

**Barred, blotched or intermediate? A photographic-based survey on the spatial distribution of
Vipera aspis phenotypes from central-southern Italy**

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SUPPLEMENTARY MATERIAL

Table S1: *Vipera aspis* individuals included in the study. Coordinates are approximated for conservation reasons.

| Individual | Latitude (°N) | Longitude (°E) | Region | Province | Year | Phenotype |
|-------------------|----------------------|-----------------------|---------------|-----------------|-------------|----------------------|
| 1 | 42.2 | 14.3 | Abruzzo | Chieti | 2017 | <i>francisciredi</i> |
| 2 | 41.7 | 13.9 | Abruzzo | L'Aquila | 2021 | <i>francisciredi</i> |
| 3 | 42.0 | 13.8 | Abruzzo | L'Aquila | 2017 | <i>francisciredi</i> |
| 4 | 40.8 | 17.0 | Apulia | Bari | 2018 | <i>hugyi</i> |
| 5 | 40.8 | 17.2 | Apulia | Bari | 2021 | <i>hugyi</i> |
| 6 | 41.0 | 16.3 | Apulia | Bari | 2019 | <i>hugyi</i> |
| 7 | 41.8 | 16.0 | Apulia | Foggia | 2023 | <i>hugyi</i> |
| 8 | 41.9 | 15.4 | Apulia | Foggia | 2019 | intermediate |
| 9 | 41.4 | 15.1 | Apulia | Foggia | N/A | intermediate |
| 10 | 41.6 | 15.0 | Apulia | Foggia | 2021 | <i>francisciredi</i> |
| 11 | 41.5 | 15.1 | Apulia | Foggia | 2023 | intermediate |
| 12 | 41.9 | 15.4 | Apulia | Foggia | 2018 | <i>hugyi</i> |
| 13 | 41.7 | 16.0 | Apulia | Foggia | 2022 | <i>hugyi</i> |
| 14 | 41.9 | 16.1 | Apulia | Foggia | 2022 | <i>hugyi</i> |
| 15 | 41.9 | 16.1 | Apulia | Foggia | 2019 | <i>hugyi</i> |
| 16 | 41.9 | 16.0 | Apulia | Foggia | N/A | <i>hugyi</i> |
| 17 | 40.2 | 18.4 | Apulia | Lecce | 2020 | <i>hugyi</i> |
| 18 | 40.0 | 18.0 | Apulia | Lecce | 2022 | <i>hugyi</i> |
| 19 | 40.7 | 17.2 | Apulia | Taranto | 2020 | <i>hugyi</i> |
| 20 | 40.6 | 16.8 | Apulia | Taranto | 2017 | <i>hugyi</i> |
| 21 | 40.6 | 17.2 | Apulia | Taranto | 2021 | <i>hugyi</i> |
| 22 | 40.6 | 16.7 | Basilicata | Matera | 2018 | <i>hugyi</i> |
| 23 | 40.4 | 16.7 | Basilicata | Matera | 2017 | <i>hugyi</i> |
| 24 | 40.6 | 16.6 | Basilicata | Matera | 2021 | <i>hugyi</i> |
| 25 | 40.2 | 16.7 | Basilicata | Matera | 2020 | <i>hugyi</i> |
| 26 | 40.6 | 16.7 | Basilicata | Matera | 2019 | <i>hugyi</i> |
| 27 | 40.6 | 16.7 | Basilicata | Matera | 2019 | <i>hugyi</i> |
| 28 | 40.6 | 16.7 | Basilicata | Matera | 2022 | <i>hugyi</i> |
| 29 | 40.2 | 16.7 | Basilicata | Matera | 2020 | intermediate |
| 30 | 40.6 | 16.2 | Basilicata | Matera | 2021 | intermediate |
| 31 | 40.7 | 16.6 | Basilicata | Matera | 2013 | <i>hugyi</i> |
| 32 | 40.2 | 16.7 | Basilicata | Matera | 2021 | <i>hugyi</i> |
| 33 | 40.2 | 16.7 | Basilicata | Matera | 2019 | <i>hugyi</i> |
| 34 | 40.2 | 16.7 | Basilicata | Matera | 2020 | intermediate |
| 35 | 40.2 | 16.7 | Basilicata | Matera | 2021 | <i>hugyi</i> |
| 36 | 40.2 | 16.7 | Basilicata | Matera | 2021 | <i>hugyi</i> |
| 37 | 40.2 | 16.7 | Basilicata | Matera | 2020 | <i>hugyi</i> |
| 38 | 40.5 | 16.4 | Basilicata | Matera | 2023 | <i>hugyi</i> |
| 39 | 40.5 | 15.6 | Basilicata | Potenza | 2020 | <i>francisciredi</i> |
| 40 | 40.5 | 15.6 | Basilicata | Potenza | 2021 | <i>francisciredi</i> |
| 41 | 40.1 | 16.0 | Basilicata | Potenza | 2021 | <i>hugyi</i> |

