species	first recorded by	reason for rejection
vindobonensis Laube, Scutella, Parascutella vindobonensis secunda Schaffer, Scutella	LAUBE, 1869 SCHAFFER, 1962	jun. syn. of <i>Parascutella gibbercula</i> jun. syn. of <i>Parascutella gibbercula</i> , flat morphotype
aff. italicus LAMBERT, Echinolampas aff. seguenzai VADÁSZ, Clypeaster	TOLLMANN, 1955 TOLLMANN, 1955	single unconfirmed record without description or illustration misidentified Clypeaster campanulatus
Amphiope sp. Brochopleurus sp. Centrostephanus sp. Echinus sp. Hemiaster sp.	KROH, 2002a SCHMID et al., 2001 TOLLMANN, 1955 FUCHS, 1877 KAZÁR, 2002	= Amphiope bioculata misidentified; material belongs to Genocidaris sp. isolated spines of diadematids, undeterminable below family level misidentified Psammechinus or more likely Schizechinus misidentified Aliaster cotteauii

Table 4 (continued). List of rejected Neogene echinoids from Austria (species arranged alphabetically).

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species	first recorded by	reason for rejection
acclivis POMEL, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster calabrus
acuminatus DESOR, Clypeaster	DESOR, 1847	jun. syn. of <i>Clypeaster campanulatus</i>
acuminatus robustus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
aequizonatus GREGORY, Echinolampas	MITROVIĆ-PETROVIĆ, 1969	specimen poorly preserved, probably a misidentified Pliolampas vassalli
agassizi SISMMONDA, Clypeaster	VADÁSZ, 1915	material lost, probably conspecific with Clypeaster campanulatus
airaghii LAMBERT, Centrostephanus	VADÁSZ, 1915	isolated spines of diadematids, undeterminable below family level
airaghi LAMBERT, Clypeaster	POLJAK, 1938	misidentified Clypeaster scillae
almerai Lambert, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
angulatus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
angulatus oblonus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
angulosa Mazzetti, Milletia	VADÁSZ, 1915	misidentified Pliolampas vassalli
angustipetalus VADÁSZ, Echinolampas	VADÁSZ, 1915	tentatively placed into the synonymy of the co-occurring Echinolampas hemisphaerica
atrophus podoloicus Szőrényi, Echinolampas balillai (LOVISATO), Clypeaster	SZÖRÉNYI, 1953 MIKUŽ & MITROVIĆ -PETROVIĆ, 2001	junior synonym of <i>Echinolampas manzonii</i> misidentified <i>Clypeaster folium</i>
barcinensis LAMBERT, Schizaster	VADÁSZ, 1915	misidentified Schizaster (S.) karreri
beaumonti SISMONDA, Clypeaster	POLJAK, 1938	probably a misidentified Clypeaster folium
calarensis COTTEAU, Centrostephanus	VADÁSZ, 1915	isolated spines of diadematids, undeterminable below family level
calceolus LAMBERT, Schizaster	VADÁSZ, 1915	poorly preserved material, probably misidentified specimens of the co-occurring
,	- ,	Schizaster (S.) eurynotus
campanulatus carapezzai CHECCHIA-RISPOLI, Cly.	KALABIS, 1949	misidentified Clypeaster neudorfensis (partly)
campanulatus declinatus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i>
campanulatus rotundus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i>
campanulatus sphaericus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i>
chateleti LAMBERT, Schizechinus	MĄCZYŃSKA, 1988	misidentified; referred to Psammechinus? sp.
chiassi Lovisato, Clypeaster	Mitrović-Petrović, 1969	misidentified Clypeaster scillae
circularis CAPEDER, Echinocyamus	MACZYŃSKA, 1977	probably misidentified <i>Echinolampas transylvanicus</i>
consobrinus LAMBERT, Brissopsis	VADÁSZ, 1915	misidentified Brissopsis ottnangensis
convexus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i>
crassus AGASSIZ, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster scillae and Clypeaster calabrus
cruciatus AGASSIZ, Schizobrissus	VADÁSZ, 1915	misidentified <i>Meoma locardi</i> (but the two species are probably synonymous)
cureti Lambert, Plegiocidaris	HALMAI, 1981	jun. syn. of <i>P.</i> ? <i>peroni</i> (fide PHILIPPE, 1998)
