PlayGround

24. 7. 2019

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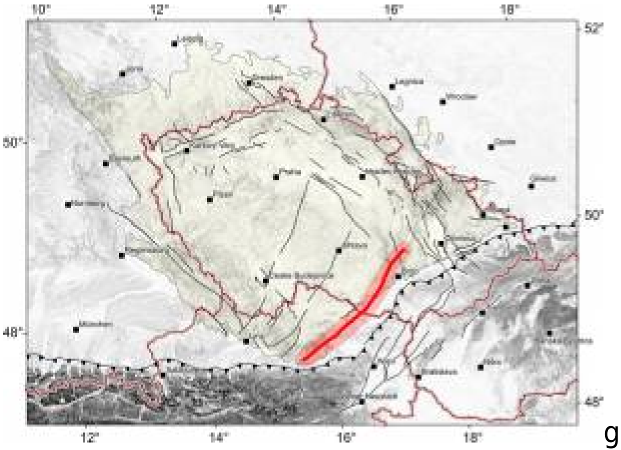
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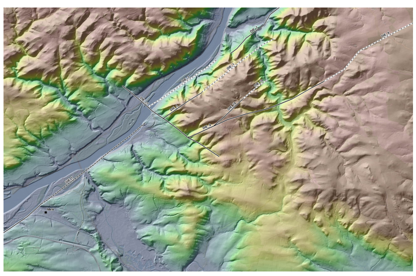
Schönbühel a.d. Donau: Cross-structure

evi_ID: SCHO_A
fsec_IDs: DF_1, DF_1a, DF_9
editor: Petr Špaček

- Pronounced scarp of WNW-ESE direction dividing the hilly terrain with narrow valley of Danube to the NE from comparatively flat area with wide Danube valley to the SW. Interrupted and multiple topolineament continues in ESE direction towards Hafnerbach, partly reflecting the structure of the crystalline basement. This scarp, very likely a fault (not identified in geological maps), possibly a minor dip-slip fault once terminating now eroded Tertiary Molasse sediments or thick regolith, seems to lack any horizontal offset by Diendorf fault (sections DF_1, 1a and 9), therefore providing evidence against significant strike slip of the latter after the formation of the former.
- This structure is likely a part of a system of WNW- to NW- striking faults with small slip amplitude



Relief map of the vicinity of Melk.

documented by multiple observations and indicated by penetrative presence of topolineaments in an extensive area hosting the whole DF and southern BF. The age of these faults is largely unknown but some of them were observed to displace Quaternary strata. In Dunkelsteiner Wald and Wachau this fault system may host sources of weak seismicity.

- Also note the N-S oriented topolineaments near Aggasbach Dorf north of here which seem to coincide with deflected valley of Danube river (out of extent of the map shown here).

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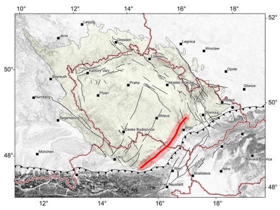
Diendorf - Boskovice Fault Zone (DBZ)



Structure ID: DBZ
Fault Section IDs: DIE_1-8; BB_1-17; WEI_1-3
Related terms: Diendorf fault (*ger*: Diendorfer Störung), Boskovice Graben fault (*cze*: okrajový zlom boskovické brázdy), Weitzendorf fault (*ger*: Weitzendorfer Störung; *cze*: weitzendorfský zlom)
Editor: Petr Špaček
Last update: 17.7.2019

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Editor: Petr Špaček
Last update: 17.7.2019

Patience please! This map may load slowly…

General description

Over 200 km long fault structure running in the general NE-SW direction from the Alpine thrust front in Austria to the transverse faults of the Haná fault zone in the Czech Republic. It is formed by two major faults: the *Diendorf fault* (DF) to the south and the eastern marginal fault of the Boskovice half-graben, here termed the *Boskovice Graben fault* (BF), to the north. Physical linking of both faults in the flat area of the Alpine molasse/Carpathian foredeep basins is strongly supported by geophysical data (see Špaček at el. 2018). Here, the formal border between DF and BF is located in the external part of the Carpathian foredeep basin. Southwestward continuation of DF beneath the Alpine nappes is unclear. To the north-northeast the BF is terminated by cross-cutting faults with apparently younger slip (the Haná Fault Zone). The parallel *Weitzendorf fault* and some minor faults (not necessarily included in the database) are formally assigned to DBZ.