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|----|------|------|------------|-----------------|------|----------------------|
| 42 | 40.5 | 15.6 | Basilicata | Potenza | 2022 | <i>francisciredi</i> |
| 43 | 40.5 | 15.6 | Basilicata | Potenza | 2023 | <i>francisciredi</i> |
| 44 | 40.1 | 16.1 | Basilicata | Potenza | 2023 | <i>hugyi</i> |
| 45 | 40.6 | 15.8 | Basilicata | Potenza | 2023 | <i>intermediate</i> |
| 46 | 39.9 | 16.2 | Basilicata | Potenza | 2023 | <i>hugyi</i> |
| 47 | 40.0 | 16.3 | Basilicata | Potenza | 2020 | <i>hugyi</i> |
| 48 | 40.0 | 16.3 | Basilicata | Potenza | 2022 | <i>hugyi</i> |
| 49 | 39.9 | 16.2 | Basilicata | Potenza | 2021 | <i>hugyi</i> |
| 50 | 40.0 | 16.1 | Basilicata | Potenza | 2023 | <i>hugyi</i> |
| 51 | 40.0 | 16.2 | Basilicata | Potenza | 2019 | <i>hugyi</i> |
| 52 | 40.5 | 16.0 | Basilicata | Potenza | 2022 | <i>hugyi</i> |
| 53 | 40.3 | 15.8 | Basilicata | Potenza | 2017 | <i>francisciredi</i> |
| 54 | 40.0 | 16.1 | Basilicata | Potenza | 2022 | <i>hugyi</i> |
| 55 | 40.8 | 15.5 | Basilicata | Potenza | 2020 | <i>intermediate</i> |
| 56 | 40.0 | 16.1 | Basilicata | Potenza | 2019 | <i>hugyi</i> |
| 57 | 40.0 | 16.1 | Basilicata | Potenza | 2015 | <i>hugyi</i> |
| 58 | 39.9 | 16.2 | Basilicata | Potenza | 2016 | <i>intermediate</i> |
| 59 | 40.0 | 16.1 | Basilicata | Potenza | 2021 | <i>hugyi</i> |
| 60 | 40.8 | 15.5 | Basilicata | Potenza | 2022 | <i>francisciredi</i> |
| 61 | 40.6 | 15.8 | Basilicata | Potenza | 2022 | <i>hugyi</i> |
| 62 | 40.4 | 16.1 | Basilicata | Potenza | 2023 | <i>hugyi</i> |
| 63 | 40.4 | 16.0 | Basilicata | Potenza | 2021 | <i>hugyi</i> |
| 64 | 38.9 | 16.6 | Calabria | Catanzaro | 2022 | <i>hugyi</i> |
| 65 | 39.6 | 16.1 | Calabria | Cosenza | 2022 | <i>hugyi</i> |
| 66 | 40.0 | 16.6 | Calabria | Cosenza | 2020 | <i>hugyi</i> |
| 67 | 39.8 | 16.0 | Calabria | Cosenza | 2015 | <i>hugyi</i> |
| 68 | 39.5 | 16.8 | Calabria | Cosenza | 2020 | <i>hugyi</i> |
| 69 | 39.2 | 16.5 | Calabria | Cosenza | 2012 | <i>hugyi</i> |
| 70 | 39.1 | 16.2 | Calabria | Cosenza | 2020 | <i>hugyi</i> |
| 71 | 38.2 | 15.8 | Calabria | Reggio Calabria | 2016 | <i>hugyi</i> |
| 72 | 38.5 | 16.4 | Calabria | Reggio Calabria | 2023 | <i>hugyi</i> |
| 73 | 40.8 | 15.0 | Campania | Avellino | N/A | <i>francisciredi</i> |
| 74 | 41.0 | 15.1 | Campania | Avellino | 2023 | <i>hugyi</i> |
| 75 | 40.9 | 14.7 | Campania | Avellino | 2020 | <i>francisciredi</i> |
| 76 | 41.0 | 14.8 | Campania | Avellino | 2022 | <i>hugyi</i> |
| 77 | 41.4 | 14.4 | Campania | Caserta | 2023 | <i>francisciredi</i> |
| 78 | 41.4 | 14.2 | Campania | Caserta | 2023 | <i>francisciredi</i> |
| 79 | 41.4 | 14.4 | Campania | Caserta | 2022 | <i>francisciredi</i> |
| 80 | 41.4 | 14.4 | Campania | Caserta | 2022 | <i>francisciredi</i> |
| 81 | 41.4 | 14.4 | Campania | Caserta | 2021 | <i>francisciredi</i> |
| 82 | 41.4 | 13.9 | Campania | Caserta | 2017 | <i>francisciredi</i> |
| 83 | 41.4 | 14.4 | Campania | Caserta | 2022 | <i>francisciredi</i> |
| 84 | 41.2 | 14.0 | Campania | Caserta | 2022 | <i>francisciredi</i> |