_	VADÁSZ, 1915	
dacicus VADÁSZ, Clypeaster		jun. syn. of Clypeaster campanulatus
danubicus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of Clypeaster calabrus
delagadoi DE LORIOL, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
delphinus (LAMBERT), Schizechinus	VADÁSZ, 1915	poorly preserved, probably Schizechinus hungaricus
depressus Vadász, Clypeaster desmoulinsi Sismonda, Cidaris	VADÁSZ, 1915 VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i> probably a misidentified <i>Stylocidaris</i> ? <i>schwabenaui</i> , also often confuse with
digitalia VAD 607 Changastar	Van (07, 1015	Eucidaris zeamays
digitalis VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of Clypeaster scillae
egregyensis Szörényi, Hypsoclypus	SZÖRÉNYI, 1953	probably a junior synonym of Conolampas subpentagonalis
epianthus MEZNERICS, Clypeaster	MEZNERICS, 1941	jun. syn. of <i>Clypeaster calabrus</i>
excentricus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster calabrus</i>
felmenesensis VADÁSZ, Clypeaster	Vadász, 1915	jun. syn. of <i>Clypeaster campanulatus</i> (subadult specimen)
fontannesi (COTTEAU), Parasalenia	MĄCZYŃSKA, 1977	misidentification, juvenile echinaceans
gauthieri Lovisato, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
gombosae Mihály, Clypeaster	MIHÁLY, 1990	jun. syn. of <i>Clypeaster campanulatus</i>
gracilis Vadász, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with C. campanulatus
grandiflorus altipetalus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster scillae</i>
grandiflorus anteacutus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster scillae</i>
grandiflorus basiconcava VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster scillae</i>
grandiflorus rhabdopetalus POMEL, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster scillae</i>
gregoryi LAMBERT, Clypeaster	POLJAK, 1938	misidentified Clypeaster calabrus
guebhardi LAMBERT, Clypeaster	LAMBERT, 1913	misidentified Clypeaster neudorfensis
gustavi Lovisato, Clypeaster	MITROVIĆ-PETROVIĆ, 1984	misidentified Clypeaster campanulatus
hemisphaericus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with C. campanulatus
hemisphaericus depressa LAMBERT, Echinol.	Mihály, 1969	Paratethyal records tentatively placed into the synonymy of <i>Echinolampas</i> barcinensis
hemisphaericus maxima DE LORIOL, Echinol.	VADÁSZ, 1915	Paratethyal records tentatively placed into the synonymy of <i>Echinolampas</i> barcinensis
herepeyi Koch, Clypeaster	Косн, 1887	jun. syn. of <i>Clypeaster folium</i>
hungarica VADÁSZ, Scutellina	VADÁSZ, 1915	poorly preserved juvenile scutellid; probably Parascutella gibbercula
hungaricus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, tentatively referred to C. campanulatus
hungaricus VADÁSZ, Echinolampas, Heteroclypeus		jun. syn. of Conolampas elegans
hungaricus VADÁSZ, Schizaster	VADÁSZ, 1915	jun. syn. of Schizaster (S.) karreri
hungaricus dispar VADÁSZ, Clypeaster	VADÁSZ, 1915	tentatively referred to Clypeaster campanulatus
ilottoi LAMBERT, Schizaster	VADÁSZ, 1915	jun. syn. of Schizaster (S.) karreri
inflatus VADÁSZ, Clypeaster	VADÁSZ, 1915	probably conspecific with <i>Clypeaster campanulatus</i>
italicus LAMBERT, Echinolampas	MITROVIĆ-PETROVIĆ, 1969	misidentified Echinolampas hemisphaerica
jacquementi LAMBERT, Brissus	SZÖRÉNYI, 1953	tentatively referred to <i>Brissus abeli</i>
karreri hungaricus VADÁSZ, Schizaster	VADÁSZ, 1906	jun. syn. of <i>Schizaster</i> (<i>S.</i>) <i>karreri</i>
kemencensis MEZNERICS, Clypeaster	MEZNERICS, 1941	jun. syn. of <i>Clypeaster (a.) karren</i>
		* * *
lamberti extensus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of Clypeaster campanulatus
lecointreae LAMBERT, Fibularia	SZÖRÉNYI, 1950	misidentified Echinocyamus pseudopusillus
lecointreae LAMBERT, Echinolampas	MITROVIĆ-PETROVIĆ, 1969	misidentified Echinolampas hemisphaerica

