masirae* probably inhabits smaller islands of the archipelago, particularly Marsays in the Umm Rasas Bight, is recorded in at least the central Al-Wusta littoral, and may live on Hamr Nafun and islets of the east Arabian Sea coast (see Distribution and Remarks). *Acanthodactylus masirae* and *Uromastyx thomasi* occur from Al-Wusta to Dhofar (see Note 16). *Pseudotrapelus dhofarensis* is distributed from southeast Ad-Dakhiliyah (vic. Jilfah) west into East Yemen. *Pristurus carteri* is documented for far inland Hadramawt (northern Jawl Plateau and Zamakh wa Manwakh District, Arnold, 1986) and from the Yemen-Dhofar border area (see Notes 7 and 19, incl. inland along the sands) to north Oman (single UAE borderland record). *Mesalina adramitana* is confirmed for Yemen east of the highlands (Sindaco & Jeremčenko, 2008: map 205) and throughout Oman (excl. sand deserts, incl. Musandam), eastern UAE, Qatar, and limitrophe Saudi Arabia. *Echis carinatus sochureki* and *Trachydactylus hajarensis* range from Al-Wusta to the northeast UAE (*E. c. sochureki*, see Note 4) and Ras Musandam, respectively. *Stenodactylus leptocosymbotes* is reported from "southeastern Yemen" (Carranza *et al*., 2021; see Notes 19-20 as to collecting in East Yemen), "across Oman", and the eastern UAE to the Gulf. *Scincus mitranus* lives in the active sands of east Tabuk Province (Aloufi & Amr, 2015) through the interior and eastern Peninsula including Kuwait (Sindaco & Jeremčenko, 2008: map 133) and the southern Yemen littoral (see Note 19). *Uromastyx aegyptia* occurs from Egypt east of the Nile to north Iraq and southwest Iran, and over most of Arabia (*U. a. microlepis, U. a. leptieni* in the Batinah, northern UAE, and Musandam) north and east of the Yemen highlands except in sandy deserts. *Malpolon moilensis* is distributed across the Saharo-Arabian region (incl. Near East) into southwest Iran. *Telescopus dhara* ranges from North Africa and sub-Saharan areas north to Jordan and is widespread in Arabia. *Psammophis schokari* and *Spalerosophis diadema* are Saharo-Turano-Sindian species; the latter is not on record for the Jiddat al-Harasis between the Jabal Qarari area and central Al-Wusta. *Hemidactylus robustus* is an easily transported gecko found intermittently in the Red Sea region to northeast Kenya and Sokotra, southern Arabia to Oman (not recorded between Salalah plain and Ras Madrakah except Khorya Moriya islands, see Note 7), and in the entire Gulf region east to Pakistan.

Chamaeleo arabicus is known from the Aden hinterland to the vicinity of Hasik (Dhofar) and has most certainly been introduced to Masirah (Arnold, 1980). Sporadic insular records of *Pristurus minimus* (distributed from eastern Al-Mahra littoral continuously to northern Oman, limitrophe Saudi Arabia, and northeast UAE, see Note 19) are "considered introduced" (Tamar *et al*., 2019). In our opinion, this also applies to *Trachylepis tessellata* (Carranza *et al*., 2018) which is documented from Wadi Fatimah (ca. 21°27'N 39°45'E, Schätti & Gasperetti, 1994) and the Asir to southern Yemen, the Dhofar Mountains east to Hasik, the Hajar (incl. seaside lowland and more inland localities) to the Ras Musandam area (Carranza *et al*., 2021) and extreme east of the UAE (Burriel-Carranza *et al*., 2019) as well as the Dammam area in Saudi Eastern Province south to the vicinity of Ash Shibah (25°28'N 49°37'E, "Al Suhaemeah farms, Aloufi *et al*., 2023: incl. Fig. 7C-D, "first record of this species to the herpetofauna of Saudi Arabia"), but without a single record for the entire Jiddat al-Harasis. Besides MHNG 2579.12-15 from the vicinity of Ghayl Ba Wazir (14°47'N 49°22'E, Schätti & Desvoignes, 1999), the vague locality record ("Hadramaut") for BMNH 1897.3.11.94 (*leg*. J.T. Bent 1893), and an observation in eastern Wadi Hadramawt (vic. Fughmah, 16°10'N 49°27'E, ca. 670 m, Showler, 1995; verified photo voucher, see Note 19), we are unaware of further published distribution data from east of Abyan Governorate (Jayshan District, Busais *et al*., 2022) to the Dhofar border (Schätti & Gasperetti, 1994: 422). Though, this skink certainly lives in Al-Mahra (Jabal Qamar), perhaps west beyond Ras Fartak (Fig. 6 inset) into Hadramawt across the Southern Mountains.

Besides *Pristurus minimus* (see preceding paragraph), an additional congeneric (*Pristurus* sp. 1) is potentially present on Masirah ("Introduced populations […] may belong to this species", Carranza *et al*., 2021). This yet formally undescribed semaphore gecko has a large distribution range from southern

Jordan to Dhofar and Al-Wusta (see Notes 7 and 18), and possibly occurs in East Africa (Red Sea region, l.c.).

The land herpetofauna of Masirah is completed with the toad *Duttaphrynus dhufarensis* (Parker) from Southwest Arabia (Asir) along the southern coastal regions (incl. Jiddat al-Harasis) to Ras Musandam (incl. UAE, Balletto *et al*., 1985).