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|-----|------|------|----------|-----------|------|----------------------|
| 85 | 41.4 | 14.1 | Campania | Caserta | 2023 | <i>francisciredi</i> |
| 86 | 40.8 | 14.4 | Campania | Napoli | 2022 | <i>francisciredi</i> |
| 87 | 40.5 | 15.6 | Campania | Salerno | 2023 | <i>francisciredi</i> |
| 88 | 40.4 | 15.1 | Campania | Salerno | 2023 | <i>intermediate</i> |
| 89 | 40.5 | 15.4 | Campania | Salerno | 2020 | <i>francisciredi</i> |
| 90 | 40.1 | 15.6 | Campania | Salerno | 2023 | <i>francisciredi</i> |
| 91 | 40.2 | 15.6 | Campania | Salerno | 2019 | <i>francisciredi</i> |
| 92 | 40.2 | 15.6 | Campania | Salerno | 2022 | <i>francisciredi</i> |
| 93 | 40.2 | 15.7 | Campania | Salerno | 2018 | <i>francisciredi</i> |
| 94 | 40.2 | 15.6 | Campania | Salerno | 2023 | <i>francisciredi</i> |
| 95 | 40.2 | 15.5 | Campania | Salerno | 2018 | <i>francisciredi</i> |
| 96 | 40.3 | 15.7 | Campania | Salerno | 2023 | <i>francisciredi</i> |
| 97 | 40.4 | 15.6 | Campania | Salerno | 2023 | <i>francisciredi</i> |
| 98 | 40.3 | 15.5 | Campania | Salerno | 2015 | <i>francisciredi</i> |
| 99 | 40.7 | 15.0 | Campania | Salerno | 2019 | <i>intermediate</i> |
| 100 | 40.6 | 15.3 | Campania | Salerno | 2020 | <i>intermediate</i> |
| 101 | 40.3 | 15.1 | Campania | Salerno | 2022 | <i>francisciredi</i> |
| 102 | 40.7 | 15.0 | Campania | Salerno | 2021 | <i>francisciredi</i> |
| 103 | 40.7 | 14.9 | Campania | Salerno | 2021 | <i>francisciredi</i> |
| 104 | 40.6 | 14.5 | Campania | Salerno | 2021 | <i>hugyi</i> |
| 105 | 40.3 | 15.0 | Campania | Salerno | 2009 | <i>francisciredi</i> |
| 106 | 40.7 | 14.7 | Campania | Salerno | N/A | <i>francisciredi</i> |
| 107 | 40.7 | 14.7 | Campania | Salerno | N/A | <i>francisciredi</i> |
| 108 | 41.6 | 13.2 | Lazio | Frosinone | 2023 | <i>francisciredi</i> |
| 109 | 41.6 | 13.2 | Lazio | Frosinone | 2023 | <i>francisciredi</i> |
| 110 | 41.7 | 13.7 | Lazio | Frosinone | 2003 | <i>francisciredi</i> |
| 111 | 41.8 | 13.7 | Lazio | Frosinone | 2020 | <i>francisciredi</i> |
| 112 | 41.8 | 13.6 | Lazio | Frosinone | 2023 | <i>francisciredi</i> |
| 113 | 41.7 | 13.9 | Lazio | Frosinone | 2023 | <i>francisciredi</i> |
| 114 | 41.8 | 13.6 | Lazio | Frosinone | 2021 | <i>francisciredi</i> |
| 115 | 41.6 | 13.9 | Lazio | Frosinone | 2020 | <i>francisciredi</i> |
| 116 | 41.5 | 13.5 | Lazio | Frosinone | 2022 | <i>francisciredi</i> |
| 117 | 41.5 | 13.6 | Lazio | Frosinone | 2018 | <i>francisciredi</i> |
| 118 | 41.7 | 13.6 | Lazio | Frosinone | 2017 | <i>francisciredi</i> |
| 119 | 41.7 | 13.9 | Lazio | Frosinone | 2022 | <i>francisciredi</i> |
| 120 | 41.7 | 13.9 | Lazio | Frosinone | 2022 | <i>francisciredi</i> |
| 121 | 41.7 | 13.9 | Lazio | Frosinone | 2022 | <i>francisciredi</i> |
| 122 | 41.7 | 13.9 | Lazio | Frosinone | 2021 | <i>francisciredi</i> |
| 123 | 41.7 | 13.9 | Lazio | Frosinone | 2020 | <i>francisciredi</i> |
| 124 | 41.7 | 13.9 | Lazio | Frosinone | 2020 | <i>francisciredi</i> |
| 125 | 41.7 | 13.6 | Lazio | Frosinone | 2021 | <i>francisciredi</i> |
| 126 | 41.3 | 13.8 | Lazio | Latina | 2023 | <i>francisciredi</i> |
| 127 | 41.3 | 13.8 | Lazio | Latina | 2022 | <i>francisciredi</i> |