Table 5. List of rejected Neogene echinoids from the Central Paratethys (except Austria, see Tab. 4).

species	first recorded by	reason for rejection
leognanensis Lambert, Scutella	VADÁSZ, 1915	figured specimens (Badenian, Felső-Orbó) at the MAFI coll. are conspecific with <i>Parascutella gibbercula</i> , Karpatian specimens not located, but probably also conspecific with <i>P. gibbercula</i> (judging from the description)
linearis Capeder, Echinocyamus	Mączyńska, 1977	misidentified Echinocyamus sp. B (not conspecific with CAPEDER's material)
Iovisatoi COTTEAU, Trachyaster	VADÁSZ, 1915	jun. syn. of Aliaster cotteauii
Iovisatoi rakosensis VADÁSZ, Schizaster	VADÁSZ, 1906	jun. syn. of Schizaster (S.) karreri
Iudovici LAMBERT, Amphiope	Mihály, 1985	jun. syn. of Amphiope bioculata
magnus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with C. campanulatus
majocchii Lovisato, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	misidentified Clypeaster scillae
malladai Lambert, Clypeaster	MITROVIĆ-PETROVIĆ, 1984	misidentified Clypeaster campanulatus
manini Lovisato, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	misidentified Clypeaster scillae
marginatus LAMARCK, Clypeaster marioi LOVISATO, Echinocyamus	MIKUŽ & MITROVIĆ-PETROVIĆ, 2001 KOJUMDGIEVA & STRACHIMIROV, 1960	misidentified Clypeaster folium misidentified Echinocyamus transylvanicus
melitensis Forbes, Cidaris melitensis MICHELIN, Clypeaster	VADÁSZ, 1915 MICHELIN, 1861	misidentified Eucidaris zeamays Paratethyal specimen removed from Clypeaster melitensis by LAMBERT (1928) and renamed Clypeaster neudorfensis
michelotti DESOR, Psammechinus	MÁRTONFI, 1894	unclear, later attributed to <i>Arbacina tenera</i> by VADÁSZ, 1915
miocenica de LORIOL, Echinometra	KOJUMDGIEVA & STRACHIMIROV, 1960	jun. syn. of Echinometra mathaei
monilis (DESMAREST in DEFRANCE), Arbacina	VADÁSZ, 1915	most records are undeterminable juvenile echinaceans the others misidentifications; presence remains to be confirmed
montacioneis MAZZETTI Hypeobatarachypus	SZÖRÉNYI 1953	· ·
montesiensis MAZZETTI, Hypsoheteroclypus mostoi LOVISATO, Clypeaster	Szörényi, 1953 Mitrović-Petrović, 1969	misidentified Conolampas subpentagonalis misidentified Clypeaster scillae
muelleri Mihály, Scutella	Mihály, 1985	juvenile of Parascutella gibbercula
nevianii Airaghi, Echinolampas	VADÁSZ, 1915	junior synonym of <i>Conolampas subpentagonalis</i>
olisiponensis Michelin, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	misidentified Clypeaster campanulatus
ovatus GOLDFUSS, Echinocyamus	LÖRENTHEY, 1894	Oligocene taxon, identification unconfirmed
periplanus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
periplanus subtilis VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>C. campanulatus</i>
petaliferus SEGUENZA, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
plagiosomus corsicanus Szörényi, Hypsoh.	Szörényi, 1953	probably a junior synonym of Conolampas subpentagonalis
plagiosomus lamberti CHECCHIA-RISPOLI, Hypsoh		misidentified Conolampas elegans
podjarkovii Szörényi, Tristomanthus	SZÖRÉNYI, 1953	tentatively placed into the synonymy of <i>Pliolampas vassalli</i>
pseudoserrata Cotteau, Cidaris	Toula, 1893	doubtful record, Eocene species, probably misidentification
pygmea Kocн, Scutella	Косн, 1887	probably a juvenile Parascutella gibbercula
pyramidalis ABICH, Hypsoheteroclypus	Szörényi, 1953	misidentified Conolampas elegans
rakosensis VADÁSZ, Schizaster	LAMBERT, 1906	jun. syn. of Schizaster (S.) karreri
reidii WRIGHT, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
rhodanicus (MAYER-EYMAR), Centrostephanus	Mączyńska, 1987	disarticulated diadematid material, undeterminable below family level