Pre-Quaternary evolution

- Both DF and BF have been considered major structures with partly shared evolution since the early geological research (e.g. Suess 1926, Shermann 1966, Jaroš & Mísař 1967, Matura 1976, Figdor and Scheidegger 1977).
- DBZ corresponds with the surface trace of Variscan terrane boundary between Brunovistulicum and Moldanubicum. It also correlates with western termination of the Lower Carboniferous flysch (comp. Melichar 1995), i.e. the root zone of Variscan externide nappes.
- Significant synsedimentary slip with vertical component (>1600m) took place at BF during Upper Carboniferous-Permian and produced the Boskovice half graben with StephanianC-Autunian sedimentary fill. Fans of coarse Rokytná conglomerates are associated with BF-bounded eastern margin of the graben. This faulting is assumed to be of normal geometry, related to orogen gravitational collaps (e.g. Jaroš 1961a, Malý 1993, Jaroš and Malý 2001). Locally, dikes and sills of basalt-andesite (sub-)volcanics were observed to penetrate the sediments (e.g. Přichystal 1994). Relic of Permian sediments near Zöbing suggests that analogical subsidence may have been associated with northern/central part of DF.
- Locally observed steep reverse geometry at BF (e.g. Suess 1907, Zapletal 1924, Jaroš 1958, Jaroš 1962) and the intra-basin deformation structures (reverse faults and long wavelegth folds, Jaroš a Malý 2001) indicate post-Permian compression or transpression. The age of this phase is unknown and likely pre-Cretaceous as no corresponding structures were observed in Cretaceous strata (Zapletal 1924).
- At DF, strike-slip geometry is accentuated with cumulative post-Variscan (post-collision) left-lateral slip estimated in the range 25-70 km (as inferred from offset of crystalline bodies with mutual affinity; Schermann 1966; Matura 1976; Figdor and Scheidegger 1977).
- Post-Lower Miocene slip is indicated by sharp, steeply dipping contacts of Lower Miocene (Eggenburgian, Ottnangian) sediments with crystalline (observed directly or by geophysics at segments DIE_4,5,7 and BB_1,2), sediment deformation and fault slickensides with striations mostly indicating strike-slip or oblique slip (Kadov and Hostěradice sites at BB_2, Špaček et al. 2015a, 2018; Limberg site near DIE_5, Decker 1999). (see Related local evidence)
- Transverse fault-bounded grabens with Cretaceous fill disrupt the BF in the north (Boskovice and Valchov grabens). These structures rule out locally the significant strike-slip displacement postdating their formation during or before early Middle Miocene (likely Paleogene).

Fault structure and dip

At ***shallow levels*** the dip is always steep to vertical in both BF and DF. At ***general scale*** I model the fault as a plane uniformly dipping 75° to the northwest. The azimuth of the fault trace ranges between <20° and >45°.

- At BF the dip directions to the west (Zapletal 1924, 1929, Polák 1959) or east (Suess 1907; Zapletal 1924; Jaroš 1958) were observed. In case of the latter, observations of overturned Permian strata were reported from the fault neighbourhood (Jaroš 1958). In the Miroslav horst and further south (BB_1, 2) a steep western dip is indicated by natural outcrop in an erosional gully, observations in trenches and shallow geophysical profiles (HOS-A and HOS-B; Špaček et al. 2015a, 2017, 2018).
- In the commonly adopted models of the Boskovice graben (Jaroš 1961a; Malý 1993; Jaroš & Malý 2001) the BF is shown as a steeply east-dipping fault. However, it must be stressed that clear evidence for deeper geometry is missing and these models should be taken as the authors' concepts. The seismic reflection profile referred to by the autors was made at a short line south of Rosice (Štelcl et al. 1985). Primary data is unavailable but generally low quality is expected considering the technical setting of the survey and the published line-drawing of the profile.
- The importance of thrust component repeated in literature seems to me overrated. Local variations observed are assumed to prevail near the surface, they could partly represent flower structures related to the expected prevailing strike-slip kinematics of the post-Stephanian fault displacements.
- At DF, rare observations were reported from excavation near Maissau (DIE_4; Posch-Trotzmüller and Peresson 2012) and quarry Limberg (DIE_4-5; secondary faults; Decker 1999). In both cases the faults are close to vertical.