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|-----|------|------|--------|------------|------|----------------------|
| 128 | 41.4 | 13.2 | Lazio | Latina | 2022 | <i>francisciredi</i> |
| 129 | 41.3 | 13.9 | Lazio | Latina | 2017 | <i>francisciredi</i> |
| 130 | 41.3 | 13.5 | Lazio | Latina | 2021 | <i>francisciredi</i> |
| 131 | 41.3 | 13.8 | Lazio | Latina | 2021 | <i>francisciredi</i> |
| 132 | 41.3 | 13.0 | Lazio | Latina | 2019 | <i>francisciredi</i> |
| 133 | 41.4 | 13.0 | Lazio | Latina | 2021 | <i>francisciredi</i> |
| 134 | 41.3 | 13.7 | Lazio | Latina | 2021 | <i>francisciredi</i> |
| 135 | 41.8 | 14.9 | Molise | Campobasso | 2019 | <i>francisciredi</i> |
| 136 | 41.7 | 14.7 | Molise | Campobasso | 2007 | <i>francisciredi</i> |
| 137 | 41.6 | 14.9 | Molise | Campobasso | 2017 | <i>francisciredi</i> |
| 138 | 41.6 | 14.8 | Molise | Campobasso | 2019 | <i>francisciredi</i> |
| 139 | 42.0 | 15.0 | Molise | Campobasso | 2023 | <i>francisciredi</i> |
| 140 | 41.5 | 14.2 | Molise | Isernia | 2019 | <i>francisciredi</i> |
| 141 | 41.6 | 14.3 | Molise | Isernia | 2017 | <i>francisciredi</i> |
| 142 | 41.8 | 14.4 | Molise | Isernia | 2020 | <i>francisciredi</i> |
| 143 | 41.6 | 14.3 | Molise | Isernia | 2012 | <i>francisciredi</i> |