romani Mihály, Scutella	Mihály, 1985	juvenile of Parascutella gibbercula
rosaria (BRONN), Cidaris, Histocidaris	HALMAI, 1981	unconfirmed record without description or illustration
sardiniensis COTTEAU, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
sardiniensis Cotteau, Schizaster	VADÁSZ, 1915	probably a misidentified <i>Ditremaster scillae</i> ; later records (e.g. SZŐRENYI, 1953) are misidentified <i>Schizaster</i> (<i>S.</i>) <i>karreri</i>
sardiniensis ellipticus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of Clypeaster campanulatus
scillae alienus VADÁSZ, Clypeaster	MAJCEN et al., 1997	misidentified Clypeaster scillae
scillae cf. alienus VADÁSZ, Clypeaster	MIKUŽ & MITROVIĆ-PETROVIĆ, 2001	misidentified Clypeaster scillae
scillae var. alienus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of Clypeaster calabrus
seguenzai VADÁSZ, Clypeaster	VADÁSZ, 1915	nom. nov. pro <i>Clypeaster accuminatus</i> SEGUENZA, 1880 non DESOR, 1847; Paratethys specimens conspecific with <i>C. campanulatus</i>
semiglobosus LAMARCK, Echinolampas	VADÁSZ, 1915	misidentified Clypeaster subpentagonalis
semseyana Mihály, Kieria	Mihály, 1985	very probably juveniles of the co-occurring Amphiope bioculata
stellata Capeder, Fibularia striatula (de Serres), Parascutella	VADÁSZ, 1915 PHILIPPE, 1998	misidentified <i>Echinocyamus transylvanicus</i> or <i>E. pseudopusillus</i> Early Miocene species of France, not conspecific with Badenian material
		from Hungary
studeri (SISMONDA), Echinocyamus	HALMAI, 1981	unconfirmed record without description or illustration
subacutus POMEL, Clypeaster	VADÁSZ, 1915	tentatively referred to Clypeaster campanulatus
subacutus depressus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
subaltus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with C. campanulatus
subconoideus VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster campanulatus</i>
subconoideus VADÁSZ, Echinolampas	VADÁSZ, 1915	tentatively placed into the synonymy of Echinolampas barcinensis
subfolium POMEL, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster folium</i>
sublaganoides VADÁSZ, Clypeaster	VADÁSZ, 1915	jun. syn. of <i>Clypeaster folium</i>
suboblongus POMEL, Clypeaster	VADÁSZ, 1915	misidentified Clypeaster campanulatus
subrotunda LAMARCK, Scutella	EICHWALD, 1830	probably a misidentified Parascutella gibbercula
subtrigona LAUBE [sic], Scutella	GHIURCA, 1996	misidentified Parascutella gibbercula
subularis d'Archiac, Cidaris	Toula, 1893	doubtful record, Eocene species, probably misidentified <i>Stylocidaris</i> ? schwabenaui
szoerenyiae Mihály, Scutella	MIHÁLY, 1969	jun. syn. of <i>Parascutella gibbercula</i> , holotype has an irregular margin due to predation
tauricus DESOR, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	misidentified Clypeaster scillae
tarabellianus GRATELOUP, Clypeaster	KORNHUBER, 1865	unconfirmed, probably misidentification
tenera DE LORIOL, Arbacina	VADÁSZ, 1915	jun. syn. of <i>Arbacina catenata</i> , most records are undeterminable juvenile echinaceans or misidentifications
tenuipetalus SEGUENZA, Clypeaster	VADÁSZ, 1915	probably misidentified <i>Clypeaster neudorfensis</i>
transylvanicus VADÁSZ, Clypeaster	VADÁSZ, 1915	type material lost, probably conspecific with <i>Clypeaster campanulatus</i>
transylvanicus VADASZ, Echinolampas	VADÁSZ, 1915	tentatively placed into the synonymy of <i>Echinolampas barcinensis</i>
turritus Philipi, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	misidentified Clypeaster campanulatus
ugolinii Stefanini, Echinolampas	MITROVIĆ-PETROVIĆ, 1969	specimen poorly preserved, identification at species level doubtful