The ***fault core***, where observed, is often built by several meter wide mélange with fragments or bodies of limestones and greywackes (sections BB_2 to BB_14; Špaček et al. 2002) locally containing dark colored clays. Surface observations near Zöbing (vineyards north of Kammern) suggest that the strongly deformed zone may be >10 m broad there. Similar width is expected elsewhere in Permian and crystalline rocks. In trench near Hostěradice (HOS-A) a 5-6 m wide zone of strong shearing and additional >5 m wide zone with dense small-scale faults is exposed in Lower Miocene clays and sands. The former contains frequent small fragments of weathered crystalline rocks.

A <20 to 250 m wide ***process zone*** of the main fault is documented in Early Miocene sediments in a large part of BB_1 section by EM conductivity mapping (Fojt and Špaček, unpublished) and by observations in aerial photographs.

Parallel fault sections (splays of primary fault) are indicated by geological mapping and relief morphology in some parts of DF and BF, in a zone up to 800 m wide. Multiple parallel and oblique faults (observed and assumed) located in a broader zone (within up to 10 km to both sides of the BF and DF) indicates distributed faulting reflecting the complexity of long term evolution in different stress fields.

Cross structures and Segmentation

I am just finishing this section! Fix Me!

Scarp morphology

Surface morphology at the fault trace varies significantly, largely due to different degree of differential erosion at contacts of rocks with similar vs. contrasting mechanical properties.

- ***Well developed linear fault scarp*** is observed where Lower Miocene sediments were juxtaposed to crystalline rocks due to the fault slip and were later partly or entirely denudated (fault sections DIE_4, BB_2 and very likely DIE_1.2 to 1.4). The scarp of fault section BB_2 exhibits number of gullies with disequilibrium profiles breaking at the fault line, suggesting fast fall of erosional base (which I interpret as due to fast erosional exhumation of the old fault scarp; see Fault activity.
- ***Eroded scarp*** is common in parts with relics of Middle Miocene sediments on bedrock (sections BB_3, 5, 9, 10.1, 16 to 17) and with increased local river erosion (sections DIE_1.5 and BB_7-8).
- ***Inexpressive to absent scarp*** is characteristic for large parts of the Boskovice graben where Permian clastic sediments are in contact with crystalline or Carboniferous greywackes and no larger rivers are present (sections BB_4, 6 to 8, 10, 12, 14 to 15).
- In parts where Mesozoic and Tertiary sediments are present at both sides of the fault line the scarp is ***entirely absent*** (sections DIE_2, 5, 6, 8, BB_1, 11, 13).

Seismicity

To be revisited after completion of earthquake catalogue. Fix Me!

Fault activity

Tertiary

- The post-Eggenburgian/Ottnangian (post-earlier Burdigalian) slip is indisputable for the southern part of Diendorf-Boskovice fault as far as to section BB_3. This is based on direct observations of faulted rocks and geophysical observations of the steep termination of sediment bodies beneath the fault line. Strike-slip or obliqu slip kinematics is evidenced by fault striations but complex kinematics with changing geometry can not be ruled out.
- More precise time constraint of this phase of activity is problematic as a sound evidence from relics of Karpatian and early Badenian (late Burdigalian to early Langhian) is not available and younger Tertiary sediments are missing regionally. I assume, basing on a regional tectonic model and some local observations, that the activity peaked near the early/middle Miocene boundary and ceased towards later Badenian (younger-than-late Badenian faulting on a similarly oriented fault is documented e.g. in Troskotovice pit, situated 11 km to the east of DF).
- Significant large scale post-Badenian strike-slip at DBZ is counterevidenced by cross

structures described above. The Valchov and Boskovice “grabens” (BB_10,11,13) with well defined margins and Cretaceous and early Badenian sedimentary fill practically rule out the strike-slip taking place at the northern part of BF after early Badenian (the latter have been locally mapped as continuous bodies on top of BF). Some other depressions (valleys) crossing the central and southern parts of BF and hosting concentrated relics of early and middle Miocene fine clastic sediments (depressions near Čebín, BB_8 to BB_10; Jihlava river valley near Ivančice, BB_5,6; Lesonice depression, BB_3) also do not show any signs for horizontal offset and thus testify against significant strike slip.
- Termination of the early Miocene strike-slip phase at BF is further affirmed by development of a system of small-amplitude faults with average NW-SE strike. On the DF such faults are not present in geological maps, however, they are clearly indicated in relief (e.g. near Schönbühel a.d. Donau, SCHO_A).
- In the Dyje basin crossing the DBZ in segments DIE_6-8, post-Lower Miocene faulting is indicated by apparent strata cutoffs at several ERT profiles crossing some major morpholineaments in the basin (Špaček et al. 2016). Steeply dipping faults of WNW-WSE to NNW-SSE strike were described from near Stošíkovice na Louce (STOS_A).
- Magnitude and timing of dip-slip component is difficult to constrain at most fault sections as the data on well dated stratigraphic bases of Tertiary deposits on the fault are insufficient.
- At fault sections BB_1 (Lesonice, LES_A) and BB_3 (Hostěradice), however, high resolution refraction seismic survey combined with ERT and seismic reflection (Alexa 2017) shows clearly a fault-related vertical offset of >50m at the base of low-velocity layer (assumed Early Miocene and/or strongly weathered crystalline). Furthermore, at Lesonice profile a pediment (or paleovalley bottom) developed in crystalline and covered by non-offset strata of assumed Eggenburgian/Ottnangian age indicates the (!) termination of vertical-component faulting during or before the Lower Miocene deposition (while the strike-slip component is not ruled out).

Quaternary

Following evidence is considered in the assessment of Quaternary activity:

- ***Continuity of overlying strata***
  - The sealing strata observed in detail in trenches in sections BB_1, BB_2 (Hostěradice, HOS_A and Kadov, KAD_A) bring (!) evidence against surface fault slip after ~23 ky.
  - Termination of older strata in Kadov trench on a fault plane allow considering slip with min. vertical component of 2 m in 100 - <23ky time window, however, the non-tectonic model of origin of this structure is preferred (see references for site KAD_A) as the tectonic origin would be in conflict with observations at adjacent segments.
  - Sealing strata in a trench at DIE_7 (Tasovice, TAS_A) bring (!) local evidence against surface fault slip after at least 100 ky and probably much longer.
  - Vertically non-displaced base of high terrace and its relics mapped in detail in section BB_4 (site BUD_A) brings (!) evidence against vertical slip component larger than approx. 1 m since the deposition. The assumed age of the terrace is late Early to early Middle Pleistocene based on regional model of a fluvial terrace system evolution.
  - Likewise, vertically non-displaced base of high terrace between villages of Dyje, Lechovice, Božice and Hodonice (“hodonice fluvial level”) brings (!) evidence against vertical slip component larger than approx. 2-3 m at section DIE_8 since late Early to early Middle Pleistocene.
- ***Geomorphology***
  - Total absence of systematic horizontal offsets of geomorphological features (or any other

piercing lines), including the deeply incised cross-cutting valeys in hard rocks (mainly BB_2, 4, 8, 12), brings evidence against significant active horizontal slip since river incision in Middle Pleistocene.
    - The fault scarp morphology reflects the lithologically controlled denudation rather than young or even ongoing dip-slip. Best developed linear scarps are present in those sections where the fault line corresponds with the contact of Early Miocene sediments with crystalline rocks. Conversely, scarp is never developed in soft sediments, regardless of whether young cover is present or absent. Therefore, scarp morphology does not provide clues on Quaternary slip. However, the features of scarps at sections DIE_4 and BB_2 require fast exhumation. The disequilibrium profiles in erosional gullies breaking at the fault line at section BB_2 are interpreted as due to fast erosional exhumation of the old fault scarp. Significant contribution of active vertical tectonic slip is considered unlikely as it would make this fault section anomalous in the regional context.