Table 5 (continued). List of rejected Neogene echinoids from the Central Paratethys (except Austria, see Tab. 4).

species	first recorded by	reason for rejection
vadaszi Roman, Echinolampas, Hypsoclypus	ROMAN, 1965	jun. syn. of Conolampas elegans
ventiensis LAMBERT, Schizaster	VADÁSZ, 1915	jun. syn. of Schizaster (S.) karreri
vicinoconoideus Szörényi, Hypsoheteroclypus	SZÖRÉNYI, 1953	jun. syn. of Conolampas elegans
vindobonensis altus Mihály, Scutella	Mihály, 1990	jun. syn. of Parascutella gibbercula, high morphotype
vindobonensis planata Kókay, Scutella	SOMOS & KÓKAY, 1960	jun. syn. of Parascutella gibbercula, flat morphotype
wrighti GREGORY, Echinolampas	MITROVIĆ-PETROVIĆ, 1969	misidentified Echinolampas hemisphaerica
zanoni Checchia-Rispoli, Clypeaster	MITROVIĆ-PETROVIĆ, 1969	jun. syn. of <i>Clypeaster scillae</i>
aff. pusilla Müller, Fibularia	HORUSITZKY, 1927	probably misidentified Echinocyamus pseudopusillus
cf. balillai (LOVISATO), Clypeaster	MIKUŽ & MITROVIĆ-PETROVIĆ, 2001	misidentified Clypeaster folium
cf. bellardi AGASSIZ, Schizaster	VADÁSZ, 1915	misidentified Schizaster (S.) karreri
cf. curtus POMEL, Schizaster	VADÁSZ, 1915	specimen indeterminable
cf. laganoides AGASSIZ, Clypeaster	MIKUŽ & MITROVIĆ-PETROVIĆ, 2001	misidentified Clypeaster folium
cf. longispinus PHILIPI, Centrostephanus	VADÁSZ, 1915	isolated spines of diadematids, undeterminable below family level
cf. parmularius LAMBERT, Echinolampas	KOCHANSKY-DEVIDÉ, 1957	unique record without description or illustration
cf. scutellatus DE SERRES, Clypeaster	MIKUŽ & MITROVIĆ-PETROVIĆ, 2001	misidentified Clypeaster folium
Arbacina sp.	VADÁSZ, 1915	undeterminable juvenile echinaceans or misidentifications
Cyphosoma sp.	Toula, 1893	Late Jurassic to Eocene genus; misidentification
Parasalenia sp.	MĄCZYŃSKA, 1977	misidentification, diadematid ambulacral plate and poorly preserved
	•	Schizechinus or Psammechinus corona
Salenia ? sp., genital plates	Toula, 1893	Cretaceous genus; probably a misidentification of cidaroid genital plates

Table 5 (continued). List of rejected Neogene echinoids from the Central Paratethys (except Austria, see Tab. 4).

Alsopéterfa – Unterpetersdorf
Borbolya – Walbersdorf
Császárkőbánya – Kaisersteinbruch
Feketeváros – Purbach
Fertőfehéregyháza – Donnerskirchen
Fertőfehéregyháza – Donnerskirchen
Fertőmeggyes – Mőrbisch (formerly Merwisch)
Fertőszéleskút – Breitenbrunn
Fraknó – Forchtenstein
Hasfalva – Haschendorf
Kismarton – Eisenstadt
Lajtaszék – Stotzing
Lajtaszentgyörgy – St. Georgen, near Eisenstadt
Nagyhöflány – Kleinhöflein
Nagymarton – Mattersburg
Oszlop – Oslip
Sásony – Winden
Sopronkeresztúr – Deutschkreutz
Sopronnyék – Neckenmarkt
Szárazvám – Müllendorf
Szarvkő – Hornstein
Szentmargitbánya – St. Margarethen
Ujrétfalu – Wiesfleck

Table 6. Hungarian names of Austrian localities (Burgenland) used in the literature (late 19th, early 20th century)