- ***Seismicity and paleoseismicity***
    - A cluster of epicentres of weak earthquakes (both historical and modern) between the towns of Langenlois, Gfohl, Ybbs an der Donau and Melk suggest possible connection with southern Diendorf fault (sections DIE_1, 2, 5 and 6). However, the causal links are unclear as the cluster shape (possibly affected by poor accuracy of location) allows for different conclusions. In the area of southern Bohemian Massif the increased seismicity seems to be characteristic. Some observations suggest that unmapped NW-SE striking faults may be responsible for at least part of these earthquakes (see site SCHO_A as an example). The concerned sections of DF are admitted to take part in this deformation but activation of large segments by a single earthquake seems unlikely.
    - To the north of Langenlois the low number and magnitude of historical and instrumental earthquakes and their low spatial correlation with fault line do not allow affiliation of seismicity to any known structures.
    - Rare local observations of soft sediment deformation structures are interpreted as due to paleoearthquakes with minimum intensity of 6-7° (sites Lechovice, LECH_A,B and Tasovice, TAS_A). The source of these hypothetical earthquakes is entirely unknown and they are not necessarily related to Diendorf fault. In case of epicentre located close to observation sites, the minimum magnitude of Mw=5 should be considered.

Basing on this local evidence the fault activity is currently evaluated in a following way:

- In the southern part of DBZ, the sections DIE_1 to BB_2 are ranked **class 3**, i.e. assumed or admitted to be active. Quaternary slip rate at fault sections north of DIE_3 is assumed very low (<0.01 mm*/y). Southern sections may later be ranked class 1 (demonstrably active) when new earthquake data (better location, focal mechanism) bring clear evidence.
- In the northern part of DBZ, the sections BB_3 to BB_ 17 are ranked **class 4**, i.e. assumed or demonstrated to be inactive.

On a theoretical basis, the evaluation of similarly oriented fault sections by different ranks may be justified by:

1. expected northward decrease of rate of stress buildup (and hence crustal strain rate), and
2. expected northward decrease of slip potential due to rotation of stress orientation near junction of the Alpine and the West-European stress domains.

Related local evidence

(See layer **Local evidence** *on a map. The sites are listed in south-to-north order.)*

Schönbühel a.d. Donau: Cross-structure

evi_ID: SCHO_A
seg_ID: DIE_1, DIE_9

- Pronounced scarp of WNW-ESE direction dividing the hilly terrain with narrow valley of Danube to the NE from comparatively flat area with wide Danube valley to the SW. Interrupted and multiple morpholineament continues in ESE direction towards Hafnerbach, partly reflecting the structure of the crystalline basement. This scarp, very likely a fault (not identified in geological maps), possibly a minor normal fault terminating now eroded Tertiary Molasse sediments, seems to lack any horizontal offset by Diendorf fault (sections DIE_1 and DIE_9), therefore providing evidence against significant strike slip of the latter after the formation of the former.
- This structure is likely a part of a system of WNW- to NW- striking faults with small slip amplitude documented by multiple observations and indicated by penetrative presence of morpholineaments in an extensive area hosting the whole DF and southern BF. The age of these faults is largely unknown but some of them were observed to displace Quaternary strata. In Dunkelsteiner Wald and Wachau this fault system may host sources of weak seismicity.
- Also note the N-S oriented morpholineaments near Aggasbach Dorf north of here which seem to coincide with deflected valley of Danube river.

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Limberg: Secondary faults

evi_ID: LIM_A
seg_ID: DIE_4

- Eggenburgian synsedimentary faulting near Diendorf fault - parallel secondary faults in Hengel quarry in Limberg (Decker 1999). Faults are steep, on stereodiagrams they seem to be vertical on average with strike-slip kinematics. In the schematic profile the east-dipping faults are emphasized.

+ obrázek Decker Fix Me!
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Tasovice: Observed sealing strata and inferred paleoearthquake

evi_ID: TAS_A, TAS_B
seg_ID: DIE_7

- Absence of fault-related displacement of >5 m thick sequence of Quaternary? loess, sand, paleosol, silt, clay and gravel sealing the observed fault in a broad fault zone exposed in deep trench. Dating based on OSL is problematic but the age largely exceeding 100 ka is very likely for the central and lower parts of the sequence.

- Thin blind clastic dike cuts through the lower part of the sedimentary sequence above the fault. No systematic offset was observed, only local disturbation of beds adjacent to the dike (Prachař 2017). The clastic dike can be interpreted as an effect of local liquefaction generated by earthquake-induced shaking. This hypothetical earthquake is not necessarily related to Diendorf fault. (Špaček et. al 2018)

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Lechovice: Cross-structure and inferred paleoearthquake

evi_IDs: LECH_A, LECH_B
seg_ID: BB_1

- Roadcut (presently rehabilitated) situated ~1.5 km from the Diendorf fault line. System of NNW-striking normal faults displacing sandy gravels of high river terrace (LECH_A) associated with sand intrusions (LECH_B). All feeder dikes are blind. Strong block rotation on the observed faults, formation of small-scale graben structures and colocation with sand-intrusions suggest formation by lateral spreading, near-synchronous with deposition of Lower to early Middle Pleistocene terrace. The causal link between the hypothetical earthquake and the Diendorf fault or the deep-seated NW-SE to NNW-SSE oriented cross-faults has not been resolved. The observed faults are similarly oriented as those at Stošíkovice (below) but also sub-parallel to local scarp and to general-scale trend of the Jevišovka river valley. Structural control by either of these features is possible. (Špaček et al. 2018)

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Stošíkovice: Cross-structure

evi_ID: STOS_A
seg_ID: BB_1

- Small sand pit in L. Miocene sands situated ~250 m from the Diendorf fault line. WNW-WSE striking fault with incorporated gravel of high terrace relic (explained either by active faulting or structurally controlled cryoturbation) and a system of older, small-displacement, NW-SE to NNW-SSE trending faults (Špaček et al. 2015b). These faults are probably a part of important larger-scale cross-structure of the Dyje basin (link Cross-structures and Segmentation) which may and may not include the faults near Lechovice (see above).

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Hostěradice: Observed sealing strata

evi_ID: HOS_A

seg_ID: BB_1

- Trench HOS-1 with fault in Lower Miocene sediments sealed by 17 ky old sands and and ?28 ky loess loam. Špaček et al. (2017, 2018)

+ obrázky ERT+trench Fix Me!
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Kadov: Observed sealing strata

evi_ID: KAD_A
seg_ID: BB_2

- Trench KAD-1 with fault sealed by the 23 ky old loess and the pre-loess scree. Fault slip in the time range 100 to <23 ky can not be ruled out (see references below for more details). The exposure of fault contact crystalline vs. E. Miocene sediment in an erosional gully some 120 m NE from here provided fault slickensides with striations plunging 50° to NNE. Špaček et al. (2017, 2018)

+ obrázky ERT+trench Fix Me!
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Lesonice: Fault scarp retreat, Tertiary pediment

evi_ID: LES_A
seg_ID: BB_3

- Refraction and reflection seismic profile crossing the fault line (Alexa 2007; diploma thesis supervised by J. Valenta) showing a >50 m vertical offset at the base of low-velocity strata (assumed Lower Miocene sediment and/or strongly weathered crystalline) and a >40 m thick, apparently vertically undisplaced, top layer with even lower velocity, covering this offset and a burried pediment in crystalline rocks. The upper sedimentary body is of assumed Eggenburgian/Ottnangian age and it fills up adjacent paleovalley. The structure documents the erosional destruction of older fault scarp near (or in) the paleovalley and the absence of vertical slip component on the fault after Early Miocene (which is the minimum age of the paleovalley). Younger horizontal slip is not ruled out here.

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Budkovice: Sealing strata

evi_ID: BUD_A
seg_ID: BB_4

- Undisplaced high terrace (Lower to early Middle Pleistocene) sealing the fault and terrace relics at the same height on both sides of the fault. Špaček et al. (2018)

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Main data sources for fault map

Geological maps and explaining texts:

- scale 1:25000:
  - sheet 34-133 Hatě (Čtyroký et al. 1978, 1987; Batík et al. 1978)
  - sheet 34-132 Božice (Dornič et al. 1983, 1984)
  - sheet 34-131 Šatov (Batík et al. 1977, 1982, 1983)
  - sheet M-33-117-C-a Šatov (Dlabač et al. 1970)
  - sheet M-33-117-C-b Jaroslavice (Batík et al. 1972)
  - sheet 34-114 Prosiměřice (Dornič et al. 1985a,b)
  - sheet 34-113 Znojmo (Čtyroký et al. 1978, 1983a,b)
  - sheet 34-112 Miroslav (Dornič et al. 1987)
  - sheet M-33-117-B-a Miroslav (Dornič 1972)
  - sheet M-33-105-D-c Moravský Krumlov (Dlabač et al. 1975)
  - sheet M-33-105-D-b Ivančice (Jaroš 1964a,b)
  - sheet 24-341 Oslavany (Buriánek et al. 2011a,b)
  - sheet M-33-105-B-d Rosice (Jaroš et al. 1972c)
  - sheet M-33-105-B-b Veverská Bitýška (Mísař and Jaroš 1972; Jaroš et al. 1972a,b)
  - sheet 24-321 Tišnov (Hanžl et al. 2001a,b)
  - sheet 24-322 Blansko (Hanžl et al. 2000a,b)
- scale 1:50000:
  - sheet 37-Mautern (Matura et al. 1983)
  - sheet 23-Hadres (Rötzel et al. 2007)
  - sheet 22-Hollabrun (Rötzel et al. 1998)
  - sheet 21-Horn (Frasl et al. 1991)
  - sheet 9-Retz (Rötzel et al. 1999)
  - sheet 34-13 Dyjákovice (Čtyroký et al. 1987; Müller et al. 2003)
  - sheet 34-11 Znojmo (Matějovská et al. 1988; Müller et al. 2002)
  - sheet 24-33 Moravský Krumlov (Matějovská et al. 1991)
  - sheet 34-12 Pohořelice (Havlíček et al. 1988; Müller et al. 1995)
  - sheet 24-34 Ivančice (Pálenský et al. 1994; Müller et al. 1994; Batík et al. 1994)
  - sheets 24-32, 24-14, 24-23, 24-21 (ČGS 2014)
- scale 1:200 000: sheet Niederösterreich Nord (Schnabel 2002)
- special maps: (Čížek 1976; Mátl 1980; Kolektiv 1994; Špaček et al. 2015, 2016)

Geophysics:

- Regional gravimetry a aeromagnetic survey (compiled maps of Švancara in Špaček et al. 2018; Blaumoser 1992)
- Local airborne magnetic and electromagnetic survey (DIE_5, WEI_2; Sieberl et al. 1996, 1997)
- Local gravimetry (DIE_1 to DIE_5, Figdor and Scheidegger 1977; BB_7-10, Halíř et al. 1987)
- Electrical resistivity tomographic profiles, seismic refraction and reflection profiles (Valenta and Tábořík et al. in Špaček et al. 2016, 2018 and references therein; Alexa 2017)
- Local high-resolution electromagnetic conductivity survey between Hostěradice and Lechovice (BB_1; yet unpublished data by Fojt and Špaček)

- Vertical electrical sounding in the sediments on sections DIE_6-8, BB_1 and BB_9,10 (Kraus 1989, Synek 1980, Hron 1980, Bláha a Synek 1987, *none of these surveys have good enough resolution and none of them shows changes of physical properties or structure which could be associated with the fault*).

Other:

- DEM: Lidar based models of the Czech Republic (DMR4g and 5g; ČÚZK 2013, 2016) and Lower Austria
- Drill survey: mainly shallow drilling (mostly from CGS/Geofond archive, see references in Špaček et al. 2015b)

Other notes

Ongoing reserach and possible future work to be done:

- EM conductivity mapping of fault and covering sediments south of Hostěradice (Fojt and Špaček, ongoing), near Ivančice, Lesonice and Bořitov (planned)
- studies on cross structures

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